FOREWORD

The Reserve Bank of India regularly brings out the Report on Currency and Finance, which was traditionally considered as a comprehensive source and record of economic developments. The structure of this Report has been re-oriented since 1998-99 from just documenting the economic developments to a 'theme-based report'. The theme-based Report offers the professional economists working in the Bank, an opportunity to work on relevant topic every year and make incisive analysis of the theme both in the global and the Indian context and come out with an analytical Report offering possible policy solutions to the issues examined. The dissemination of these Reports to a wider section of the user-community is an important exercise. The Report pertaining to the period between 1935-36 and 1998-99 are available only in printed form. The Reports from 1999-2000 have been placed on the Reserve Bank's website. In these days of widespread use of information technology, it is felt useful to bring out the Reports in a single DVD. I hope this will be an invaluable collector's item among the policy makers and academia.

The digitization process of the Reports was undertaken by Shri Ashok Kapoor, Chief Archivist, Reserve Bank of India Archives and supported by the services of Smt. Sandhya Dhavale, Assistant Librarian, under the guidance of Shri K.U.B. Rao, Adviser, Department of Economic Analysis and Policy and Shri Sandip Ghose, Principal and Chief General Manager, College of Agricultural Banking, Pune. I place on record my deep appreciation of their efforts.

Mumbai
April 1, 2009

(Rakesh Mohan)
Deputy Governor
Reserve Bank of India

REPORT ON CURRENCY AND FINANCE 1998-99



RESERVE BANK OF INDIA

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FOREWORD

The Reserve Bank of India has been publishing the Report on Currency and Finance since its very inception. The very first Report of the Bank was for 1935-36 and 1936-37 published in 1937. The Report has been a source of standard reference material for policy makers, researchers and keen observers of the Indian scene. Over the years, while the Report has been considered to be generally rich in content and information, it has in recent years been viewed by many as more or less a duplication of the 'Annual Report' of the Bank and the 'Report on Trend and Progress of Banking in India', the publications which precede the Report on Currency and Finance.

There is at present no publication of the Bank which focuses on any one theme or which gives time series on different aspects of the economy on a regular basis. Last year, an attempt was made to present time series data through a new publication entitled the Handbook of Statistics on Indian Economy. This was very well received by the public at large. This year, the Handbook with sharply enhanced coverage is released alongwith this Report which for the first time focuses on one theme namely, *the structural transformation of the Indian economy.*

The time frame of analysis of the *structural transformation of the Indian economy,* broadly relates to the 'eighties and the 'nineties with larger attention being paid to developments in more recent years. It is necessary to recognise that the 'eighties would present a counterfactual of the evolving institutional and policy shifts in the 'nineties and provide major insights that may help give rationale for the orientations effected in the emerging operating procedures and policies.

The Report is essentially a research document prepared by economists of the Reserve Bank. The Bank would greatly appreciate comments and suggestions in this regard.

Y. V. REDDY
Deputy Governor

December 1999.



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LIST OF SELECTED ABBREVIATIONS

A

AAI	Airports Authority of India
ACTI	Advisory Council on Trade and Industry
ACU	Asian Clearing Union
ADB	Asian Development Bank
ADR	Asset Development Reserve
ADRs	American Depository Receipts
ADs	Authorised Dealers
AGL	Aggregate Gap Limit
AIDBs	All India Development Banks
AIFIs	All India Financial Institutions
ALM	Asset Liability Management
AMS	Aggregate Measure of Support
AoA	Agreement on Agriculture
APEDA	Agricultural and Processed Food Products Exports Development Authority
APL	Above Poverty Line
ARC	Asset Reconstruction Company
ARDR	Agricultural and Rural Debt Relief Scheme
ARM	Additional Resource Mobilisation
ASBO	Average Ship Berth Output
ASEAN	Association of South East Asian Nations
ASI	Annual Survey of Industries
ASTA	Average Ship Turn Around
ATM	Automated Teller Machine
AU	Actual User

B

BALCO	Bharat Aluminium Corporation Ltd.
BCR	Balance from Current Revenue
BD	Budget Deficit
BE	Budget Estimates
BFRS	Board for Financial Regulation and Supervision
BFS	Board for Financial Supervision
BIFR	Board for Industrial and Financial Reconstruction
BIS	Bank for International Settlements
BOLT	Build-Own-Lease-Transfer
BOP	Balance of Payments
BOT	Build-Operate-Transfer
BPL	Below Poverty Line
BRBNMPL	Bharatiya Reserve Bank Note Mudran Private Limited
BSE	Bombay Stock Exchange
BSR	Basic Statistical Returns
BTR	Basic Travel Quota

C

CAB	Cotton Advisory Board
CAC	Capital Account Convertibility
CACP	Commission for Agricultural Costs and Prices
CAD	Current Account Deficit
CADP	Command Area Development Programme
CAMELS	Capital Adequacy, Asset Quality, Management, Earning, Liquidity and System
CARE	Credit Analysis and Research Limited
CAs	Chartered Accountants
CAS	Central Accounts Section
CCB	Central Co-operative Bank
CCFF	Compensatory and Contingency Financing Facility
CCI	Cotton Corporation of India
CCIS	Comprehensive Crop Insurance Scheme
CCL	Contingent Credit Lines
CD	Certificates of Deposit
CD	Cyclical Deficit
C/D	Currency/Deposit Ratio

CDR	Credit-Deposit Ratio
CG	Capital Goods
CIF	Cost, Insurance and Freight
CIL	Coal India Limited
CIP	Central Issue Price
CIS	Commonwealth of Independent States
CLDBs	Central Land Development Banks
CMA	Credit Monitoring Arrangement
CMNAP	Common Minimum National Action Plan
CMPDIL	Central Mines Planning and Design Institute Ltd.
COFEI	Coffee Futures Exchange of India Ltd.
CONCOR	Container Corporation of India
CP	Commercial Paper
CPI	Consumer Price Index
CPI-AL	Consumer Price Index for Agricultural Labourers
CPI-IW	Consumer Price Index for Industrial Workers
CPI-UNME	Consumer Price Index for Urban Non-Manual Employees
CPSS	Committee on Payment and Settlement Systems
CR	Contingency Reserve/Current Receipts
CRAR	Capital to Risk-Weighted Assets Ratio
CRDC	Central Record Documentation Centre
CRISIL	Credit Rating Information Services of India Limited
CRR	Cash Reserve Ratio
CSO	Central Statistical Organisation
CSS	Central Sponsored Scheme

D

DAC	Development Assistant Committee
DAP	Di Ammonium Phosphate
DAPM	Department of Administration and Personnel Management
DBOD	Department of Banking Operations and Development
DBS	Department of Banking Supervision
DCCB	District Central Co-operative Bank
DCM	Department of Currency Management
DDP	Desert Development Programme
DEAP	Department of Economic Analysis and Policy
DEFTY	Dollar Denominated Nifty
DEL	Direct Exchange Lines
DEPB	Duty Entitlement Pass Book
DES	Duty Exemption Scheme
DFC	Department of Financial Companies
DFHI	Discount and Finance Housing India Ltd.
DFIs	Development Financial Institutions
DGCI&S	Directorate General of Commercial Intelligence and Statistics
DGFT	Directorate General of Foreign Trade
DGTD	Directorate General of Trade and Development
DHAP	District Housing Action Plans
DIT	Department of Information Technology
DMCs	Developing Member Countries
DoT	Department of Telecommunications
DPAP	Drought Prone Area Programme
DPs	Depository Participants
DRI	Differential Rate of Interest
DSB	Dispute Settlement Body
DSIR	Department of Scientific and Industrial Research

DSR	Debt Service Ratio
DTA	Domestic Tariff Area
DTL	Demand and Time Liabilities
DvP	Delivery *Versus* Payment

E

EACs	Employee Assistance Centres
EBR	Export Bills Abroad
EBRD	European Bank for Reconstruction and Development
ECB	External Commercial Borrowing
ECGC	Export Credit Guarantee Corporation
ECS	Electronic Clearing Service
ECU	European Currency Unit
EEA	Exchange Equalisation Account
EEC	European Economic Community
EEFC	Exchange Earners' Foreign Currency
EFF	Extended Fund Facility
EFR	Exchange Fluctuation Reserve
EFT	Electronic Funds Transfer
EHTP	Electronic Hardware Technology Park
EL/HP	Equipment Leasing and Hire Purchase Finance Companies
EMU	European Economic and Monetary Union
EOUs	Export Oriented Units
EPCG	Export Promotion Capital Goods
EPCGS	Export Promotion Capital Goods Scheme
EPRS	Engineering Products (Replenishment of Iron and Steel Intermediates) Scheme
EPS	Earning Per Share
EPZs	Export Processing Zones
ESCB	European System of Central Banks
ERM	Exchange Rate Mechanism
ERP	Enterprise Resource Planning
ESAF	Enhanced Structural Adjustment Facility
EU	European Union
EWS	Early Warning System
EXIM Policy	Export Import Policy

F

FAO	Food and Agricultural Organisation
FCA	Foreign Currency Assets
FC(B&O)D	Foreign Currency (Banks & Others) Deposit Scheme
FCCBs	Foreign Currency Convertible Bonds
FCCCI	First Commodity Clearing Corporation of India
FCI	Food Corporation of India
FCNRA/ FCNR	Foreign Currency Non-Resident Accounts
FCNR(A)	Foreign Currency (Non-Resident) Accounts
FCNR(B)	Foreign Currency (Non-Resident) Accounts (Banks)
FC(O)NR	Foreign Currency (Ordinary) Non-Repatriable Deposit Scheme
FCRI	Fluid Control Research Institute
FDI	Foreign Direct Investment
FDIC	Federal Deposit Insurance Corporation
FEDAI	Foreign Exchange Dealers Association of India
FEER	Fundamental Equilibrium Exchange Rate
FEMA	Foreign Exchange Management Act
FERA	Foreign Exchange Regulation Act
FERs	Foreign Exchange Reserves
FGP	Farmgate Prices
FIIs	Foreign Institutional Investors
FIs	Financial Institutions
FIMMDA	Fixed Income Money Market and Derivatives Association

FIPB	Foreign Investment Promotion Board
FMCG	Fast Moving Consumer Good
FOB	Free on Board
FOR	Free on Rail
FRA	Forward Rate Agreement
FRN	Floating Rate Note
FSQ	Free Sale Quota
FSS	Farmers' Service Societies
FTR	Fast Track Route

G

GAAP	Generally Accepted Accounting Principles
GAB	General Arrangement to Borrow
GAIL	Gas Authority of India
GATS	General Agreement on Trade on Services
GATT	General Agreement on Tariffs and Trade
GCF	Gross Capital Formation
GCI	General Capital Increase
GDCF	Gross Domestic Capital Formation
GDP	Gross Domestic Product
GDRs	Global Depository Receipts
GDS	Gross Domestic Savings
GFD	Gross Fiscal Deficit
GFMS	Gold Fields Mineral Services
GIC	General Insurance Corporation of India
GIR	General Index Register
GLC	General Line of Credit
GNIE	Government Not Included Elsewhere
GNP	Gross National Product
GOI	Government of India
GPD	Gross Primary Deficit
GRA	General Resources Account
GRF	General Refinance Facility
GSBR	Government Sector Borrowing Requirements

H

HD	Human Development
HDFC	Housing Development Finance Corporation Ltd.
HFCs	Housing Finance Companies
HHEC	Handicraft and Handloom Export Corporation
HIPC	Heavily Indebted Poor Countries
HRDD	Human Resources Development Department
HRIS	Human Resource Information System
HUDCO	Housing and Urban Development Corporation Ltd.
HYV	High Yielding Varieties
HYVP	High Yielding Varieties Programme
HZL	Hindustan Zink Limited

I

IAS	International Accounting Standards
IATA	International Air Transport Association
IBA	Indian Banks Association
IBRD	International Bank for Reconstruction and Development
ICAI	Institute of Chartered Accountants of India
ICDP	Intensive Cotton Development Programme
ICDs	Inter-Corporate Deposits
ICICI	Industrial Credit and Investment Corporation of India Ltd.
ICOR	Incremental Capital Output Ratio
ICRA	Investment Information and Credit Rating Agency of India Ltd.
IDA	International Development Association

IDB	Inter-American Development Bank
IDBI	Industrial Development Bank of India
IDBs	India Development Bonds
IDFC	Infrastructure Development Finance Company
IDRBT	Institute for Development and Research in Banking Technology
IEBR	Internal and Extra Budgetary Resources
IEM	Industrial Enterpreneur Memoranda
IFA	International Financial Architecture
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IFCI	Industrial Finance Corporation of India
IIBI	Industrial Investment Bank of India
IIP	Index of Industrial Production
IL&FS	Infrastructure Leasing and Financial Services Ltd.
IMF	International Monetary Fund
IOC	Indian Oil Corporation
IOSCO	International Organisation of Securities Commission
IPAs	Investment Promotion Agencies
IPM	Integrated Pest Management
IPRs	Intellectual Property Rights
IRBI	Industrial Reconstruction Bank of India
IRDP	Integrated Rural Development Programme
IRS	Interest Rate Swap
ISC	International Standard Classification
ISDN	Integrated Service Digital Network
ISQ	Internal Sale Quota
IT	Information Technology
ITF	Interim Trust Fund

J

JCI	Jute Corporation of India
JVs	Joint Ventures

K

KVIC	Khadi and Village Industries Commission
KWH	Kilo Watts Hour

L

LABs	Local Area Banks
LAMPs	Large-sized Adivasi Multi-Purpose Societies
LDPE	Low Density Polyethylene
LDS	Loan Delivery System
LERMS	Liberalised Exchange Rate Management system
LIBOR	London Inter-Bank Offered Rate
LIC	Life Insurance Corporation of India
LIG	Lower Income Group
LISA	Low Input Sustainable Agriculture
LNG	Liquified Natural Gas
LOI	Letter of Intent
LPG	Liquified Petroleum Gas
LRMC	Long-run Marginal Cost
LSR	Liability Service Ratio
LTCM	Long Term Capital Management
LTO	Long Term Operations

M

M_0	Monetary Base
M_1	Narrow Money
M_3	Broad Money
M&As	Mergers and Acquisitions
MCI	Monetary Conditions Index
MD	Monetised Deficit
MEC	Marginal Efficiency of Capital

MFA	Multi-fibre Arrangements
MFs	Mutual Funds
MGP	Minimum Guarantee Price
MICR	Magnetic Ink Character Recognition
MIGA	Multilateral Investment Guarantee Agency
MISU	Market Intelligence and Surveillance Unit
MMMFs	Money Market Mutual Funds
MMTC	Minerals and Metals Trading Corporation of India
MODVAT	Modified Value Added Tax
MOP	Muriate of Potash
MoU	Memorandum of Understanding
MPA	Mono Ammonium Phosphate
MPBF	Maximum Permissible Bank Finance
MRTP	Monopolies and Restrictive Trade Practices
MSCCGMF	Maharashtra State Co-operative Cotton Growers' Marketing Federation Ltd.
MSE	Mumbai Stock Exchange
MSDC	Maritime States Development Council
MSP	Minimum Support Price
MTNL	Mahanagar Telephone Nigam Ltd.
MTPA	Metric Tonne Per Annum

N

NAB	New Arrangement to Borrow
NABARD	National Bank for Agriculture and Rural Development
NAFED	National Agricultural Co-operative Marketing Federation
NAFTA	North Atalantic Free Trade Association
NAS	National Accounts Statistics
NASSCOM	National Association of Software and Service Companies
NAV	Net Asset Value
NBCs	Non-Banking Companies
NBFCs	Non-Banking Financial Companies
NBFIs	Non-Banking Financial Institutions
NCDC	National Co-operative Development Corporation
NCI	New Capital Issues
NDA	Net Domestic Assets
NDDB	National Dairy Development Board
NDP	Net Domestic Product
NDTL	Net Demand and Time Liabilities
NEER	Nominal Effective Exchange Rate
NELP	New Exploration Licensing Policy
NFA	Net Foreign Exchange Assets
NFC	Non-food Credit
NFD	Net Fiscal Deficit
NFE	Net Foreign Exchange
NGO	Non-governmental Organisation
NHB	National Housing Bank
NHC (LTO) Fund	National Housing Credit (Long Term Operations) Fund
NIBM	National Institute of Bank Management
NICs	Newly Industrialised Countries
NIC(LTO) Fund	National Industrial Credit(Long Term Operations) Fund
NJMC	National Jute Manufacturers Corporation
NNP	Net National Product
NOF	Net Owned Funds
NPA	Non-Performing Assets
NPD	Net Primary Deficit
NPDP	National Pulses Development Project

NPK	Nitrogen, Phosphate & Potassium
NPP	Nitrogen Phosphate Potash
NRC (LTO) Fund	National Rural Credit (Long Term Operations) Fund
NRE	Non-Resident External
NR(E)RA	Non-Resident (External) Rupee Account
NRF	National Renewal Fund
NRI	Non-Resident Indian
NR(NR)RD	Non-Resident (Non-Repatriable) Rupee Deposit
NSCC	National Securities Clearing Corporation
NSDL	National Securities Depository Limited
NSDP	Net State Domestic Product
NSE	National Stock Exchange
NSIC	National Small Industries Corporation
NSSF	National Small Savings Fund
NSSO	National Sample Survey Organisation
NTP	National Telecom Policy
NTPC	National Thermal Power Corporation

O

OBC	Other Backward Classes
OCBs	Overseas Corporate Bodies
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
OECF	Overseas Economic Co-operation Fund
OFIs	Other Financial Institutions
OGL	Open General Licence
OIL	Oil India Ltd.
OMO	Open Market Operations
ONGC	Oil and Natural Gas Corporation
OPEC	Organisation of Petroleum Exporting Countries
OPMS	On-line Position Monitories System
OPP	Oilseeds Production Programme
OTC	Over the Counter
OTCEI	Over the Counter Exchange of India
OTS	One Time Settlement
OYWS	Own-Your-Wagon-Scheme

P

PACS	Primary Agricultural Credit Societies
PAD	Public Accounts Department
PAN	Permanent Account Number
PB	Primary Balance
PCB	Primary Co-operative Bank
PCFC	Pre-shipment Credit in Foreign Currency
PCRI	Pollution Control Research Institute
PD	Primary Deficit
PDO	Public Debt Office
PDS	Public Distribution System
PDs	Primary Dealers
PLF	Plant Load Factor
PLR	Prime Lending Rate
PMRY	Prime Minister's Rojgar Yojana
PMV	Present Market Value
POL	Petroleum, Oil and Lubricants
PPP	Purchasing Power Parity
PSBR	Public Sector Borrowing Requirements
PSBs	Public Sector Banks
PSCFC	Post Shipment Export Credit in Foreign Currency
PSEs	Public Sector Enterprises
PSG	Payment Systems Group
PSUs	Public Sector Undertakings
PTLRs	Prime Term Lending Rates
PWCS	Primary Weavers' Co-operative Societies

Q

QRs	Quantitative Restrictions

R

RBI	Reserve Bank of India
RCS	Registrar of Co-operative Societies
RCTC	Risk Capital and Technology Finance Corporation Ltd.
RD	Revenue Deficit
R&D	Research and Development
RE	Revised Estimates
REC	Rural Electrification Corporation
REER	Real Effective Exchange Rate
Repos	Repurchase Obligations
RFCA	Resident Foreign Currency (Returning Indians) Accounts
RFIs	Rural Financial Institutions
RIBs	Resurgent India Bonds
RIDF	Rural Infrastructure Development Fund
ROW	Rest of the World
RPS	Retention Price Scheme
RRBs	Regional Rural Banks
RTGS	Real Time Gross Settlement

S

SAA	Service Area Approach
SAARC	South Asian Association for Regional Co-operation
SAF	Structural Adjustment Facility
SAFAUNS	Ships Acquired from Abroad Under New Scheme
SAIL	Steel Authority of India Ltd.
SBB	Structural Budget Balance
SBI	State Bank of India
SCARDBS	State Co-operative Agriculture and Rural Development Banks
SCB	Scheduled Commercial Banks
SCRA	Securities Contracts (Regulations) Act
SD	Structural Deficit
SDD	Special Development Programme
SDDS	Special Data Dissemination Standards
SDF	Sugar Development Fund
SDP	State Domestic Product
SDRs	Special Drawing Rights
SDs	Satellite Dealers
SEBI	Securities and Exchange Board of India
SEBs	State Electricity Boards
SEEUY	Scheme for Self Employment for Educated Unemployed Youth
SENSEX	Sensitive Index
SFCs	State Financial Corporations
SGL	Subsidiary General Ledger
SHCIL	Stock Holding Corporation of India Ltd.
SHGs	Self-Help Groups
SIA	Secretariat for Industrial Approval
SICA	Sick Industrial Companies Act
SIDBI	Small Industries Development Bank of India
SIDCs	State Industrial Development Corporations
SIL	Special Import Licence
SJDP	Special Jute Development Programme
SLDBs	State Land Development Banks
SLR	Statutory Liquidity Ratio
SMP	Statutory Minimum Price
SPN	Secured Promisory Note
SPNS	Shared Payment Network System
SPSE	State Public Sector Enterprise
SRS	Systems Requirement Specifications
SRTUs	State Road Transport Undertakings

SSCBs	Scheduled State Co-operative Banks
SSE	Small Scale Enterprise
SSI	Small Scale Industry
SSP	Single Super Phosphate
STCI	Securities Trading Corporation of India
STE	State Trading Enterprises
STP	Software Technology Park
STPLRs	Short-term Prime Lending Rates
SUME	Scheme of Urban Micro Enterprises
SWIFT	Society for Worldwide Inter-bank Financial Telecommunication

T

TB	Treasury Bill
TDICI	Technology Development and Investment Company of India Ltd.
TDS	Tax Deduction at Source
TFCI	Tourism Finance Corporation of India
ToT	Terms of Trade
TPDS	Targeted Public Distribution System
TRAI	Telecom Regulatory Authority of India

U

UAE	United Arab Emeritus
UBD	Urban Banks Department
UCBs	Urban Co-operative Banks
UK	United Kingdom
UN	United Nations
UNCTAD	United National Conference on Trade and Development
UNDP	United Nations Development Programme
UNICTRAL	United Nations Commission on International Trade Law
US	United States
UTI	Unit Trust of India
UTs	Union Territories

V

VABAL	Value-based Advance Licence
VAT	Value Added Tax
VDIS	Voluntary Disclosure of Income Scheme
VSAT	Very Small Aperture Terminal
VSNL	Videsh Sanchar Nigam Limited

W

WAN	Wide Area Network
WDM	Wholesale Debt Market
WDT	World Debt Tables
WGC	World Gold Council
WGMS	Working Group on Money Supply
WMA	Ways and Means Advances
WOs	Wholly-owned subsidiaries
WPI	Wholesale Price Index
WTO	World Trade Organisation

Y

YTM	Yield To Maturity
Y2K	Year 2000



THE PERSPECTIVES

CHAPTER I

THE PERSPECTIVES*

The Indian economy, as it moves into the twenty-first century, is poised to further the institutional reforms that have been initiated in a structured manner in the early 'nineties, for purposes of enhancing the prospects of higher growth with enduring stability. The policy orientations in the last eight years or so have given considerable resilience and dynamism to the economy, enabling it to realise, more effectively, the gains from allocative efficiency.

2. The Indian experience is, in several respects, fascinating. The adoption of development planning in the early 'fifties was considered as unique. It was also appealing. Over time, however, the experiment with planning has been rendered ineffective by the introduction of a plethora of controls and licences. The resultant inefficiencies, distortions and rent seeking activities had to be, therefore, addressed by elimination of controls, freeing prices and building in appropriate incentives. By the early 'eighties, it became evident that gradual liberalisation and opening up of the economy would need to be introduced through a process of 'learning by doing'. Accordingly, deregulation was initiated by relaxing the entry barriers and the restrictive clauses in the MRTP Act, and by allowing expansion of capacities. Modernisation of industries through acquisition and upgradation of technology was encouraged. Import restrictions, especially on capital goods, were reduced. In the area of domestic financial sector, the yield on long-term Government securities was raised, and measures to develop the money market in India and to introduce new instruments were initiated.

3. It is important to recognise that development planning has failed to deliver to the expected extent because of absence of incentives and because of the inadequacy of supportive institutions. The economy had become vulnerable to external payment crisis by the beginning of the 'nineties, partly due to the presence of the external factor, viz., the Gulf War, and partly owing to the unsustainable fundamentals. The relatively high rate of growth in the second half of the 'eighties proved to be fragile; in the context of the sharp increase in the external current account deficit (CAD) and the steep rise in gross fiscal deficit of the Central Government, respectively, to 3.2 per cent and 8.3 per cent of GDP in 1990-91. The foreign exchange reserves declined to a mere US $ 975 million on July 12, 1991 (barely sufficient to cover the country's imports for a week). The crisis was also reflected in the sharp downgrading of India's credit rating, the curtailment of foreign private lending and the acceleration of inflation. The correction to this situation required the application of a relatively comprehensive macroeconomic and structural adjustment policies alongwith a shift in the development strategy in favour of market orientation and provision of appropriate incentives. The underlying thrust of such a regime shift is to provide an environment that enables both growth and stability to move hand in hand on a sustained basis.

4. The experience of the 'nineties *vis-à-vis* that of the 'eighties shows that there has been a marked structural transformation of the Indian economy, the details of which are provided in the chapters that follow. Illustratively, the inter-sectoral composition of GDP underwent a significant change after the initiation of reform process in the mid-1991. The relative share of the 'agriculture and allied activities' in GDP during the period 1992-93 to 1997-98 declined to 27.5 per cent from 34.5 per cent during the period 1980-81 to 1990-91. On the other hand, the share of industry increased from 23.2 per cent to 25.9 per cent and that of the services sector (including construction) moved up substantially from 42.2 per cent to 46.6 per cent in the same period. It may be added that as per the New Series of National Accounts (Base 1993-94), the services sector accounted for as much as 50.1 per cent of GDP during 1993-94 to 1998-99. The compositional shift in favour of services has been brought about by accelerated expansion in the services sector

* In this chapter, an effort has been made to bring out some of the salient perspectives that emerge from the chapters that follow. This is, therefore, not to be taken as a summary.

output at a rate of 8.4 per cent in the period 1992-93 to 1997-98 compared with 6.5 per cent during 1980-81 to 1990-91 (Chapter on National Income, Saving and Investment). The growing contribution of the services sector to GDP is in line with the development experiences of a number of countries of the world. It is, however, not yet clear whether it is the comparative advantage that is driving up the share of the services sector in GDP or whether the sector also derives strength from the policies that are being pursued since the early 'nineties. If the autonomous or behavioural factor is the dominant contributor to the growth of services, then the implications of shocks on account of technology and modern systems and procedures for future should be kept in view.

5. Following from the above, the relative deceleration in the performance of agriculture during the 'nineties suggests that favourable monsoons, increase in net irrigated area and positive terms of trade did not have the desired impact. The decline in public investment and the limited infusion of new technologies seem to have exacerbated the situation. These are some of the main issues on which attention is to be focussed for raising agricultural performance in the near future (Chapter on Agriculture).

6. One of the important aspects of industrial performance during the 'nineties relates to the maintenance and enhancement of the competitiveness of firms in both the domestic and external markets. In this context, there have been efforts to re-engineer the industrial structure through, for example, mergers and acquisitions (Chapter on Industry). This has been to an extent facilitated by the availability of a number of financing options. In the 'nineties, the relative share of bank financing in the total financing requirements of firms has tended to move downwards (Chapter on Financial Markets). The corporate sector has, it may be noted, accessed the external financial markets during the last 5-6 years (Chapter on International Finance).

7. The experience of the 'nineties shows that there has been very little variability in the trend values of macro variables. The tendency to be downwardly inflexible on the part of the gross fiscal deficit is largely on account of structural rigidities of the fiscal system (Chapter on Fiscal Sector). The need to transform these rigidities is widely felt both at the national and sub-national levels. Action pertaining to collection of revenues and containment of expenditures, particularly on the revenue account, together with prudence in the creation of contingent liabilities are imperatives for achieving the stability condition as well as the long run sustainability.

8. The stability in trend values of broad money growth in both the 'eighties and the 'nineties, pitted against the trend inflation rate and its variability, provides an interesting paradox. This suggests that there is a growing need for closely monitoring a wider set of monetary and other macro variables that goes beyond the traditional quantity variables. Given the fact that the financial savings have also gone up in response not only to income growth but also to interest rate flexibility, it is essential from the point of view of transmission mechanisms of monetary policy that the rate channel is very closely observed (Chapter on Money, Credit and Prices). From the point of view of policy, it would be important to relate interest rates and inflation expectations in the light of the fact that markets are getting increasingly integrated. In this context, appropriate co-ordination mechanisms between fiscal and monetary policies are required to be set in order to ensure that interest rates are consistent with fundamentals.

9. An issue about the optimal level of CAD to be maintained over a prolonged period has emerged in the light of experience of the 'nineties. The CAD to GDP ratio, on the average, was a little above 1 per cent between 1991-92 and 1998-99. This has been rendered possible mainly because of shifts in trade performance (Chapter on Foreign Trade) and buoyancy in the invisible account, particularly private transfers (Chapter on International Finance). The macro-identity linking CAD with the fiscal deficit and private saving-investment gap has, therefore, to be seen not merely as a theoretical construct but as one that has critical policy relevance. Going by the theoretical macro-identity, the experience of the 'nineties implies that while fiscal deficits were relatively high, private saving was in excess of private investment. This

inference has implications for the role of the private sector *vis-a-vis* the public sector. It also signals the need to reduce the fiscal deficit and to bring about market orientation with incentives for private sector investment.

10. The story of the last two decades underscores the need to achieve still higher rates of growth, reaching the potential output together with stability. Potential output estimations for the Indian economy have been essentially in the nature of indications. Research in future has to, therefore, focus on bringing out reliable estimates for an appropriate understanding of the transmission mechanism of macroeconomic policies.

11. The 'nineties brought to the fore a number of challenges. Apart from the need to containing fiscal deficit, there are issues relating to sustainable trade position, the strategies to promote capital flows keeping in view their implications for domestic monetary management and exchange rates, the sustainability of external debt, and the nature and kinds of strategies needed to pursue legal and institutional reforms, and modern technologies, particularly those affecting the payments and settlement systems in a synchronous manner. Working out details of the future strategies is necessary to promote effective conduct of monetary and fiscal policies and to develop an appropriate and sound financial system for driving the growth process. This perception has helped policy making in India to strengthen the financial system in recent years through improved regulatory and supervisory processes and through liberalisation and integration of financial markets. Information about the past and behavioural patterns as also the sensitivities exhibited by different variables to structural and policy changes require to be gathered and appropriately analysed. Such a task will be best facilitated by adoption of new technologies and by ensuring that practices and policies are rendered transparent and widely disseminated. The latter is the focus of discussions in different fora on the international financial architecture (Chapter on Towards Reforms of the International Monetary and Financial System). It is time for national efforts to complement the ongoing international quest for financial stability throughout the developed and developing world.

NATIONAL INCOME, SAVING AND INVESTMENT

CHAPTER II

NATIONAL INCOME, SAVING AND INVESTMENT*

The Indian economy has undergone a gradual transformation during the post-independence period, the pace of such transformation, however, being relatively rapid since the last decade. The present chapter discusses the nature, depth and genre of the transformation since the beginning of the 'eighties based on movements in some key macro-economic parameters such as national income, saving and investment.

With the Indian economy shifting to a high growth path during the 'eighties, it was evident that the economy has emerged from a phase of stagnation, which had set in since the mid-'sixties. However, the impressive growth performance of the 'eighties was also associated with a steady deterioration in a number of macroeconomic indicators. The crisis of 1991 had cast serious doubts about the sustainability of the growth experience of the 'eighties. Following the major shift in macroeconomic policy, oriented towards liberalisation and globalisation, in the wake of the 1991 crisis, the economy has once again been set on a high growth trajectory. Similar trends are also noticeable in the case of other key macroeconomic variables like saving and investment.

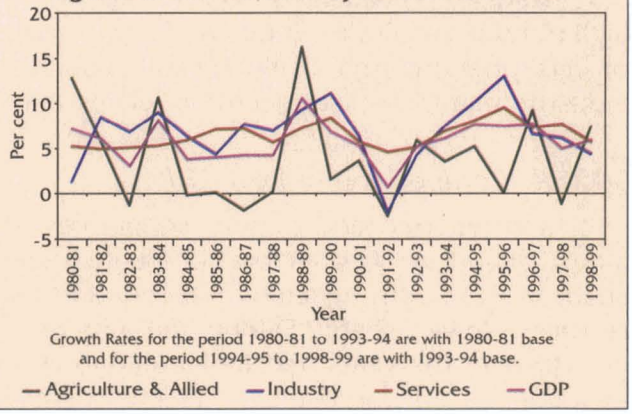
The structural transformation since the 'eighties, could be discerned by the adoption of a two period classification, *viz.*, *(i)* the period of high but unsustainable growth years of the 'eighties i.e., 1980-81 through 1990-91 (Period I), and *(ii)* the period of the 'nineties *viz.*, 1992-93 through 1997-98 (Period II).[1] The crisis year of 1991-92, being an outlier, is excluded from both these periods. While the periodisation is based on a narrative episode-wise evidence of the growth process of the Indian economy, the underlying rationale for doing so has been corroborated by statistical evidence.

Structural Transformation of Real Gross Domestic Product (GDP)

Long-Term Trends in Real GDP

The structural transformation that occurred in the Indian economy over the decades is a consequence of the development process witnessed since the beginning of planning in 1951. This is reflected, inter-alia, in the growth rate and in the changing sectoral composition of the Gross Domestic Product (GDP). In the 'eighties (1980-81 through 1990-91), GDP has recorded a trend growth rate of 5.5 per cent; the average rate of growth at 5.8 per cent being slightly higher than the trend rate of growth (Appendix Table NI.1). However, there was considerable volatility in the annual growth rate, and for a number of years during this period, GDP grew by less than 5 per cent (Graph NI.1). The volatility in real growth rate is most reflected in case of GDP originating in agriculture. However, the high growth phenomenon of the 'eighties associated with a widening of the saving-investment gap and rising fiscal deficits, could not be sustained, as

Graph NI.1: Growth Rates of Real GDP and GDP from Agriculture & Allied, Industry and Services Sector



* **This chapter is based on information available up to December 1999.**

1. As regards the second sub-period, there is a data-related problem. In Central Statistical Organisation (CSO)'s publication of the new series of GDP (with base 1993-94) in February 1999, for the period 1993-94 through 1998-99, GDP for 1998-99 is not available for the old base of 1980-81. Thus, depending upon which series of the GDP is taken, we have two possible periodisations for the 'nineties *viz.*, *(i)* Period IIA: 1992-93 through 1997-98 (GDP with 1980-81 base), and *(ii)* Period IIB: 1993-94 through 1998-99 (GDP with base 1993-94). Since the availability of saving/investment numbers is lagged by a year than the availability of GDP numbers, the corresponding periodisation of the 'nineties is taken as, (i) 1992-93 through 1996-97 (when the 1980-81 series is taken), and (ii) 1993-94 through 1997-98 (when the 1993-94 series is taken).

the experience of the crisis year of 1991-92 revealed, when the annual GDP growth rate declined to a low of 0.8 per cent.

A comparison of the more recent period of the 'nineties (1992-93 to 1997-98) with the 'eighties (i.e., 1980-81 through 1990-91) reveals some notable features. The trend rate of growth of GDP at 6.9 per cent during the 'nineties was distinctly higher than 5.5 per cent recorded in the 'eighties. In terms of average rate of growth, the performance in the 'nineties (6.5 per cent) was better than that recorded in the 'eighties (5.8 per cent). While both the industrial and the services sectors experienced *high* growth rates during the recent period, agriculture and allied activities, registered a relatively *low* order of growth as compared with the 'eighties.

The contrast between the 'eighties and the 'nineties is also sharp if the trend growth rates are considered at 1993-94 prices (i.e., during 1993-94 through 1998-99). This underlines a major structural shift in the Indian economy during the recent period, with economic growth becoming less vulnerable to agricultural performance and to vagaries of the monsoon. While the improvement in growth has emerged from both the industrial and services sectors, there is a marked difference in the sectoral composition of growth as between these two major sectors. Within the industrial sector, the major impetus to growth has come from manufacturing, while both 'mining and quarrying', and 'electricity, gas and water supply' registered lower rates of growth. The services sector, on the other hand, experienced higher growth in a more uniform and consistent manner with sectors like 'trade, hotels, restaurants, storage and communication', and 'financing, insurance, real estate, and business services', experiencing high trend growth rates. A possible interpretation of this phenomenon could be an upsurge of industry-related services sector in recent years.

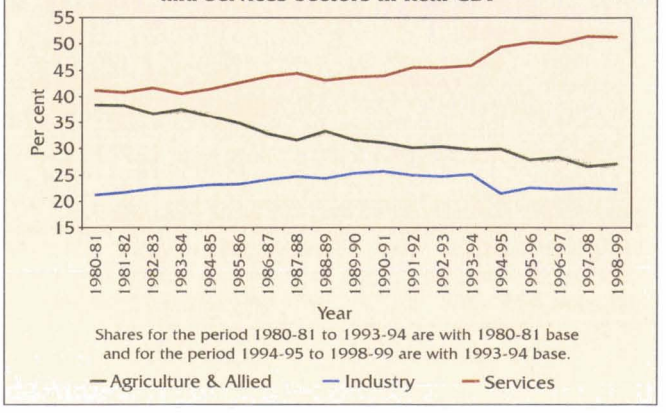
Sectoral Composition of Real GDP

In developed and mature economies, the industrial and services sectors contribute a major share in GDP, with agriculture accounting for a relatively lower share. During the process of growth over the years, the Indian economy too experienced an improvement in the shares of industry and services sectors in overall GDP. The sectoral composition of real GDP at 1980-81 prices shows that the share of the agricultural sector in GDP gradually declined from 34.5 per cent in the 'eighties to 27.5 per cent in the 'nineties (1992-93 to 1997-98) (Appendix Table NI.2 and Graph NI.2). In contrast, the shares of industry and services increased from 23.2 per cent to 25.9 per cent and from 42.2 per cent to 46.6 per cent, respectively during the same period. Within the services sector, the share of 'trade, hotels, restaurants, transport, storage and communication' rose from 17.4 per cent in the 'eighties to 19.3 per cent during the 'nineties while the share of 'financing, insurance, real estate and business services' increased from 9.4 per cent to 11.9 per cent. The share of 'construction', on the other hand, declined marginally from 4.6 per cent to 4.4 per cent.

Thus, there was a surge in the growth of the services sector since the early 'eighties, with the trend rate of growth being more pronounced in recent years. The recent years' experience shows that the growth of the services sector has imparted much of the resilience to the economy, particularly in times of adverse agricultural shocks.

In this context, it needs to be mentioned that the developmental experience of the Indian economy has been different from that of the presently developed countries, as the share of services sector in GDP surpassed that of the agricultural and the industrial sectors in a relatively short span of time. In other words, the economy leap-frogged from the stage of lower order of value addition generally

Graph NI.2: Shares of Agriculture & Allied, Industry and Services Sectors in Real GDP



associated with the agriculture sector to the higher level of value addition accounted for by the services sector. This positive experience in India could probably be explained in terms of the great advantage derived by being a late starter in the developmental paradigm. In other words, in a counter-factual sense, the economy did not have to pass through the incremental process of improving technology in stages for the advancement of a steady growth process.

The expansion in the services sector has wider implications for production, employment, and trade prospects of the economy, some of which are as follows:

(a) The growing share of the services sector points to the need for policy initiatives towards introducing greater competition and efficiency in this sector so as to ensure its sustained contribution to exports (especially software) and to higher long-term growth.

(b) The gains in productivity in the agricultural and industrial sectors resulting from technological progress and innovation will have the effect of shifting employment away from the non-services sector to the services sector. This may also indicate a shift in real expenditure from commodities to value added services.

(c) The services sector constitutes a tax-base with vast but unexploited potential, and therefore its growth has long-term implications for the fiscal policy.

Recent Trends in Real GDP (1991-92 through 1998-99)

It needs to be mentioned at the outset that there is some problem of comparability of growth rates during the 'nineties. The real GDP numbers are available only up to 1996-97 with 1980-81 as the base year, while the GDP figures for the period 1993-94 to 1998-99 are available with 1993-94 as the base (consequent to the adoption of 1993-94 as the new base year by the Central Statistical Organisation (CSO) since February 1999)[2]. However, such changes in the base year emanating from the necessity of adapting the statistical system to the changing structure of the economy (Box NI.1), for the purpose of compiling the estimates of real GDP

Box NI.1: Evolution of Official National Accounts Statistics in India

In August 1949, the Government of India set up a High Powered Expert Committee popularly known as the 'National Income Committee' under the chairmanship of Professor P.C. Mahalanobis. Based on the methodology and the pattern of presentation recommended by this Committee, the first official estimates of national income with 1948-49 as the base year were prepared by the Central Statistical Organisation (CSO) and published in the *Estimates of National Income* in 1956. Ever since, the CSO has regularly continued to undertake a review of the methodology and the database used in the estimation of various aggregates. In the past, national accounts were revised decennially, changing the base to a year coinciding with the decennial population census. This was primarily because in the base year estimates, the information on work force played an important role and the work force estimates were obtained from the population census conducted decennially. Accordingly, the base years of the National Accounts Statistics series have been shifted from 1948-49 to 1960-61 in August 1967, from 1960-61 to 1970-71 in January 1978 and from 1970-71 to 1980-81 in February 1988.

The national income series with 1948-49 as the base commonly known as the 'conventional series' continued till 1966. The special feature of the revised series of national income with 1960-61 as base was the estimate of 'capital formation' and 'saving'. Accordingly, in 1969, two special Brochures viz., *National Income Statistics-Estimates of Capital Formation in India-1960-61 to 1965-66* and *National Income Statistics-Estimates of Saving in India- 1960-61 to 1965-66* were published. Subsequently, the aggregates of capital formation and saving formed an integral part of the national income series published annually by the CSO. In course of time, the coverage was further extended to include private consumption expenditure, factor incomes, and consolidated accounts of the nation and detailed accounts of the public sector. Accordingly, with effect from January 1975, the title of the publication on national income was changed to *National Accounts Statistics (NAS)* to depict the expanded scope of the publication. The revised series with 1970-71 as the base was published in *NAS 1978*. These estimates had the same scope, coverage and methodology as in the earlier estimates included in NAS. In 1988, CSO released a new series of national accounts with 1980-81 as the base year. This series, besides making use of the latest available data, undertook, *inter alia*, revision of estimates of consumption of fixed capital based on the estimates of fixed capital stock using the Perpetual Inventory Method. The coverage of the series was enlarged to include the state of Sikkim.

In February 1999, the CSO released a *New Series of National Accounts Statistics* with 1993-94 as the base year replacing the earlier series with 1980-81 as the base year. The CSO has used for the first time work force estimates based on National Sample Survey Organisation (NSSO)'s quinquennial survey on employment and unemployment (1993-94) instead of the work force estimates based on population census. This deviation was necessitated because in the population census, the work force (especially female work force in the rural areas) was not adequately captured.

References:

1. Central Statistical Organisation (1989): *National Accounts Statistics- Sources and Methods*, Government of India, New Delhi.
2. Central Statistical Organisation (1999): *New Series on National Accounts Statistics (Base Year 1993-94)*, Government of India, New Delhi.

2. See *Annual Report*, RBI, 1998-99, Box II.1 (pp 48-49) for a discussion on the new series of national accounts.

had been a regular feature in the past. Keeping those methodological changes in view and with a view to developing a more meaningful analytical frame-work for analysing the developments in the 'nineties, growth rates of real GDP and its components have been taken with 1980-81 as the base year for the period 1991-92 through 1993-94, and with the base year 1993-94 for the period 1994-95 through 1998-99 (Appendix Table NI.3).

Since the crisis year of 1991-92, there has been a steady and sustained improvement in GDP growth rates during the 'nineties. Furthermore, there are at least two years (viz., 1995-96 and 1997-98), when bad agricultural production has been compensated by the growth in other sectors and the economy has recorded a growth of 5 per cent or above. However, the steady improvement in GDP growth since 1991-92 received a setback in 1997-98, owing to the relatively weak performance of the industrial sector. The real GDP growth registered a recovery in 1998-99, despite the continued weak performance of the industrial sector, mainly because of very high growth of agriculture, and reasonably good outturn of the services sector (Appendix Table NI.3).

Structural Transformation of Saving and Investment

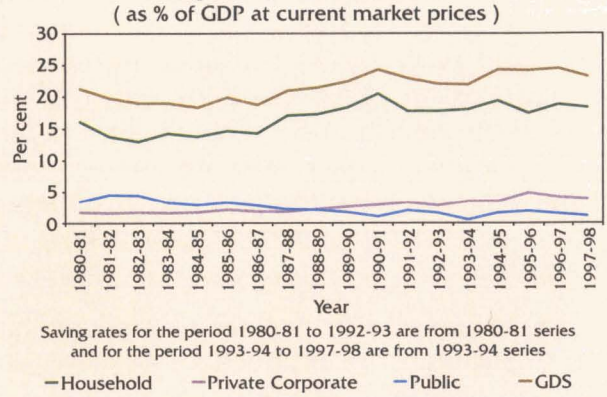
Long-Term Trends in Saving and Investment

Sector-wise Saving and Investment Rates

The periodisation scheme for discerning the long-term trends in saving and investment is similar to that adopted for assessing the real growth performance. This is done for the sake of uniformity and for discerning the links between the structural changes in saving and investment, on the one hand, and the process of economic growth, on the other.

The rates of savings and capital formation (GDCF) showed a gradual increase from 20.4 per cent and 22.5 per cent, during the 'eighties (1980-81 to 1990-91) to 24.3 per cent and 25.7 per cent, respectively, during the 'nineties (1992-93 to 1996-97) (Appendix Table NI.4 and Graphs NI.3 and NI.4). The gross capital formation (GCF) too increased from 23.0 per cent to 24.6 per cent during the comparable period. The same outcome is obtained even if

Graph NI.3: Rates of GDS and Saving of Household, Private Corporate and Public Sector
(as % of GDP at current market prices)



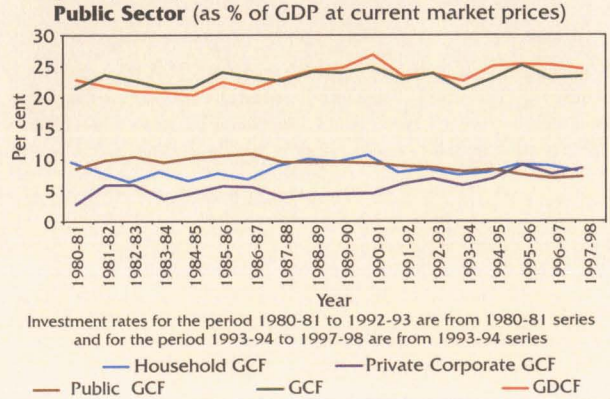
Saving rates for the period 1980-81 to 1992-93 are from 1980-81 series and for the period 1993-94 to 1997-98 are from 1993-94 series

—Household —Private Corporate —Public —GDS

one considers the more recent period, viz., 1993-94 to 1997-98 (i.e., the 1993-94 series). A look at the period-wise average of sectoral saving and investment rates (as percentage of GDP at current market prices) reveals certain interesting features as outlined below:

(a) There has been a steady increase in the household sector savings with the financial savings outstripping the physical savings in the 'nineties (with the sole exception of 1995-96, when the rate of financial saving turned out to be *lower* than that of physical saving of the household sector). The household saving rate, which was 15.7 per cent during the 'eighties, increased substantially to 19.1 per cent during 1992-93 through 1996-97 (18.4 per cent during 1993-94 through 1997-98). This rise is primarily on account of substantial increase in the rate of household financial saving, notably in bank deposits, provident and pension funds, and claims on Government, supported by a marginal increase in the physical saving (investment).

Graph NI.4: Rates of GCF and GDCF and Investment (unadjusted) of Household, Private Corporate and Public Sector (as % of GDP at current market prices)



Investment rates for the period 1980-81 to 1992-93 are from 1980-81 series and for the period 1993-94 to 1997-98 are from 1993-94 series

— Household GCF —Private Corporate GCF
— Public GCF — GCF — GDCF

(b) A sharp jump in the saving and investment rates of the private corporate sector was witnessed during the 'nineties. The private corporate savings, which remained below 2 per cent during the 'eighties, rose to 3.6 per cent during 1992-93 through 1996-97 (3.9 per cent during 1993-94 through 1997-98). The investment (GCF) rate of this sector, which was 4.4 per cent during the 'eighties rose sharply to 7.4 per cent during the 'nineties. In fact, the saving rate of the private corporate sector exceeded that of the public sector for the first time in 1988-89. The continued persistence of this behaviour has led to the widening of the gap between the two sectors during the subsequent period. The improved investment rates recorded in the 'nineties can be attributed to the liberalisation measures introduced in the economy and the consequent impetus afforded to the private sector in the successive budgets in the 'nineties.

(c) The pubic sector saving rates declined in both the 'eighties and the 'nineties. The investment (GCF) rates of this sector also declined in the 'nineties. The rate of public sector saving declined from 2.8 per cent during the 'eighties to 1.6 per cent during 1992-93 through 1996-97 (1.3 per cent during 1993-94 through 1997-98). The declining trend in the rate of public sector saving since the 'eighties is on account of increased dis-saving of Government administration. The investment (GCF) rate recorded by the public sector declined from 10.3 per cent in the 'eighties to 8.4 per cent during 1992-93 through 1996-97 (7.5 per cent during 1993-94 through 1997-98).

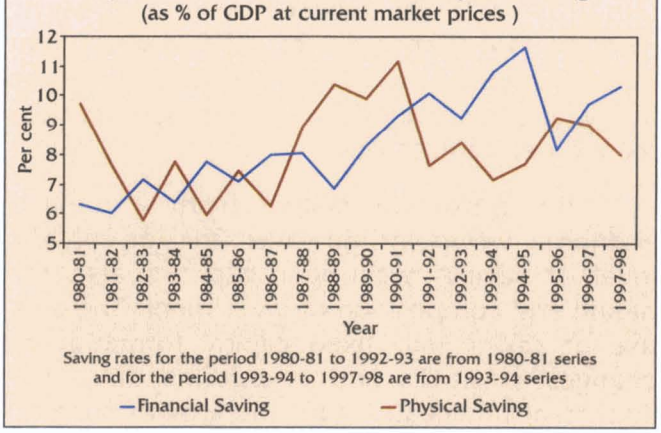
Physical and Financial Saving of the Household Sector

The household sector saving has been the most important component of India's domestic savings performance. It is influenced by several factors like growth in income, macro-economic stability, inflation, interest rates, financial intermediation, working population, insurance, pension and safety net, and tax benefits, etc. The financial savings of the household sector recorded an impressive growth from 7.4 per cent of GDP during the 'eighties to 10.3 per cent during 1992-93 through 1996-97 (10.1 per cent during 1993-94 through 1997-98) (Appendix Table NI.4 and Graph NI.5). The rate of physical saving of this sector increased marginally from 8.3 per cent to 8.8 per cent during the comparable period; however, there had been a reduction in the rate of physical saving of the household sector to 8.2 per cent in the recent period of 1993-94 through 1997-98. The share of financial saving surpassed, on a sustained basis, that of physical saving during the 'nineties (the year 1995-96 is, however, an exception). The up-trend in financial saving of the household sector is indicative of increased financial intermediation, widening and deepening of the financial system as well as the movement of relative rates of return on assets of the household sector's portfolio.

Saving - Investment Gap

In a closed economy, domestic saving and investment must be equal *ex post*. In an open economy, however, such equality does not hold even *ex post*. The difference between the two is accounted for by the net capital inflow from abroad that gives a measure of a country's dependence on foreign saving for sustaining its economic development. Thus, definitionally, the saving-investment gap indicates the extent of indebtedness of a sector (economy) on other sectors (economies). Hence, this serves as a measure of macroeconomic balance (or its absence) with important implications for the growth potential of an economy (Box NI.2).

Graph NI.5: Rates of Financial and Physical Saving
(as % of GDP at current market prices)



Box NI.2: The Role of Macroeconomic Factors in the Process of Economic Growth

Traditionally, macroeconomics has been concerned with the study of short-term output fluctuations, while the study of the behaviour of long-term output is covered under economic growth. These two branches of economics ran parallel for some time. The recent emergence of endogenous growth theories has rekindled some interest in the subject. While most of the empirical studies relating growth to factor accumulation invariably ended up with a large residual, attributable to productivity growth, from a policy perspective, a relatively key question will be the following: can the domestic economic policies influence productivity gains and economic growth?

In this context, sound macroeconomic policies have emerged as one of the key determinants of economic growth. Insofar as the inter-relationship between growth of an economy and macroeconomic policies is concerned, the following five conditions in particular have been stressed in the literature *viz., (a)* a low and predictable inflation rate, *(b)* an appropriate real interest rate, *(c)* stable and sustainable fiscal policy, *(d)* a competitive and predictable real exchange rate, and *(e)* a viable balance of payments condition (Fischer, 1993). These factors together encompass a macroeconomic framework that fosters growth. It might be noted that Fischer's five conditions are not exclusive of one another and therefore satisfying one or two conditions may not be sufficient. A case in point could be Mexico, which, despite having a low inflation and a relatively strong fiscal situation, experienced the crisis in December 1994, primarily due to a non-competitive real exchange rate and a non-viable balance of payments.

There exists a complex relationship between fiscal deficit and economic growth. The public investment can be considered useful for productive activity and economic growth, but it is important to consider as to how such public investment is financed. Empirically, it has been established that in a growth equation, a budget balance has a significant and positive coefficient (Easterly and Schmidt-Hebbel, 1993). An important result that emerges from most of the empirical research studies, relating fiscal indicators to growth, is that countries running larger fiscal deficits tend to record lower growth. On the contrary, a country with a record of strong growth can sustain larger deficits. Thus, in the final analysis, there would possibly be a virtuous circle between growth and good fiscal management.

References:

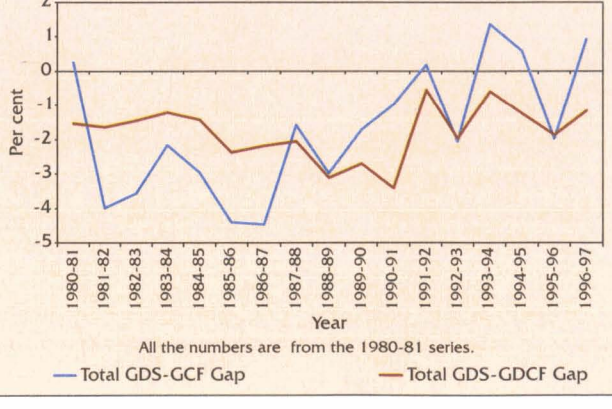
1. Fischer, Stanley (1993): "The Role of Macroeconomic Factors in Growth", *Journal of Monetary Economics,* Vol. 32, No.3, pp. 485-512.

2. Easterly, William and Klaus Schmidt-Hebbel (1993): "Fiscal Deficits and Macroeconomic Performance in Developing Countries", *World Bank Research Observer,* Vol. 8, No.2, pp. 211- 237.

In a growing economy like India, as expected, investment has always outstripped domestic saving (Appendix Table NI.4). However, the implied dependence on foreign saving (i.e., saving - GDCF gap) has been, on an average, within 1.8 per cent of GDP for the entire period of the study - 1980-81 to 1996-97 (Appendix Table NI.5 and Graph NI.6). Such dependence amounted to 2.1 per cent during 'eighties and then declined to 1.4 per cent during 1992-93 through 1996-97 (1.3 per cent during 1993-94 through 1997-98). However, immediately preceding the crisis year (i.e., 1991-92), the reliance on foreign saving rose to 3.4 per cent of GDP. Subsequent macroeconomic stabilisation measures led to a fall in the saving- investment gap to less than 2 per cent of GDP.

The important issues from a macro-economic viewpoint, however, are not only the level of saving-investment gap but also the nature and composition of investment. The end-use of saving into fixed capital formation or changes in stocks and inventories, thus, has important ramifications for the growth process. While technical considerations and the structure of production would require certain level of inventories, excessive inventory build-up withdraws resources from circulation and locks up funds. The changes in stock (unadjusted) came down from 2.2 per cent of GDP during the 'eighties to 1.6 per cent during 1992-93 through 1996-97 (0.7 per cent during 1993-94 through 1997-98), indicating perhaps better inventory management (Appendix Table NI.4).

Graph NI.6: GDS-GCF and GDS-GDCF Gaps
(as % of GDP at current market prices)

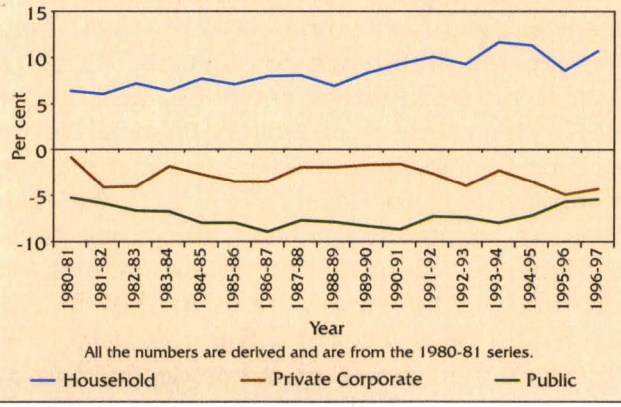


The trends remained similar even after adjusting the numbers for changes in stocks.[3]

The behaviour of the saving-fixed investment gap over the two periods also presents interesting results. The domestic saving has just managed to keep pace with fixed investment (adjusted) during the 'eighties. While the saving - fixed investment (adjusted) gap becoming mildly positive during 1992-93 through 1996-97 (0.3 per cent), in the more recent period (1993-94 through 1997-98) there had been worsening of the saving-fixed investment (adjusted) gap. The divergence becomes pronounced if the saving - fixed investment (unadjusted) gap is considered. Sectorally, the saving - fixed investment (adjusted) gap of the public sector showed a marginal deterioration from 6.9 per cent in the 'eighties to 7.0 per cent during 1992-93 to 1996-97; the deterioration would have been sharper but for some improvement recorded in the said gap during the recent period, viz., 1993-94 through 1997-98.

A sector-wise analysis of saving-investment gap reveals that the household sector was in surplus and the deficit of the public sector was higher than that of the private corporate sector (Graph NI.7). Similar trends are also recorded if the saving - investment (unadjusted) gap is considered (Graph NI.8). The saving-investment (adjusted) gap for the private corporate sector witnessed a steady increase from 2.4 per cent of GDP during the 'eighties to 4.1 per cent during 1992-93 through 1996-97 (4.0 per cent during 1993-94 through 1997-98). Such saving-investment (adjusted) gap for the public sector, which could be interpreted as an indicator of public sector's borrowing requirements at the

Graph NI.7: GDS-GDCF Gaps for Household, Private Corporate & Public Sector(as % of GDP at current market prices)

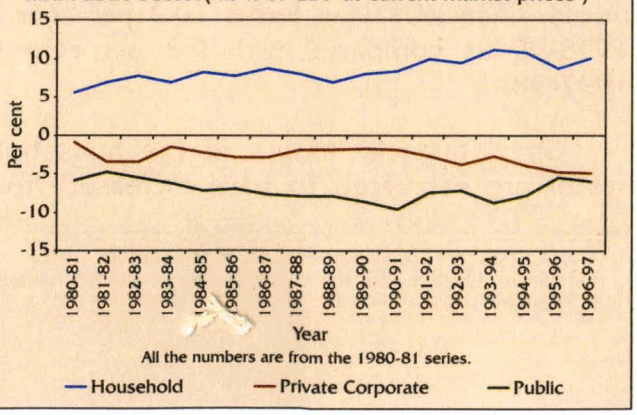


macro level, remained unaltered at 7.2 per cent of GDP during the 'eighties and during 1992-93 to 1996-97; in recent years (1993-94 to 1997-98) there had been, however, some improvement in the saving-investment (adjusted) gap of this sector (at 6.8 per cent). The household sector, however, reported a steady improvement in its surplus position over the years.

Recent Trends in Saving and Investment

The domestic saving as a percentage of GDP in the 'nineties was the highest at 24.4 per cent in 1996-97 (Appendix Table NI.6). However, it declined to 23.1 per cent in 1997-98. The acceleration in saving rate, observed from 1994-95 onwards, underscores the positive impact of the financial sector reforms in mobilising savings. The bulk of the savings continued to be sourced from the household sector; the saving of this sector as a percentage of GDP, hovering around 17-19 per cent in the

Graph NI.8: GDS-GCF Gaps for Household, Private Corporate and Public Sector(as % of GDP at current market prices)



3. In calculating the saving-investment gaps there is a data related problem. While the break-ups of Investment (unadjusted) (i.e., GCF, unadjusted for errors and omissions) are available into fixed investment and *changes in stock*, as well as into public, private corporate and household sectors, no such details are available for the Investment (adjusted), or GDCF. Since GDCF is a more reliable measure of investment, an attempt has been made to find out the details of Investment (adjusted). Towards this end, the total 'errors and omissions' has been apportioned in consonance with the variable's share in GCF. As for example, Investment (adjusted) of Public Sector = GCF of Public Sector + (Total Errors and Omissions) x (GCF of Public Sector / Total GCF), or, Fixed Investment (adjusted) = Fixed GCF + (Total Errors & Omissions) x (Fixed GCF / Total GCF).

'nineties. The composition of the household sector's saving has been generally in favour of financial assets as compared to physical assets. The greater preference for financial assets as against physical assets could be attributed to the higher rates of return on financial saving, growing financial intermediation and preference of households for less risky assets like bank deposits, contractual saving and small saving instruments. The private corporate sector saving recorded an increasing trend in the 'nineties reaching a peak level of 4.8 per cent in 1995-96. Since then, however, it has declined to 3.8 per cent in 1997-98. On the other hand, the public sector saving rate, which peaked at 1.9 per cent of GDP in 1995-96 declined to 1.0 per cent in 1997-98.

In tandem with the saving rates, investment rates (GDCF) too started picking up from 1994-95 recording a peak level of 25.8 per cent in 1995-96. The rate of GCF (unadjusted) also peaked in 1995-96 at 25.6 per cent and thereafter it declined to 23.4 per cent in 1997-98. The investment in the public sector has declined since 1995-96 but exhibited a slight improvement in 1997-98. On the other hand, investment by the private corporate sector and the household sector rose to 9.0 per cent and 9.3 per cent, during 1995-96 but declined thereafter to 8.4 per cent and 8.0 per cent, respectively in 1997-98.

Household Financial Saving: 1997-98 and 1998-99 [4]

On the basis of the available information, household financial saving is estimated to be at Rs. 1,81,119 crore in 1998-99 as against Rs. 1,52,890 crore in 1997-98 (Appendix Table NI.7). As percentage of GDP at current market prices, financial saving forms 10.3 per cent in 1998-99 as compared with 9.8 per cent in 1997-98.

Gross financial assets of the household sector are estimated to have increased from Rs. 1,78,576 crore (11.4 per cent of GDP) in 1997-98 to Rs. 2,07,841 crore (11.8 per cent of GDP) in 1998-99. Currency held by the households showed an increase from Rs. 12,780 crore (0.8 per cent of GDP) in 1997-98 to Rs. 22,131 crore (1.3 per cent of GDP) in 1998-99. Other financial assets, which attracted more funds from the households in 1998-99 as compared to the previous year are life insurance fund, provident and pension fund, claims on government and shares and debentures. However, bank deposits attracted less funds in 1998-99 as compared to the previous year.

There had been a higher increase in the financial liabilities of the household sector in absolute terms from Rs. 25,686 crore in 1997-98 to Rs. 26,722 crore in 1998-99 due mainly to increase in bank advances; however, in terms of percentage to GDP at current market prices, financial liabilities of the household sector registered a marginal decline from 1.6 per cent in 1997-98 to 1.5 per cent in 1998-99.

Conclusion

The process of development of the economy gained momentum during the 'nineties with the initiation of major economic reforms in 1991. The economy has since then been successfully launched on to a higher growth trajectory and has registered an improvement in a number of macro-economic indicators in a short span of less than a decade. The sectoral composition of GDP has undergone a change in the 'nineties. The services sector has come to occupy a place of prominence in terms of relative contribution to GDP. The higher contribution of the services sector to GDP has a number of implications for the economy, the most important being the increased resilience of the economy, particularly, in times of adverse agricultural shocks. Further, the saving – investment gap has declined from 2.1 per cent of GDP during the 'eighties to 1.4 per cent during the 'nineties (1.3 per cent if the more recent period is considered). The reduction in the saving - investment gap was facilitated by strong net saving of the household sector, particularly, in the financial assets.

4. These data are compiled/revised in December 1999 and hence, do not tally with the Quick Estimates of CSO released in February 1999.

APPENDIX TABLE NI.1: PERIOD-WISE TREND AND AVERAGE GROWTH RATES

(Per Cent)

Sector/Segment	At 1980-81 Prices			At 1993-94 Prices
	Full Period	**Period I**	**Period IIA**	**Period IIB**
	1980-81 to 1997-98	1980-81 to 1990-91	1992-93 to 1997-98	1993-94 to 1998-99
1	2	3	4	5
Trend Growth Rates:				
1. Agriculture and Allied Activities	**3.1**	**3.1**	**2.4**	**4.0**
1.1 Agriculture	3.3 #	3.3	2.9#	..
2. Industry	**7.0**	**7.6**	**9.3**	**8.3**
2.1 Mining and Quarrying	6.4	7.7	4.2	3.6
2.2 Manufacturing	6.9	7.4	10.0	9.1
2.3 Electricity, Gas and Water Supply	8.5	8.9	7.0	6.7
3. Services	**6.7**	**6.5**	**8.4**	**7.9**
3.1 Trade, Hotels, Restaurants, Transport, Storage and Communication	6.8	6.4	9.6	8.9
3.2 Financing, Insurance Real Estate and Business Services	8.1	7.4	9.3	7.5
3.3 Community, Social and Personal Services	5.9	6.5	6.3	7.8
3.4 Construction	5.0	4.6	5.7	4.6
4. Gross Domestic Product	**5.6**	**5.5**	**6.9**	**6.9**
Average Growth Rates:	1980-81 to 1997-98	1980-81 to 1990-91	1992-93 to 1997-98	1994-95 to 1998-99
1. Agriculture and Allied Activities	**3.6**	**4.5**	**3.0**	**4.3**
1.1 Agriculture	4.2 #	4.8	4.1 #	..
2. Industry	**7.0**	**7.2**	**8.1**	**8.2**
2.1 Mining & Quarrying	6.7	8.8	3.5	3.7
2.2 Manufacturing	6.9	6.9	8.6	9.0
2.3 Electricity, Gas & Water Supply	8.1	8.5	7.2	6.9
3. Services	**6.6**	**6.2**	**7.7**	**7.8**
3.1 Trade, Hotels, Restaurants, Transport, Storage and Communication	6.8	6.3	8.6	9.1
3.2 Financing, Insurance, Real Estate and Business Services	7.6	6.8	8.7	7.3
3.3 Community, Social and Personal Services	6.1	6.0	6.5	7.3
3.4 Construction	5.2	5.7	4.8	4.5
4. Gross Domestic Product	**5.8**	**5.8**	**6.5**	**6.8**

Notes: (1) Trend growth rates are derived from a log-linear trend equation.

(2) The year 1991-92 is excluded from both the periods for being an outlier. The growth rates for 1991-92 are reported in Appendix Table NI.3.

End-point for these growth rates is 1996-97.

APPENDIX TABLE NI.2: PERIOD-WISE SECTORAL COMPOSITION OF REAL GDP

(Per Cent)

Sector/Segment	At 1980-81 Prices			At 1993-94 Prices
	Full Period	**Period I**	**Period IIA**	**Period IIB**
	1980-81 to 1997-98	1980-81 to 1990-91	1992-93 to 1997-98	1993-94 to 1998-99
1	2	3	4	5
1. Agriculture and Allied Activities	**31.9**	**34.5**	**27.5**	**28.2**
1.1 Agriculture	29.9 #	31.8	26.2 #	26.1@
2. Industry	**24.2**	**23.2**	**25.9**	**21.8**
2.1 Mining and Quarrying	1.8	1.8	1.8	2.4
2.2 Manufacturing	20.2	19.5	21.5	17.0
2.3 Electricity, Gas and Water Supply	2.2	2.0	2.5	2.4
3. Services	**43.8**	**42.2**	**46.6**	**50.1**
3.1 Trade, Hotels, Restaurants, Transport, Storage and Communication	18.1	17.4	19.3	22.7
3.2 Financing, Insurance, Real Estate and Business Services	10.4	9.4	11.9	11.2
3.3 Community, Social and Personal Services	10.9	10.8	10.9	11.4
3.4 Construction	4.5	4.6	4.4	4.8
4. Gross Domestic Product	**100.0**	**100.0**	**100.0**	**100.0**

Notes: (1) Constituents may not add up to totals due to rounding off.

(2) Period-wise Sectoral Shares are yearly averages.

(3) The year 1991-92 is excluded from both the periods for being an outlier. Sectoral composition for 1991-92 is reported in Appendix Table NI.3.

\# End-point for these sectoral shares is 1996-97.

@ End-point for this sectoral shares is 1997-98.

APPENDIX TABLE NI.3: GROWTH RATES AND SECTORAL COMPOSITION OF REAL GDP: 1991-92 TO 1998-99

(Per cent)

Sector/Segment	At 1980-81 Prices			At 1993-94 Prices				
	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97@	1997-98*	1998-99#
1	2	3	4	5	6	7	8	9
1. Agriculture and Allied Activities	**-2.3**	**6.1**	**3.7**	**5.4**	**0.2**	**9.4**	**-1.0**	**7.6**
	(30.0)	**(30.2)**	**(29.5)**	**(29.7)**	**(27.6)**	**(28.0)**	**(26.4)**	**(26.8)**
1.1 Agriculture	-2.6	6.6	3.8	5.3	-0.1	9.6	-1.3	..
	(27.8)	(28.1)	(27.5)	(27.3)	(25.3)	(25.8)	(24.2)	..
2. Industry	**-1.9**	**4.3**	**7.6**	**10.3**	**13.2**	**6.7**	**6.3**	**4.6**
	(24.7)	**(24.5)**	**(24.8)**	**(21.2)**	**(22.3)**	**(22.0)**	**(22.3)**	**(22.0)**
2.1 Mining and Quarrying	3.7	1.1	1.7	9.2	7.4	1.2	2.7	-2.0
	(2.0)	(2.0)	(1.9)	(2.5)	(2.5)	(2.3)	(2.3)	(2.1)
2.2 Manufacturing	-3.7	4.2	8.4	10.6	15.0	7.7	6.8	5.2
	(20.2)	(20.0)	(20.4)	(16.3)	(17.4)	(17.4)	(17.6)	(17.5)
2.3 Electricity, Gas and Water Supply	9.6	8.4	6.3	9.3	6.7	5.7	6.6	6.3
	(2.5)	(2.5)	(2.5)	(2.4)	(2.4)	(2.3)	(2.4)	(2.4)
3. Services	**4.6**	**5.2**	**7.1**	**8.2**	**9.6**	**7.5**	**7.8**	**5.8**
	(45.4)	**(45.3)**	**(45.7)**	**(49.1)**	**(50.1)**	**(49.9)**	**(51.2)**	**(51.2)**
3.1 Construction	2.2	3.4	0.9	5.3	8.2	2.9	4.1	2.1
	(4.7)	(4.6)	(4.4)	(4.9)	(5.0)	(4.7)	(4.7)	(4.5)
3.2 Trade, Hotels, Restaurants, Transport, Storage and Communication	2.3	6.2	7.2	12.8	11.5	8.6	5.7	6.7
	(18.0)	(18.2)	(18.4)	(22.1)	(23.0)	(23.1)	(23.3)	(23.4)
3.3 Financing, Insurance, Real Estate and Business Services	10.5	4.6	12.5	5.6	8.3	7.9	8.4	6.2
	(11.2)	(11.1)	(11.8)	(11.0)	(11.1)	(11.1)	(11.4)	(11.4)
3.4 Community, Social and Personal Services	4.1	5.0	3.9	3.4	7.8	6.7	13.3	5.4
	(11.4)	(11.4)	(11.1)	(11.1)	(11.1)	(11.0)	(11.9)	(11.8)
4. Gross Domestic Product	**0.8**	**5.3**	**6.2**	**7.8**	**7.6**	**7.8**	**5.0**	**6.0**
	(100.0)	**(100.0)**	**(100.0)**	**(100.0)**	**(100.0)**	**(100.0)**	**(100.0)**	**(100.0)**

Notes: (1) Figures in brackets indicate shares to GDP.

(2) Constituent Shares may not add up to totals due to rounding off.

@ Provisional Estimates; * Quick Estimates; # Revised Estimates.

Source: Central Statistical Organisation.

APPENDIX TABLE NI.4: PERIOD-WISE SAVING AND CAPITAL FORMATION

(As Percent of GDP at current prices)

Items	1980-81 Series			1993-94 Series
	Full Period	Period I	Period IIA	Period IIB
	1980-81 to 1996-97	1980-81 to 1990-91	1992-93 to 1996-97	1993-94 to 1997-98
1	2	3	4	5
A. Saving				
Gross Domestic Saving	**21.7**	**20.4**	**24.3**	**23.5**
1. Household Sector	16.8	15.7	19.1	18.4
1.1 Financial Saving	8.4	7.4	10.3	10.1
1.2 Physical Saving	8.4	8.3	8.8	8.2
2. Private Corporate Sector	2.5	1.9	3.6	3.9
3. Public Sector	2.4	2.8	1.6	1.3
B. Capital Formation				
4. Gross Capital Formation (unadjusted)	**23.4**	**23.0**	**24.6**	**23.2**
4.1 Household Sector	8.4	8.3	8.8	8.2
4.2 Private Corporate Sector	5.4	4.4	7.4	7.4
4.3 Public Sector	9.7	10.3	8.4	7.5
5. Gross Fixed Capital Formation (unadjusted)	**21.5**	**20.8**	**22.9**	**22.5**
5.1 Household Sector	7.5	7.4	7.9	7.8
5.2 Private Corporate Sector	4.6	3.5	6.8	7.2
5.3 Public Sector	9.4	9.9	8.2	7.5
6. Changes in Stocks (unadjusted)	**1.9**	**2.2**	**1.6**	**0.7**
6.1 Household Sector	0.9	0.9	0.9	0.4
6.2 Private Corporate Sector	0.8	0.9	0.6	0.3
6.3 Public Sector	0.3	0.4	0.1	0.1
7. Errors & Omissions	**0.1**	**-0.5**	**1.1**	**1.6**
8. Gross Domestic Capital Formation (adjusted)	**23.5**	**22.5**	**25.7**	**24.8**
8.1 Household Sector	8.5	8.2	9.2	8.8
8.2 Private Corporate Sector	5.4	4.3	7.7	7.9
8.3 Public Sector	9.6	10.0	8.8	8.1
9. Gross Domestic Fixed Capital Formation (adjusted)	**21.6**	**20.4**	**24.0**	**24.0**
9.1 Household Sector	7.6	7.3	8.3	8.4
9.2 Private Corporate Sector	4.7	3.4	7.2	7.7
9.3 Public Sector	9.4	9.7	8.6	8.0
10. Changes in Stocks (adjusted)	**1.9**	**2.1**	**1.7**	**0.8**
10.1 Household Sector	0.9	0.9	1.0	0.4
10.2 Private Corporate Sector	0.7	0.9	0.6	0.3
10.3 Public Sector	0.2	0.3	0.1	0.1

Notes: (1) Source for Items 1 to 8 is Central Statistical Organisation. Items 8.1 to 10.3 are derived. For a methodology of deriving the adjusted sectoral investment as well as fixed investment and changes in stocks, see footnote 3.

(2) Constituents may not add up to totals due to rounding off.

APPENDIX TABLE NI.5: PERIOD-WISE SAVING-INVESTMENT GAPS

(As Percentage of GDP at current market prices)

Items	1980-81 Series			1993-94 Series
	Full Period	Period I	Period IIA	Period IIB
	1980-81 to 1996-97	1980-81 to 1990-91	1992-93 to 1996-97	1993-94 to 1997-98
1	2	3	4	5
1. Saving – Fixed Investment (adjusted) Gap	0.1	0.0	0.3	-0.5
1.1 Household Sector	9.2	8.4	10.8	10.0
1.2 Private Corporate Sector	-2.2	-1.5	-3.6	-3.8
1.3 Public Sector	-7.0	-6.9	-7.0	-6.7
2. Saving - Investment (adjusted) Gap	-1.8	-2.1	-1.4	-1.3
2.1 Household Sector	8.3	7.5	9.9	9.5
2.2 Private Corporate Sector	-2.9	-2.4	-4.1	-4.0
2.3 Public Sector	-7.2	-7.2	-7.2	-6.8
3. Saving - Fixed Investment (unadjusted) Gap	0.2	-0.4	1.4	1.1
3.1 Household Sector	9.3	8.3	11.2	10.5
3.2 Private Corporate Sector	-2.1	-1.6	-3.2	-3.3
3.3 Public Sector	-7.0	-7.1	-6.6	-6.2
4. Saving - Investment (unadjusted) Gap	-1.7	-2.6	-0.3	0.4
4.1 Household Sector	8.4	7.4	10.3	10.1
4.2 Private Corporate Sector	-2.9	-2.5	-3.8	-3.5
4.3 Public Sector	-7.3	-7.5	-6.8	-6.2

Notes: (1) Constituents may not add up to totals due to rounding off.

(2) The numbers of this Table are derived from the basic data of Appendix Table NI.4; however, due to rounding off, they may not tally exactly.

APPENDIX TABLE NI.6: SAVING AND INVESTMENT RATES: 1991-92 TO 1997-98

(As percentage of GDP at current market prices)

Items	1980-81 Series		1993-94 Series				
	1991-92	1992-93	1993-94	1994-95	1995-96@	1996-97@	1997-98*
1	2	3	4	5	6	7	8
A. Saving							
1. Household Sector	17.7	17.7	17.9	19.3	17.4	18.8	18.3
1.1 Financial Saving	10.1	9.3	10.8	11.6	8.2	9.8	10.3
1.2 Physical Saving	7.7	8.4	7.1	7.7	9.3	9.0	8.0
2. Private Corporate Sector	3.2	2.8	3.4	3.4	4.8	4.1	3.8
3. Public Sector	1.9	1.5	0.5	1.5	1.9	1.5	1.0
4. Gross Domestic Saving	**22.9**	**22.0**	**21.8**	**24.2**	**24.1**	**24.4**	**23.1**
B. Capital Formation							
1. Household Sector	7.7	8.4	7.1	7.7	9.3	9.0	8.0
2. Private Corporate Sector	5.9	6.7	5.6	6.7	9.0	7.5	8.4
3. Public Sector	9.2	8.7	8.1	8.5	7.4	6.7	7.0
4. Gross Capital Formation	**22.7**	**24.0**	**20.8**	**22.9**	**25.6**	**23.1**	**23.4**
5. Errors & Omissions	0.7	-0.1	1.6	2.4	0.2	2.5	1.4
6. Gross Domestic Capital Formation	**23.4**	**23.9**	**22.4**	**25.4**	**25.8**	**25.7**	**24.8**

Notes: Constituents may not add up to totals due to rounding off.
@ Provisional Estimates; * Quick Estimates.

Source: Central Statistical Organisation.

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APPENDIX TABLE NI.7: SAVING OF THE HOUSEHOLD SECTOR IN FINANCIAL ASSETS

(At Current Prices)

(Rs. Crore)

Items	1997-98 (Provisional)	1998-99 (Preliminary)
1	2	3
A. Financial Assets of the Household Sector (1 to 9)	**1,78,576**	**2,07,841**
a) as % of GDP at current market prices	***11.4***	***11.8***
1. Currency	12,780	22,131
a) as % of GDP at current market prices	*0.8*	*1.3*
b) as % of Financial Assets	*7.2*	*10.6*
2. Bank Deposits	79,514	76,590
a) as % of GDP at current market prices	*5.1*	*4.4*
b) as % of Financial Assets	*44.5*	*36.9*
3. Non-Banking Deposits	7,775	15,376
a) as % of GDP at current market prices	*0.5*	*0.9*
b) as % of Financial Assets	*4.4*	*7.4*
4. Life Insurance Fund	19,431	22,766
a) as % of GDP at current market prices	*1.2*	*1.3*
b) as % of Financial Assets	*10.9*	*11.0*
5. Provident and Pension Fund	32,808	38,742
a) as % of GDP at current market prices	*2.1*	*2.2*
b) as % of Financial Assets	*18.4*	*18.6*
6. Claims on Government	22,164	27,004
a) as % of GDP at current market prices	*1.4*	*1.5*
b) as % of Financial Assets	*12.4*	*13.0*
7. Shares and Debentures	3,777	4,935
a) as % of GDP at current market prices	*0.2*	*0.3*
b) as % of Financial Assets	*2.1*	*2.4*
8. Units of Unit Trust of India	595	565
a) as % of GDP at current market prices	*0.0*	*0.0*
b) as % of Financial Assets	*0.3*	*0.3*
9. Trade Debt (Net)	-268	-268
a) as % of GDP at current market prices	*-0.0*	*-0.0*
b) as % of Financial Assets	*-0.2*	*-0.1*
B. Financial Liabilities of the Household Sector (1 to 4)	**25,686**	**26,722**
a) as % of GDP at current market prices	***1.6***	***1.5***
1. Bank Advances	22,705	23,458
a) as % of GDP at current market prices	*1.5*	*1.3*
b) as % of Financial Liabilities	*88.4*	*87.8*
2. Loans and Advances from Other Financial Institutions	2,187	2,356
a) as % of GDP at current market prices	*0.1*	*0.1*
b) as % of Financial Liabilities	*8.5*	*8.8*
3. Loans and Advances from Government	416	511
a) as % of GDP at current market prices	*0.0*	*0.0*
b) as % of Financial Liabilities	*1.6*	*1.9*
4. Loans and Advances from Co-operative Non-Credit Societies	378	397
a) as % of GDP at current market prices	*0.0*	*0.0*
b) as % of Financial Liabilities	*1.5*	*1.5*
C. Saving of the Household Sector in Financial Assets (A-B)	**1,52,890**	**1,81,119**
a) as % of GDP at current market prices	***9.8***	***10.3***

Notes: (1) Bank Deposits include deposits with co-operative non-credit societies.
(2) Due to changes in coverage of non-banking deposits, figures prior to 1998-99 are not strictly comparable with those for 1998-99.
(3) Life Insurance Funds are inclusive of State/Central Government and postal insurance funds.
(4) Claims on Government include Compulsory Deposits.
(5) Shares and Debentures include investment in shares and debentures of credit/non-credit societies, public sector bonds, and investment in mutual funds (other than UTI).
(6) These data are compiled/revised in December 1999 and hence, do not tally with the Quick Estimates of CSO released in February 1999.
(7) Constituents may not add up to totals due to rounding off.

Source: Reserve Bank of India.

AGRICULTURE

CHAPTER III

AGRICULTURE*



A major landmark in the history of Indian agriculture has been the successful introduction of the Green Revolution in the late 'sixties, the benefits of which continue to be realised since then. In the process, Indian agriculture made significant strides both in terms of aggregate output and the diversification of cropping patterns, and of the geographical base for production. However, the higher growth achieved in the 'eighties could not be sustained in the 'nineties on account of a variety of factors, notwithstanding the fact that a large number of macroeconomic bottlenecks that were impacting the agriculture sector unfavourably were removed as part of the overall economic reform programme initiated in the early 'nineties. Recognising that the agricultural sector in India has not received the same treatment as other sectors of the economy (mainly due to Government intervention in various forms), efforts have been made since the early 'nineties to correct some of the biases and to provide a relatively more deregulated environment for the agricultural production. The efforts in this direction are: a generally supportive fiscal regime, adequate credit availability to support seasonal operations and technology investments, an exchange rate policy that has not only maintained competitiveness of the agro-produce but also encouraged foreign investment in this sector, and improvements in the institutional arrangements. Thus, agricultural exports and imports have been gradually liberalised in order to align the domestic prices with the international prices. Furthermore, to reduce volatility in the prices of select agricultural commodities, futures trading is allowed. The Government aims at achieving a quantum leap in agricultural production, so that agriculture and allied sectors become the vehicles of growth.

Nevertheless, the gains from the policies of the 'nineties have been limited by some unfavourable developments. The shift towards input-intensive technology subsequent to the Green Revolution brought about major changes in hydrological and power requirements, particularly in Punjab and Haryana, which has not been sustainable. The other factors include the adverse effects of intensity of planting, the narrowing down of crop diversity, the insect, pest and weeds as well as climatic variability, the deteriorating soil health, the changes in fertiliser consumption and the overexploitation of ground water.

This Chapter analyses the trends in agricultural production as also examines the rigidities that have contributed to a significant deceleration in crop output in the 'nineties.

Trends in Production

All-India Trends in Production

The agricultural sector witnessed a turnaround with an impressive growth rate of 7.6 per cent in the production of all crops during 1998-99, after a substantial slow-down, *i.e.*, after registering a negative growth rate of 5.6 per cent in 1997-98 which was preceded by a high growth rate of 9.3 per cent in 1996-97. The foodgrains production in 1998-99, however, touched a record high of 202.5 million tonnes surpassing the 200 million tonnes mark for the first time. The production of non-foodgrains such as oilseeds, cotton, sugarcane and tea also improved significantly. Oilseeds and sugarcane production touched new peaks of 25.7 million tonnes and 290.7 million tonnes, respectively, in 1998-99. The turnaround in agricultural production was supported by favourable South-West monsoon, which was slightly above its long-period average in 1998. Agricultural production could have been still higher but for sub-optimal spatial and temporal distribution of rainfall.

Even though the growth of agriculture in 1998-99 has been impressive, it has been on a low base of the preceding year. The growth rate in the 'nineties so far has been distinctly lower than that in the 'eighties. Based on all-crop Index Numbers of Agricultural Production

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* **This chapter is based on information available up to October, 1999.**

(base: triennium ending 1981-82=100), the growth rate based on semi-log (exponential) trend averaged 3.2 per cent for the 'eighties (1980-81 to 1989-90) and 2.4 per cent for the 'nineties (1990-91 to 1998-99).

The index numbers for area and yield are available only till 1997-98. However, it is apparent that the decline in production in the 'nineties is on account of stagnation in the area under cultivation of foodgrains and deceleration in yield rates in respect of both foodgrains and non-foodgrain crops. The deceleration in production is sharper in the case of foodgrains than non-foodgrain crops, mainly on account of fall in the area under the former during the 'nineties. It is plausible to infer that there has been area shift from foodgrains to non-foodgrains reflecting the change in the cropping pattern during the 'eighties and 'nineties. The data presented in the Table AGR.A lends credence to the area shift hypothesis.

The area shift away from coarse cereals represents yet another feature in the Indian agriculture. In fact, the area under foodgrains at 124 million hectares in 1997-98 is around the level reached at the end of the 'sixties. The stagnation in area under foodgrains can have implications for long-term food security. It would be necessary to provide institutional and technological support to step up productivity improvements to avoid any emergence of major demand-supply imbalance.

Table AGR.A: All-India Trend Growth Rates *

	1980-81 to 1989-90			1990-91 to 1997-98		
INDEX	A	P	Y	A	P	Y
Foodgrains Index	-0.23	2.85	2.74	-0.22	1.71	1.41
Non-foodgrains Index	1.12	3.77	2.31	1.55	3.28	1.41
All-crops index	0.10	3.19	2.35	0.28	2.35	1.37
ACTUALS	**1980-81 to 1989-90**			**1990-91 to 1998-99**		
Rice	0.41	3.62	3.19	0.51	1.69	1.18
Wheat	0.46	3.57	3.11	1.69	3.28	1.57
Coarse Cereals	-1.36	0.35	1.71	-2.01	0.19	2.25
Cereals	-0.25	2.85	3.11	-0.02	1.97	1.99
Pulses	0.10	1.49	1.59	-0.08	1.38	1.46
Foodgrains	**-0.22**	**2.73**	**2.97**	**-0.03**	**1.92**	**1.96**
Oilseeds	2.44	5.46	2.95	0.91	3.74	2.81
Sugarcane	1.46	2.71	1.23	1.81	2.48	0.66
Cotton	-1.26	2.79	4.10	3.08	3.52	0.42

* Based on semi-log (exponential) trend equations for the periods 1980-81 to 1989-90 and 1990-91 to 1997-98/1998-99.

A: Area P: Production Y: Yield

Among the major foodgrain crops, rice (paddy) and wheat production recorded significant growth rate of around 3.6 per cent in the 'eighties based on semi-log trend, supported mainly by yield improvement. In the case of coarse cereals, the acreage shrunk at an average rate of 1.4 per cent per annum, while yields improved at a moderate rate of 1.7 per cent. Consequently, output gains were minimal. The production of pulses grew at a trend rate of 1.5 per cent due to moderate growth in yield and stagnation in area under cultivation. Among the non-foodgrains, the oilseeds production grew faster at 5.5 per cent per annum, supported by expansion in area as well as gains in productivity due mainly to public policy support to technology thrust and price support for this crop. The Technology Mission on Oilseeds constituted in the 'eighties played a particularly important role in improving the output of these crops. In contrast, sugarcane and cotton production grew at about half the rate of oilseeds. In the case of cotton, productivity improvements were impressive, but there was a diversion in area under cultivation away from this crop.

In the 'nineties, output expansion has decelerated in the case of rice, which recorded a growth rate of 1.7 per cent based on exponential trend. Wheat production has continued to grow at a noticeable rate of 3.3 per cent per annum. The yield improvements have been lower in the case of both rice and wheat in the present decade compared to that recorded in the 'eighties. However, the trend growth rate in wheat output has been maintained in the 'nineties mainly on account of renewed expansion in the area under this crop while India has touched the international yield level in the case of wheat, the yield rate of rice being far below the world average. The coarse cereals output continued to suffer as the area under cultivation declined at a rate of 2.0 per cent per annum in the 'nineties. In the case of pulses, the trends of the 'eighties have been maintained in respect of area, production and yield in the absence of any noticeable technological breakthrough. Oilseeds production decelerated in the 'nineties, but still recorded a satisfactory growth rate of 3.7 per cent per annum. The expansion in area has tapered off in the case of oilseeds possibly indicating limits

to the compositional shift in the face of endowment considerations. While the trend growth in the case of sugarcane is by and large maintained, there is some acceleration in the production of cotton in the 'nineties, mainly as the area under this crop has expanded at a remarkable rate of 3.1 per cent per annum, in contrast to a shrinkage in the 'eighties.

Rabi vis-à-vis Kharif Production

Season-wise, the exponential trend growth rate of 3.4 per cent in *rabi* foodgrain production witnessed in the 'eighties was sustained in the 'nineties. In fact, *rabi* production could have been higher but for a decline in productivity in the 'nineties. Thus, the decelerated growth in foodgrain production was by and large confined to *kharif* crops. The *kharif* crops recorded an exponential trend growth rate of 0.7 per cent during the 'nineties as against 2.3 per cent during the 'eighties, reflecting, primarily, the impact of continued shrinkage in the area under cultivation. The persistence of this phenomenon has resulted in bringing the shares of *rabi* and *kharif* production to almost an equal level during 1998-99, although the former only accounted for about one-third of total foodgrain production before the commencement of the Green Revolution in the mid-'sixties (Graph AGR.1, Table AGR.B and Appendix Table AGR.1). This may be considered as the second most significant development on the agricultural front, the first being the phenomenon of the Green Revolution in the 'sixties. The fact that this is the culmination of a process that set in soon after the Green Revolution and not merely a one time occurrence makes this all the more significant.

Graph AGR.1: Foodgrains Production - Season-wise

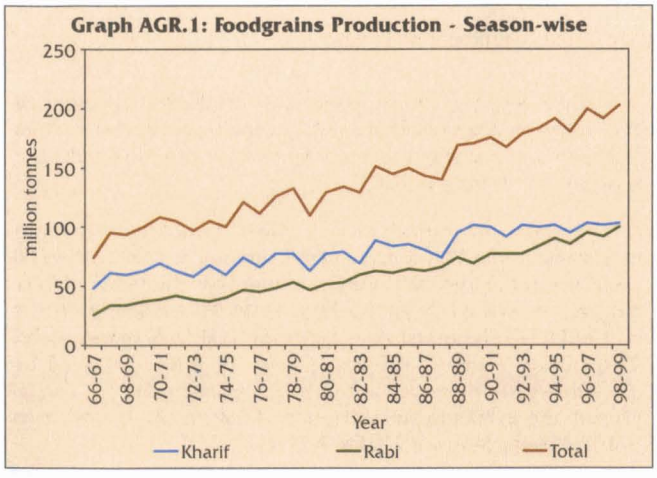


Table AGR.B: Trend Growth Rates - *Kharif* and *Rabi* *

	1980-81 to 1989-90			1990-91 to 1998-99		
Crop	**A**	**P**	**Y**	**A**	**P**	**Y**
KHARIF						
Rice	0.05	3.01	2.95	0.15	1.15	1.00
Coarse Cereals	-1.38	0.55	1.96	-2.57	-0.32	2.30
Cereals	-0.61	2.22	2.84	-0.94	0.71	1.67
Pulses	0.70	2.92	2.21	-1.26	0.41	1.70
Foodgrains	**-0.43**	**2.26**	**2.70**	**-1.05**	**0.71**	**1.77**
RABI						
Rice	6.57	9.76	2.99	4.66	5.59	0.89
Wheat	0.46	3.57	3.10	1.69	3.28	1.57
Coarse Cereals	-1.15	-0.72	0.43	0.23	2.65	2.41
Cereals	0.51	3.77	3.24	1.71	3.52	1.79
Pulses	-0.79	0.59	1.39	0.98	1.98	0.99
Foodgrains	**0.15**	**3.39**	**3.23**	**1.51**	**3.36**	**1.82**

* Based on semi-log (exponential) trend equations for the periods 1980-81 to 1989-90 and 1990-91 to 1997-98/1998-99.

A: Area P: Production Y: Yield.

The increased share of the *rabi* crop may perhaps be explained in terms of non-price factors as the role of price factor is limited. The benefit of hindsight suggests that upgradation of technology intended to raise the productivity of land and other factors plays a major role in augmenting farm production and income than the favourable terms of trade (Box AGR.1). After having examined the incentives and disincentives in Indian agriculture, Dantwala (1967) concluded that the price factor played only a limited role in augmenting agricultural output. What was needed was improvement in non-price factors, which included, *inter alia*, technology and rural infrastructure. The aggregate supply elasticity is observed to be generally low in the agricultural sector especially in the short run. This is attested by the development programmes launched for augmenting the production of pulses and oilseeds. Despite high rise in prices, due mainly to the gap in demand and supply, no perceptible increase in the production of pulses is recorded in the absence of technology. In the Indian context, many studies have suggested that increase in the prices of agricultural output alone does not bring about any perceptible change in the output in the long run. Therefore, there is an imperative need for technological upgradation in the agricultural sector. This gap in technology is sought to be made good through the process of economic liberalisation initiated in the early 'nineties.

Box AGR.1: The Terms of Trade between Agricultural and Non-Agricultural Sectors

Historically, the concept of 'terms of trade' (TOT) was developed by Viner in 1937 to monitor the relative price movement in international trade. In course of time, the concept of TOT was extended to monitor the unit value or prices of commodities exchanged between the agricultural and non-agricultural sectors in domestic trade. The underlying objective of the concept of TOT for agriculture, sometimes referred to as barter terms of trade to distinguish it from alternative concepts such as single factorial TOT, double factorial (income) TOT or gross TOT, is to assess the changes in the purchasing power of a unit of agricultural commodity over a period of time. The TOT indices so constructed have also been observed to analyse policy biases between the agriculture and non-agriculture sectors.

The TOT attracted a good deal of attention in India ever since the late 'seventies. Thamarajakshi (1977) found a shift in TOT in favour of agriculture from 1968-69 to 1973-74. Kahlon and Tyagi (1983), however, combining the farm gate prices with weights obtained from the 26th Round of NSS, showed that TOT were moving against agriculture. Vittal (1986) raised some vital questions about methodology, but it was generally accepted that TOT had moved against agriculture since the late 'seventies. In the context of the increasing importance of TOT in the formulation of price policy, the Government of India (GOI) modified the terms of reference for the Commission for Agricultural Costs and Prices (CACP). As a follow-up, the CACP has been regularly taking into account the TOT ever since 1980 while recommending support/ procurement prices for agricultural commodities. However, several analysts felt that the CACP methodology needed to be revised. Some experts advocated the use of income terms of trade, while others favoured TOT with a revised base and a better coverage. In this backdrop, and in consonance with the recommendations of the Expert Committee for Review in the Methodology of Cost of Production of Crops (Chairman: Prof. C.H. Hanumantha Rao), the Government constituted a Task Force in March 1993 headed by Prof. A.S. Kahlon, former Chairman of CACP, to have a fresh look into the problems relating to the TOT between agricultural and non-agricultural sectors and also to suggest methodology for constructing an index of TOT.

After considering the various indices of TOT being constructed by several countries as reported by the Food and Agricultural Organisation (FAO), the Task Force developed a suitable methodology to compute an index of TOT for India (GOI, 1995). The recommended index is expressed as a percentage of the ratio of index of price received for agricultural products to index of price paid by the farm sector for final consumption, farm inputs and capital investment in agriculture. The TOT between agricultural and non-agricultural sectors is now being computed by the Government of India on the basis of methodology recommended by the Task Force. The index of TOT between the agriculture and the non-agricultural sectors prepared and published recently by the Ministry of Agriculture is presented in Table AGR.C.

The data presented in the Table indicate a distinct turnaround in the TOT between agricultural and non-agricultural sectors in the 'nineties. During the 'nineties, the index of TOT ranged between a high of 106.6 in 1994-95 and low of 101.9 in 1990-91. In contrast, the index of TOT averaged around 95.0 during 'eighties. The rising index of prices received by the farmers has been supported by the public policy of annual hikes in the minimum support prices (MSP) of 22 major crops over the years (Appendix Table AGR.2).

Table AGR.C: Index of Terms of Trade between Agricultural and Non-Agricultural Sectors

(Base: Triennium ending 1990-91=100)

Year	Index of Prices Received (PR)	Index of Prices Paid (PP) for:			Combined Index (PP)	Index of TOT (TOT=PR/PP)
		Final Consumption	Intermediate Consumption	Capital Formation		
1981-82	54.9	54.4	88.5	56.9	61.9	88.7
1985-86	70.4	69.5	94.3	76.4	75.2	93.6
1990-91	112.3	112.1	104.0	108.5	110.2	101.9
1991-92	130.8	124.9	119.4	127.2	123.8	105.6
1992-93	138.7	131.5	139.5	137.5	133.5	103.9
1993-94	151.4	143.9	152.9	147.3	146.1	103.6
1994-95	171.1	159.0	166.1	158.4	160.5	106.6
1995-96	182.9	173.7	174.2	176.1	173.9	105.2
1996-97*	187.7	181.6	185.6	183.1	182.5	102.8
1997-98*	197.4	189.7	205.0	191.3	193.1	102.2

* Estimated on the basis of average ratio of the indices of DES and CACP during last three years 1993-94 to 1995-96 and applying the same on CACP indices for 1996-97 and 1997-98.

Source: Directorate of Economics and Statistics (DES), Ministry of Agriculture, Government of India.

Box AGR.1: The Terms of Trade between Agricultural and Non-Agricultural Sectors *(Concld.)*

Over the long-run, the improvement in gross TOT has been associated with higher output. It has also been associated with increased private investments. However, these gains have been at the cost of impoverishing the rural poor, though farmers with significant surpluses apparently gained (Misra, 1998). In the short-run, it is paradoxical that the 'nineties experienced a decelerated rate of agriculture growth despite a favourable movement in TOT. The paradox could be an agenda for research in this area. It is possible that this may be the outcome of aggregate supply response being price-inelastic because of fixity of land and resource-specificity in which agro-climatic conditions, *inter alia*, are crucial determinants of cropping pattern. It is also possible that the overall impact of TOT on aggregate supply is small, as the favourable TOT may induce marketed surplus through a decline in self-consumption among farmers but is off-set by the positive income effect that triggers self-consumption. Interestingly, TOT improvement is evident at a time, when following Engel's Law, the proportion of consumption expenditure on food items, and within food items on cereals, appears to be on the decline.

The possibility of deceleration in agriculture output to be related to negative aggregate measure of support (AMS) to the agriculture sector, also needs to be examined. Gulati (1998) had estimated the AMS in 1994 at –8.7 per cent of the value of agriculture production based on farm harvest prices. The AMS is calculated by subtracting the domestic price from international price and multiplying the gap by the output and adding to this product-specific AMS, the non-product AMS as a measure of farm subsidies relating to power, fertilizers, water, seeds and credit. The estimated AMS is more an indication of negative protection and it provides a *raison d'être* for the public policy support for moving the TOT in favour of agriculture in contrast to the policies pursued in many command economies which consciously followed the Preobrazhensky mode of moving the price scissors against farm sector in order to support industrialization. However, these objectives will have to be counter-balanced by the need to protect the vulnerable poor, which include small and marginal farmers besides the landless cultivators, who could be adversely affected by rise in food prices. The long-run inflationary impact of agricultural price support could make the policy counter-productive, if supply response is poor.

References:

1. Government of India (1995): *Report of the Task Force on Terms of Trade between Agricultural and Non-Agricultural Sectors*, Ministry of Agriculture.
2. Gulati, A.(1998): "Indian Agriculture in an Open Economy: Will it Prosper?", in I.J. Ahluwalia and I.M.D. Little (eds.), *India's Economic Reforms and Development: Essays for Manmohan Singh*, Oxford University Press, New Delhi.
3. Kahlon, A.S. and D.S. Tyagi, (1983): *Agriculture Price Policy in India*, Allied Publishers, New Delhi.
4. Misra, V.N. (1998): "Economic Reforms, Terms of Trade, Aggregate Supply and Private Investment in Agriculture: Indian Experience", *Economic & Political Weekly*, August 1.
5. Thamarajakshi, R. (1977): "Role of Price Incentives in Stimulating Agricultural Production in a Developing Economy", in Ensminger, D. (ed.), *Food Enough or Starvation for Millions*, Tata McGraw-Hill, New Delhi.
6. Vittal, N. (1986): "Inter-sectoral Terms of Trade in India: A Study of Concepts and Method", *Economic & Political Weekly*, December.

The shift in the agricultural output could be taken as evidence of structural change that has been taking place in the Indian agriculture. This is as much a result of the induction of new seeds and crop production technology as of expanded irrigation. The increase in net irrigated area during the 'nineties as compared to the 'eighties may have aided *rabi* cultivation of foodgrains. This has resulted in achieving a substantial growth in wheat production, which is essentially an irrigated *rabi* crop. However, the price factor too has played a significant role in stimulating and sustaining wheat production. The increasing share of *rabi* production in total foodgrains production has imparted some element of stability to agricultural production in India. This is evident from the fact that the co-efficient of variation for foodgrains production is lower in the 'nineties (5.9 per cent) as compared to that in the 'eighties (10.5 per cent). This has far-reaching implications for the economy in general, since a stable and growing farm sector can contribute greatly to the overall economic stability.

State Level Trends in Production

A stylised fact that emerges from the analysis of State-wise data on agricultural production is the extension of the Green Revolution, which started in the States of Punjab, Haryana and Uttar Pradesh, to the Eastern region of the country in general and to West Bengal in particular. This is evident from the sharp rise in foodgrain production emanating primarily from the increase in productivity in the decade of the 'eighties. One of the findings of Bhalla and Singh (1997), is that a sharp pick-up in agricultural growth experienced by the Eastern Region has been facilitated by a remarkable increase in the area under irrigation triggered by a substantial private investment undertaken in pumpsets and tubewells. On the other hand, Orissa experienced a severe setback with a negative trend growth rate of 3.09 per cent in the 'nineties as against a positive growth rate of 2.90 per cent in the 'eighties. This may be a reflection of the fragmentation of land holdings. The Study has, however, brought out the fact

that the North-Western Region had been the mainstay of food surplus during the period 1980-83 through 1992-95, mainly because it acquired dynamic comparative advantage in foodgrain production due to highly developed infrastructure in irrigation, research and marketing. Yet, the agricultural performance of these states during the 'nineties has suffered a setback.

Gujarat experienced a sharp turnaround while Karnataka and Rajasthan experienced a sharp acceleration in the trend growth rates in the 'nineties in foodgrains resulting primarily from an improvement in yield. Yet another notable stylised fact is the shift of area away from the cultivation of coarse cereals across the States indicating probably the changing consumption pattern.

Minimum Support Prices, Procurement, Off-take and Buffer Stocks

The food management policy of the Government of India has all along been to ensure food security, and the public distribution system is an important mechanism for achieving this objective. In the process, the minimum support price (MSP) and the procurement of foodgrains play a significant role. The increase in support prices had contributed to a notable build-up of stocks of foodgrains with official agencies. The total stock of foodgrains at the end of September 1999 stood at 29.2 million tonnes representing a rise of 20.7 per cent over the stock level a year ago (24.2 million tonnes). At these levels, stocks are substantially higher than the norms prescribed for the Ninth Five-Year Plan. The procurement of rice and wheat aggregated 24.2 million tonnes during 1998-99 as against 23.8 million tonnes in the previous year; the corresponding figures of off-take were 20.73 million tonnes and 19.12 million tonnes, respectively (Appendix Table AGR.3). The narrowing of the price differential between the PDS prices and open market prices was reflected in the sluggish rise in off-take in recent years. Many recent empirical studies also suggest that there has been a secular decline in world commodity prices in the last few years. The international price of wheat is less than the domestic price and the MSP. This suggests that both the domestic and international price situations are not conducive to easy liquidation of the inventory, the carrying cost of which would add to food subsidy.

The minimum support price mechanism was intended to encourage higher investment and adopt high-risk new technology as also to take care of the possible hazard of high input cost. Moreover, it is considered to be an effective instrument of changing the cropping pattern in the desired direction. However, the fixing of minimum support price has thrown up an issue, namely, whether minimum support prices of crops should be fixed on the basis of import parity price or annual cost of production, a concern expressed in the Ninth Plan document. The minimum support price could impede the international competitiveness of exportables, and cannot remain unnoticed. The question is how to evolve a viable minimum support price policy that would provide adequate incentive to the farmers without impacting on the international competitiveness of the Indian products. The issue gains in importance as agricultural exports are going to play a crucial role during the coming years.

The liberalisation of external trade in foodgrains has given rise to a new option of price stabilisation, namely, that of variable levies. An empirical study by Jha and Srinivasan (1999) had brought out the superiority of the option of variable levies on trade as compared with buffer stocking in stabilising prices under the liberalised trade framework. Perhaps, this option needs careful consideration, as it is being increasingly evident that stabilisation operations involving physical handling of foodgrains are fiscally expensive (World Bank, 1999). The carrying cost of buffer stocks has been estimated to be rising at the rate of 15 per cent per annum in the 'nineties.

Structural Issues

Any discussion of the structural transformation of agriculture would need to take into account the structural rigidities emanating from Government intervention and the policy initiatives taken to improve agricultural

performance. These are touched upon in the following discussion.

Controls on Domestic Trade

The State intervention in the free movement of agricultural commodities had been impacting on the functioning of domestic market. The economic reform measures since 1991-92 have not made any dent in the domestic markets in the agricultural commodities. Some of the restrictions placed from time to time on the free movement of agricultural commodities are spelt out below:

- The occasional physical bottling up of marketable surplus of wheat in Punjab, Haryana and Western U.P. to facilitate the procurement operations of the Food Corporation of India (FCI) through minimum support price mechanism.
- The levy price (compulsory acquisition) system for rice and sugar to enable the Government to procure the estimated requirements to feed the public distribution system (PDS) and for buffer stocking impacted on the efficient functioning of these two markets.
- The operations of FCI and the PDS are perceived to be distorting the normal regional and seasonal variations of commodity prices and production decisions by farmers relating to both timing and locations of sales of marketable surplus especially in North-West region.
- The regulatory authorities vested with the several commodity-specific boards or other government organisations, *viz.*, the Cotton Corporation of India (CCI), the National Dairy Development Board (NDDB), the Jute Corporation of India (JCI) and the Tea, Coffee and Tobacco Boards (Pursell and Gulati, 1995).

Incentive Structure

The agricultural sector during the pre-1991 period carried biases emanating primarily from protection to industrial goods, an overvalued exchange rate and controls on exports, movement and prices of agricultural goods. The thrust of the structural policy frame put in place in mid-1991 was on industrial delicensing, liberalising the trade and foreign exchange regimes, and providing incentives to work, save and invest. This led to emergence of 'Level Playing Field' for the agriculture sector. For example, it took a decision to grant increases in minimum support prices so as to improve the terms of trade for the farmers.

Restrictions on External Trade

Agriculture continues to be subjected to Quantitative Restrictions (QRs), even though there is significant movement in recent years to gradual easing of them. In regard to exports, the country followed import substitution strategy. However, there were broadly two groups of industries which were treated differently. In respect of the group of industries consisting of tea, coffee, spices, tobacco, oil meals, jute, fish, fruits and vegetables, exports were sought to be regulated by export taxes and other controls till early 'seventies. In the late 'seventies and 'eighties, export policies in respect of these industries became more supportive with the removal of most export taxes. A number of complex regulations to which these products were subjected to were either abolished or simplified in the wake of reforms put in place in 1991. However, the exports of a number of commodities belonging to the other group of industries were regulated by Commodity Boards. Exports of most of them, *viz.*, main foodgrains, sugar, oilseeds and cotton are being regulated by parastatal monopolies (*i.e.*, canalising agencies). A number of policy initiatives have been taken since 1991 which include, among others, the removal of some export controls, minimum export prices and the removal of import controls on sugar and lifting of bans and other controls, exports of common wheat varieties and common rice. India has registered its parastatal import monopolies as World Trade Organisation (WTO)-consistent State Trading Enterprises (STEs) and has claimed the right to continue non-tariff controls at its discretion on balance of payments grounds (Sharma, 1999).

The restrictions on agriculture exports were believed to be one of the prime reasons for the disprotection of the agricultural sector as compared to the industrial sector. In general, the agricultural export policy which reflected the "vent for surplus theory", has been, since

mid-1991, reoriented to gradual opening of the agricultural sector. The trade reforms in respect of exports and imports of agricultural goods are amply reflected in the Exim Policy 1997-2002. Exports of *Basmati* and non-*Basmati* rice are allowed freely subject to registration of contract. The export of oilseeds has been allowed for consumption purpose; restrictions have also been removed on the exports of tobacco, spices and cashewnuts (GOI, 1999). However, quantitative restrictions on imports are still in vogue under Article XVIII(b) of General Agreement on Tariffs and Trade (GATT) on certain agricultural commodities. The main approach of the Government has been to control trade in agricultural commodities with a view to ensuring adequate availability of essential food commodities to consumers at reasonable prices and rural employment.

WTO on Agriculture and India

The Uruguay Round marks a significant turning point in world agriculture. The long-term objective of the reform process initiated by the Uruguay Round is intended to establish a fair and market-oriented agricultural trading system. There are three direct provisions relating to agriculture in WTO agreement. The three provisions are reduction in trade barriers, increased market access, and reduction in Aggregate Measure of Support (AMS).

The acceleration in agriculture exports hinges critically on identifying those agricultural products in which India has a comparative advantage. The Agreement on Agriculture envisages a reduction in the support to agricultural production, marketing and income. That apart, it has also stipulated that the AMS should not exceed 5 per cent of the total value of agricultural products in the case of developed countries and 10 per cent in the case of developing countries. In the Indian case, AMS is much below the stipulated limit and some studies have estimated the same to be negative. The roll-back of non-tariff barriers and the reduction of domestic protection of the agricultural sector by many countries provide an opportunity to enhance India's agricultural exports, which would imply that concerted policy actions are required to promote agricultural productivity and to make agriculture a viable and profitable economic proposition.

Linkage between Agriculture and Industrial Sectors

The linkages between agriculture and industrial sectors, widely recognised in the literature,* focus on the role of agriculture as (i) supplier of wage goods to the industrial sector, (ii) provider of raw materials to agro-based industries which have a weight of 21.2 per cent in the Index of Industrial Production (base: 1980-81=100) and weight of 17.6 per cent in the index with base 1993-94=100, and (iii) generator of agricultural income that enables rural demand for industrial products to take place. Empirical tests show that a unit increase in agricultural output would have a positive effect on both industrial production and national income. Rangarajan (1982) estimated that a one per cent increase in agricultural output tends to raise industrial production by 0.5 per cent and augment national income by 0.7 per cent. These findings are quite close to the findings of Peter Hazell and his associates in their paper on Muda River Project in Malaysia. The experience in the 'eighties and 'nineties also lends support to the thrust of the findings. During the 'eighties, the trend growth rate of 3.2 per cent in agricultural production appeared to have had contributed to accelerated industrial production. The decelerated growth rate in agricultural production seems to have impacted on growth of industrial production in the 'nineties.

Major Policy Initiatives in Indian Agriculture

Although the country has become self-sufficient in food production, the country needs to produce larger quantities than at present to keep pace with the ever-increasing population. It is estimated by the Planning Commission that the country needs to produce about 300 million tonnes of foodgrains by 2011-12, an increase of almost 100 million tonnes in less than a decade and a half. At the present level of output, the per capita availability of foodgrains per day has been on the decline, reflecting the

* Rudra (1967), Chakravarthy (1974), Raj (1976), Mellor (1976), Mitra (1977), Chakravarty (1979), Krishna (1982) and Rangarajan (1982).

Reserve Bank of India, C.R.D. PUNE

Box AGR.2: Investment in Agriculture

Agricultural productivity hinges critically on investment in agriculture. Public investment measured in terms of Gross Capital Formation in agriculture, which exhibited sustained rising trend in the 'seventies, decelerated in the decade of the 'eighties. Public investment in real terms (at 1980-81 prices) declined from Rs.1,796 crore in 1980-81 to Rs.1,132 crore in 1996-97 (Table AGR.D).

The decline in investment in agriculture in the decade of 'eighties, as suggested by some empirical studies, appeared to have been neutralised by the decline in the Incremental Capital Output Ratio (ICOR). The empirical study by Alagh (1997) had suggested a decline in ICOR in agriculture from 4.37 during the period 1978-79 through 1986-87 to 3.32 during 1981-82 to 1991-92; but a study by Mishra and Chand (1995) suggests that ICOR declined from 8.36 during Fourth Five-Year Plan to 4.15 during the Fifth Five-Year Plan to 2.21 during the Sixth Plan and further to 1.79 during the Seventh Plan (Table AGR.E). The ICOR of 2.2 is envisaged in the Ninth Plan document, which is fractionally lower than 2.3 during the Eighth Plan. Concomitantly, the Marginal Efficiency of Capital (MEC) increased from 0.120 to 0.241 to 0.452 and further to 0.558. An empirical study by Purohit and Reddy (1999), has estimated the MEC at 0.067 and 0.120 during the Third and Fourth Plans, respectively, which subsequently rose to 0.414 during the 'eighties. It is difficult to reason out as to why marginal efficiency of capital which improved during the 'eighties, deteriorated in the 'nineties. As regards the relationship between public and private sector capital formation in agriculture, there appears to be no convergence of views. The findings of certain studies such as Rath (1989), Shetty (1990) and Dhawan (1996) suggest that the decline in public capital formation since the 'eighties had impacted on private sector capital formation on account of its complementarity (Graph AGR.2).

There does not seem to be a strong empirical evidence on the existence of substitution between public and private investment in Indian agriculture (Mishra and Chand, 1995). However, it is apposite to put the issue in proper perspective. The uptrend in private sector investment is a reflection of the

Graph AGR.2: Gross Capital Formation in Agriculture

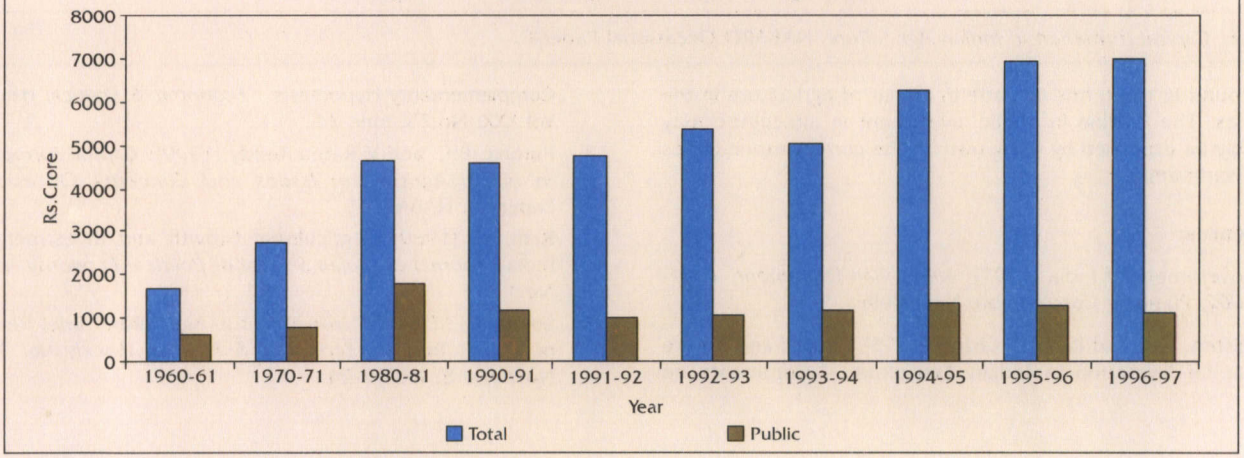


Table AGR.D: Gross Capital Formation in Agriculture

(at 1980-81 prices)

(Rs. crore)

Year	Total	Public	Private	Per cent share	
				Public	Private
1960-61	1,668	589	1,079	35.3	64.7
1970-71	2,758	789	1,969	28.6	71.4
1980-81	4,636	1,796	2,840	38.7	61.3
1990-91	4,594	1,154	3,440	25.1	74.9
1991-92	4,729	1,002	3,727	21.2	78.8
1992-93	5,372	1,061	4,311	19.7	80.3
1993-94	5,031	1,153	3,878	22.9	77.1
1994-95	6,256	1,316	4,940	21.0	79.0
1995-96	6,961	1,268	5,693	18.2	81.8
1996-97	6,999	1,132	5,867	16.2	83.8

Source: Central Statistical Organisation.

Box AGR.2: Investment in Agriculture *(Concld.)*

Table AGR.E: Incremental Capital-Output Ratio (ICOR) and Marginal Efficiency of Capital (MEC) in India

Period	ICOR	1/ICOR = MEC
1961-62 to 1965-66 (Third Plan)	15.01	0.067
1966-67 to 1968-69 (Annual Plans)	1.46	0.686
1969-70 to 1973-74 (Fourth Plan)	8.36	0.120
1974-75 to 1978-79 (Fifth Plan)	4.15	0.241
1980-81 to 1984-85 (Sixth Plan)	2.21	0.452
1985-86 to 1989-90 (Seventh Plan)	1.79	0.558
1980-81 to 1989-90	2.41	0.414

Source: *Capital Formation in Indian Agriculture*, NABARD Occasional Paper-8.

turnaround in the terms of trade in favour of agriculture in the 'nineties. The decline in public investment in agriculture may probably be explained by the growth in the current expenditures of Governments.

References:

1. Government of India (1997): *Ninth Plan Document, 1997-2002*, Planning Commission, New Delhi.
2. Mishra, S.N. and Ramesh Chand (1995): "Public and Private Capital Formation in Indian Agriculture – Comments on Complementarity Hypothesis", *Economic & Political Weekly*, Vol XXX, No.25, June 24.
3. Purohit, B.C. and V. Ratna Reddy (1999): *Capital Formation in Indian Agriculture: Issues and Concerns*, Occasional Papers-8, NABARD.
4. Rath, N. (1989): "Agricultural Growth and Investment in India", *Journal of Indian School of Political Economy*, Vol I, No.1.
5. Shetty, S.L. (1990): "Investment in Agriculture: Brief Review of Recent Trends", *Economic & Political Weekly*, Vol. XXV, No.7 and 8, Feb 17-24.

deceleration of growth in agricultural production, the accretion to stocks with Government agencies and to some extent the increase in cereal exports following relaxation in controls. The slow growth rate in the 'nineties could be attributable to liberalisation of input prices such as fertilisers, diesel, high-yielding variety seeds, irrigation charges and the decline in public sector investment (Box AGR.2).

The official concern over the decelerated growth in agricultural production in the 'nineties is well reflected in the Ninth Plan document. With a view to achieving 4.5 per cent rate of growth envisaged in the Ninth Plan period, the strategy has been geared to achieving the growth rate of the 'eighties in the commodities in which the growth rate decelerated in the 'nineties, and to further improve the growth rates which became more dynamic in the early 'nineties. Given the inelastic supply of land, the availability of land can be augmented only through increasing cropping intensity. The issue relating to enhancing the cropping intensity hinges critically not only on expansion of irrigation facilities, but also on higher efficiency of the irrigation system. The Ninth Plan document has placed irrigation potential at 139.89 million hectares. With this irrigation potential and the current cropping intensity co-efficient with respect to irrigation, the cropping intensity can be raised up to 149 as against the current level of 134.20, which, according to the Ninth Plan document, is quite inadequate. Against this background, the Ninth Plan document has underlined the need to augment the cropping intensity co-efficient with respect to irrigation through water conservation measures and more efficient and judicious use of the existing irrigation facilities.

Reforms in Water Management

It may be apposite to look into the structural rigidity associated with the water management. The seriousness of the problem could be gauged from the fact that the direct recovery from farmers towards the cost of canal water constitutes only a small fraction of operational and maintenance expense apart from the capital cost. Against this backdrop, the Government constituted an Expert Committee on Pricing of Irrigation Waters in 1992 to look into the financial position of the irrigation system and recommended a six-fold hike in collection of water charges through a two-part tariff structure. The calculation made by the Committee showed that the resultant collection would amount to about 6 per cent of the gross revenue of an average farm apart from covering operational and maintenance costs and one per cent of capital costs.

The Union Budget for 1999–2000 has envisaged certain policy initiatives for augmenting growth of this sector. The underlying objective is to try and galvanise the potential to transform the rural economy as well as to generate effective demand for manufactured goods through enhanced purchasing power in the villages. Supporting consolidation of land holdings and facilitating the devolution of management of distribution and user charges collection to village level bodies constitute the organisational reform component while credit delivery has been sought to be enhanced by upgrading agro-processing to priority sector status for bank lending.

Fertilizers

Optimum fertilizer application plays a critical role in improving the productivity of various crops. Concerted efforts in this direction have resulted in substantial increase in agricultural production and productivity. During 1998-99, the consumption of chemical fertilizers rose by 3.7 per cent to 16.8 million tonnes. The consumption of both Di-Ammonium Phosphate (DAP) and Muriate of Potash (MOP), which had declined following their decontrol in 1992, also picked up during 1998-99. Though the fertilizer consumption has grown over the years, the existing level of fertilizer use is low with reference to consumption levels prevailing in other countries, including some of the developing countries in Asia. This has resulted in non-fulfilment of the objective of accelerating the growth in the agricultural sector.

The imbalance in the fertilizer consumption mix [*i.e.*, the ideal ratio of application of the three plant nutrients – Nitrogen (N), Phosphate (P) and Potash (K)], however, continued to be a cause of concern following its deviation from the ideal NPK ratio of 4:2:1 to 8.3:3:1 in 1998-99. This ratio is relevant mainly in the case of foodgrain crops, especially for rice and wheat. Thus, the fertilizer consumption continues to be biased in favour of the nitrogenous fertilizers, the prices of which are significantly lower as compared to the other two fertilizers due to distortions in the pricing policy. Urea, which is under statutory price control, is the main nitrogenous fertilizer constituting about 60 per cent of the total fertilizer consumption in the country.

Seed Policy Reforms

The last three decades witnessed an impressive stride made by the seed sector. From the modest beginning of 465 hectares under seed production in 1962-63, the country today has an area of nearly 5 lakh hectares under certified seed production. Moreover, the quantum of quality seeds distribution has increased from 14 lakh quintals in 1979-80 to 75.60 lakh quintals in 1997-98 and is expected to touch the level of 109 lakh quintals by the terminal year of the Ninth Five-Year plan. The liberalised climate for investment in the seed sector and the vigorous participation by the private sector in the seed industry have thrown up an issue regarding the relative roles that should be assigned to the public and private sectors from a long-term perspective. That apart, the rapid growth of the private sector has also raised issues relating to collaboration between the public research system and the private seed industry. Besides, the recent experience in some states in the context of spurious and poor quality seeds has underlined the need for some degree of regulation and control of the seed trade.

High Yielding Varieties Programme (HYVP)

The implementation of the HYVP, which revolutionised the Indian agricultural production system since its inception in 1966-67, continued to be the main plank of the strategy for increasing foodgrains production and agricultural development. The HYVs of wheat and rice introduced in India in 1966 were based on research work conducted in Mexico and the Philippines. These HYVs are of short duration, fertiliser-responsive and short-term crops. They yield better results under controlled irrigation with optimum dosage of fertilisers. The coverage of area under HYVP, during 1966-67 to 1997-98, increased from 1.89 million hectares to 76.0 million hectares.

Critical Policy Issues

The issues relating to opening up of agricultural sector and the implementation of the Agreement on Agriculture (AOA) are being debated seriously. The AOA is expected to bring about a structural change in the world foodgrain market in favour of developing countries. While, India with large agricultural base could turn out to be a major player in the world commodity market, the decelerated growth observed in the 'nineties would be a constraint to such a possibility. Again, while India can be self-sufficient in wheat production, the same cannot be said about rice. It is important to recognise that rice is an important staple food and the demand for rice is bound to go up. Since India is competitive in respect of rice, opening up of agriculture will tilt the demand for exports in favour of rice and this may pose threat to food security in the event of any short supply in global market. However, food habits would diversify from basic cereals to value added foods in the growth process, such as fruits, vegetables, milk and milk products, altering the supply and demand prospects for foodgrains in the coming years. Therefore, to capitalise on the advantages of liberalisation in agriculture, concerted efforts are needed to address the issue of sustainability of agriculture, expansion of irrigated areas, better infrastructural and logistic support, and improvement in bio-technology and genetic engineering, all of which would ultimately lead to the issue of raising investment in agriculture.

In this context, it is important to work out the optimal buffer stock policy. While price stabilisation, and with it the stability of farmers' income follow from buffer stocking, the cost of conducting buffer stock operations should be kept within limits, from the viewpoint of resource allocation efficiency.

An estimate based on per capita net mean production of 440 grams per day by Krishnaji (1988) had placed buffer stock requirements at 13 million tonnes for a population of 750 million to ensure against an unforeseen shortage in any given year. Ray (1987), based on historical analysis of rain-induced production function, had suggested a maximum stock of 15 to18 million tonnes of cereals along with storage rules aimed at stabilising consumption with about 3 per cent variation.

The mounting input subsidy is one issue that has emerged from the viewpoint of public finance management and the need to ensure requisite public investment to take place in agriculture. There is no doubt that drastic reduction in input subsidy would impact adversely on agriculture production, whereas the rising input subsidy is likely to crowd out public investment in agriculture. In this connection, it is pertinent to point out that the attainment of 4.5 per cent annual growth in agriculture as envisaged in Ninth Five-Year Plan hinges critically on the strategies including investments that help realise the sustainability of agricultural growth (Box AGR.3). It is pertinent to ensure that the cost of purchase of inputs would not increase sharply so as to contain the possibilities of adverse terms of trade for agriculture to emerge. Sudden withdrawal of subsidy will, on the other hand, cast an impact on the different classes of farmers. Even a small reduction in input subsidy would hurt the marginal and small farmers much more than the rich farmers. It is, therefore, imperative that a balanced view on sustainability of agricultural growth is taken.

Agricultural Finance

Commensurate with the attempts to augment the performance of Indian agriculture, efforts have been made over the years to address the issues concerning agricultural credit delivery system, as credit is one of the critical inputs for agricultural production. The significant developments that have emerged in the area of rural credit include, *inter alia,* the following: (a) periodic review and enhancement of credit;

Box AGR.3: Sustainability of Agricultural Growth

The sharp turnaround in agricultural production in 1998-99 needs to be seen from the point of view of its sustainability. Despite years of normal monsoon, agricultural production in the 'nineties recorded year-to-year fluctuations. In this context, the issue relating to sustainability of agricultural production assumes added importance as the average annual growth of 4.5 per cent envisaged in the Ninth Five-Year Plan period looks a difficult target to achieve. The Ninth Five Year Plan also focuses on environmental sustainability of the developmental process. Against this backdrop, it is apposite to evaluate the possibility of ensuring environmentally sustainable agricultural growth in a long-term perspective.

With a view to sustaining the long-term growth rate of 4.5 per cent, calculations made by the Planning Commission indicate that cropping intensity will have to rise from 134.20 in 1996-97 to 143.00 in 2001-02. So far the strategy of agricultural growth was mainly dependent on improving the yield levels by using modern techniques like the usage of chemical fertilisers and pesticides. The sustainability of agricultural growth necessitates some moderation in the use of chemical fertilisers in view of ecological and environmental considerations. It has been estimated that if the sustained growth is to be achieved through the currently accepted technology mix, the per hectare consumption of fertilisers is expected to rise steeply to 185.81 kg. in 2011-12 from the current level of about 75.26 kg. per hectare (Rangarajan, 1999). Such a level of fertiliser consumption would inevitably have an impact on environment. This problem assumes added importance in the Indian case due to the imbalance in fertiliser consumption caused by the skewed nature of fertiliser pricing. Currently, Low Input Sustainable Agriculture (LISA) is being promoted as an alternative. However, studies show that sustainable agriculture in terms of less input use is less productive and less profitable. This is an issue that needs to be addressed in India. One alternative way to reduce the fertiliser consumption imbalance is to reduce the fertiliser subsidy. But such an action may have adverse impact on small and marginal farmers.

Yet another important issue is the attainment of both inter-generational and intra-generational equity. The sustainability of agricultural growth hinges critically on the behaviour of public investment. The decline in public investment in agriculture, for several years now, appears to have impacted the Indian agriculture. It may possibly be argued that although the public investment had been declining, the private investment had been exhibiting sustained uptrend but a bulk of this goes to boost short-term productivity by concentrating on areas like seeds, fertilisers and mechanisation rather than long-term asset building. On the positive side, the growth impulse may emanate from favourable terms of trade. As Binswanger (1989) says, supply response to prices takes time to develop fully, sometimes as many as ten to twenty years. In a survey on aggregate agriculture supply response in developing economies, Schiff and Montenegro (1977) opined that prices and non-price factors were complementary rather than substitutes. In other words, a high level of irrigation and other types of public investment-created infrastructures enhance the impact of prices on output and vice versa.

The sustainability of long-term agricultural growth could also be considered from the demand side. The data thrown up by several rounds of National Sample Survey have shown that the consumption pattern has been shifting over time (i) from coarse cereals to fine cereals and (ii) from cereals to non-cereals like milk and eggs. The emerging demand pattern appeared to have constrained the production of coarse cereals as witnessed in the last few years. The demand constraint, as already discussed, has emanated from the operation of the Engel's law.

There is a growing perception among a class of agricultural economists that it may not be possible to sustain the accelerated growth rate witnessed in the recent past, especially in the Indo-Gangetic region, which contributed about 61 per cent of total output of rice and wheat (Table AGR.F). The results of national demonstrations conducted by ICAR have brought to focus the fact that there was vast unexplored technological potential for improvement in the yield of rice in all States and the ratio of potential to actual yield is the highest (3.5 per cent) in Bihar. The emergence of rice-wheat crop system is considered overexploitative of the natural resource base and there is consequent degradation in soil health and fertility and in water supply and quality. What is more, it is apprehended that the immediate consequence of this phenomenon is the threat to sustainability of yield of both wheat and rice emanating from the intensification of

Table AGR.F: Share of Indo-Gangetic and Other States in All-India Output of Rice and Wheat
(Triennium ending 1998-99)

(Per cent)

States	Area			Production		
	Rice	Wheat	Both	Rice	Wheat	Both
Bihar	11.5	7.8	10.1	8.2	6.4	7.4
West Bengal	13.3	1.4	8.8	15.9	1.2	9.2
U.P.	13.1	34.4	21.1	14.3	34.1	23.3
Haryana	2.2	7.9	4.3	3.0	11.6	6.9
Punjab	5.3	12.5	8.0	9.3	19.8	14.1
Sub-Total	**45.4**	**63.9**	**52.4**	**50.7**	**73.1**	**60.9**
Orissa	10.2	0.0	6.3	6.4	0.0	3.5
M.P.	12.3	16.7	13.9	6.4	11.4	8.6
Others	32.2	19.4	27.4	36.5	15.5	27.0

Source: Directorate of Economics & Statistics, Ministry of Agriculture, Government of India.

Box AGR.3: Sustainability of Agricultural Growth *(Concld.)*

rice-wheat crop rotation. The decline in the yield of rice and wheat is evident in West Bengal, U.P., Haryana and Punjab in the 'nineties. However, notable successes have been reported in the development of rice hybrids which gives about 15-20 per cent higher yield as compared with the conventional high yielding varieties. Sustainability of rice-wheat production in both eastern and northern States hinges critically on the improvement in water management system.

References:

1. Binswanger, Hans (1989): "The Policy Response of Agriculture" in *Proceedings of the World Bank Annual Conference on Development Economics,* World Bank, Washington D.C.
2. Government of India, (1997): *Ninth Five Year Plan: 1997-2002,* Planning Commission, New Delhi.
3. Huke, R. and Huke, E. (1992): *Rice – Wheat Atlas of South Asia,* International Rice Research Institute and Centro Internacional de Mejoramiento de Maiz y Trigo, Los Banos, Philippines.
4. Mahendra Dev, S. and Ranade, Ajit (1999): "Persisting Poverty and Social Insecurity: A Selective Assessment in India", in Parikh, Kirit (ed.) *India Development Report, 1999,* Oxford University Press.
5. Rangarajan, C. (1999): "Agriculture in the Changing Environment," Inaugural Address at the National Seminar on 'New Challengs Facing Indian Agriculture in the Context of WTO', June, Hyderabad.
6. Schiff, M. and C.E. Montenegro (1977): "Aggregate Supply Response in Developing Countries: A Survey of Selected Issues", *Economic Development and Cultural Change,* Vol. 45, No. 2.
7. Virmani, S.S., Khush, G.S. and Pingali, P.L. (Undated): "Hybrid Rice for Tropics : Potential, Research Priorities and Policy Issues" in M. Llyas Ahmed and B.C. Venkatamath (eds.) *Hybrids Rice Seed Production Technology : Theory & Practice,* Directorate of Rice Research, Hyderabad.
8. Woodhead, T., Huke, R. and Huke, E. (1993): "Areas Locations and Ongoing Collaborative Research for the Rice – Wheat systems in Asia", in Paroda, R. S., Woodhead Terrence and Singh, R. B. (eds.) *Sustainability of Rice – Wheat Production Systems in Asia,* Oxford and IBH Publishing, New Delhi.

(b) special emphasis on the development of rural infrastructure on account of the implication for a long-term sustainable agricultural growth; and (c) increasing momentum toward providing access to the weakest section of the rural poor to the institutional finance via micro-financing and other initiatives.

The Reserve Bank has been taking a series of steps for providing timely and adequate credit to the rural sector through NABARD. The capital base of NABARD has been strengthened with both Government of India and RBI contributing to it. The limits under the Reserve Bank's General Lines of Credit I and II are also being enhanced periodically. Scheduled commercial banks (SCBs) excluding foreign banks are also supplementing the NABARD's efforts. It is stipulated for scheduled commercial banks excluding foreign banks to extend 40 per cent of net bank credit to priority sector; there is also a sub-target that 18 per cent of net bank credit should flow to agriculture. While, credit flow to this segment has been increasing in absolute terms, it is mandatory that any short fall in fulfilling the target or sub-target would have to go to the corpus of Rural Infrastructure Development Fund (RIDF) discussed subsequently. Strengthening of institutional mechanisms such as recapitalisation of Regional Rural Banks (RRBs), setting up of local area banks (LABs) and RIDF has also received significant attention in the recent period.

The Institutional Credit to Agriculture

Agricultural credit is disbursed through a multi-agency network consisting of, *inter alia,* Co-operatives, Scheduled Commercial Banks (SCBs) and Regional Rural Banks (RRBs). The structural changes in the composition of the institutional credit to agriculture could be gauged in terms of the evolving shares of each of the institutions in the total rural credit. Institutional credit to agriculture extended by these agencies witnessed a steady rise over the years increasing from Rs. 11,202 crore in 1991-92 to Rs. 18,744 crore in 1994-95 and then to Rs. 38,054 crore in 1998-99. During 1991-92 to 1998-99, such credit exhibited a compound growth rate of 19.1 per cent. It is evident that commercial banks have emerged as the predominant source of institutional credit to agriculture with its share in the total rising from 42.9 per cent in 1991-92 to 44.0 per cent in 1994-95 and to 47.5 per cent in 1998-99. Accordingly, an erosion in the share of the co-operative banks is observed from 51.8 per cent in 1991-92 to 50.1 per cent in 1994-95 and further to 44.6 per cent in 1998-99 (Table AGR.6).

Rural Infrastructure Development Fund (RIDF)

In view of the critical importance of rural infrastructure and the lackluster growth in agricultural investment in the past, concerns

Table AGR.G: Agency-wise Credit Flow to Agriculture

(Rs. crore)

Item	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98*	1998-99@
SHORT-TERM CREDIT								
Co-operative Banks	4,403	7,170	7,839	7,250	8,331	9,328	11,058	12,595
RRBs	336	489	732	688	849	1,121	1,408	1,720
Commercial Banks	2,341	2,432	2,700	@@	5345	6,549	7,409	9,262
Sub-Total	7,080	10,091	11,271	7,938	14,525	16,998	19,875	23,577
MEDIUM AND LONG TERM CREDIT								
Co-operative Banks	1,397	2,208	2,278	2,156	2,148	2,616	3,281	4,392
RRBs	260	342	245	395	532	563	767	1,269
Commercial Banks	2,465	2,528	2,700	8,255@@	4,827	6,234	7,053	8,816
Sub-Total	4,122	5,078	5,223	10,806	7,507	9,413	11,101	14,477
TOTAL	**11,202**	**15,169 (35.4)**	**16,494 (8.7)**	**18,744 (13.6)**	**22,032 (17.5)**	**26,411 (19.9)**	**30,976 (17.3)**	**38,054 (22.8)**

* Estimated.
@ Target.
@@ No bifurcation for short and medium and long term credit is available.
Figures in brackets indicate percentage variation over the pervious year.
RRBs: Regional Rural Banks.
Source: NABARD.

were raised about the country's ability to increase production. Consequently, an initiative for setting up of an independent fund called the RIDF in NABARD was taken in the Union Budget of 1995-96. The Budget proposed for creation of RIDF-I with a corpus of Rs. 2,000 crore. The successive Budgets proposed the continuation of the RIDF Scheme (Table AGR.H).

Contributions to the corpus of RIDF-I were made by all the Indian scheduled commercial banks (other than RRBs) to make up for their shortfall in agricultural lending target of 18 per cent of net bank credit, subject to a maximum of 1.5 per cent of net bank credit. In the case of RIDF-II, the contributions were made by the public sector banks which had not achieved the overall priority sector target of 40 per cent of net bank credit as on the last Friday of March 1996, on a pro-rata basis, depending on their shortfall. Contributions to RIDF-III were made by all the Indian scheduled commercial banks (other than RRBs) equivalent to the amounts of their shortfall in fulfilling priority sector lending of 40 per cent of net bank credit as on the last reporting Friday of March 1997. Besides this, the balance amount was required to be contributed by public sector banks having shortfall in agricultural lending target of 18 per cent of net bank credit, on a pro-rata basis, depending on the extent of their shortfall. Contributions to RIDF-IV were made by the Indian scheduled commercial banks (other than RRBs) having short-fall in priority sector lending of 40 per cent of net bank credit as on the last reporting Friday of March 1998. The balance of the corpus of Rs. 300 crore was to be mobilised by NABARD. Contributions to RIDF-V will also follow the same pattern.

The RIDF was created for extending loans to State Governments to enable them to complete the implementation of the existing rural infrastructural projects whose execution was held up solely for want of financial resources. However, the progress of completion of projects under RIDFs has not been satisfactory except for RIDF-I. Underutilisation of RIDF funds is attributable to several factors like, (i) year-to-year nature of announcement of corpus of RIDF, (ii) procedural delays in completing formalities and in getting various clearances, (iii) attempts to alter project design in post-sanction stage, etc. (Table AGR.H).

Table AGR.H: Sanctions and Disbursement of Loans under RIDF by NABARD (As on March 31, 1999)

(Rs. crore)

Phase	Year	Fund	Sanction	Disbursement	Disbursement as per cent of Sanction
RIDF-I	1995-96	2,000	1,830.37	1,542.46	84.27
RIDF-II	1996-97	2,500	2,614.48	1,436.42	54.94
RIDF-III	1997-98	2,500	2,679.18	685.68	25.59
RIDF-IV	1998-99	3,000	3,145.65	132.33	4.21
RIDF-V	1999-2000	3,500	—	—	—

Source: NABARD.

Micro-finance

Micro-finance is a novel approach to 'banking with poor' with the apparent advantages of lower transaction costs and high repayments due to, *inter alia,* the involvement of potential beneficiaries of rural credit in the credit delivery mechanism. As a result, various micro-finance initiatives have gathered pace in the recent years. The major thrust of these initiatives is towards setting up of institutions such as Self Help Groups (SHGs), Non-Governmental Organisations (NGOs), Credit Unions, *etc.,* and strengthening their financial intermediation capabilities. In this regard, NABARD's role has been two-fold, *viz.,* promotional and financial. While promotional efforts assumed the form of the SHG-Bank Linkage Programme and facilitating training, financial involvement is in terms of providing refinance, Revolving Fund Assistance and Grants.

The institutional credit delivery system suffers from the poor recovery rate, which has an adverse effect on the sanctions of fresh credit. The rural poor, therefore, may be constrained to depend on the unorganised markets. The existing flaws in the system of SHGs and NGOs need to be corrected for the success of micro-financing schemes.

References:

1. Alagh, Y.K. (1997): "Agricultural Investment and Growth", Inaugural Address at the 56th Annual Conference of Indian Society of Agricultural Economics at Kerala Agriculture University, Trichur.
2. Bhalla, G.S. and Singh, G. R. (1997): "Recent Developments in Indian Agriculture: A State Level Analysis", sponsored by the Planning Commission, *Economic & Political Weekly,* March.
3. Dantwala, M.L. (1967): "Incentives and Disincentives in Indian Agriculture", *Indian Journal of Agricultural Economics,* Vol.41, No.2.
4. Dhawan, B.D. (1996): "Price and Non-price Factors in Agricultural Investments", *Economic & Political Weekly,* June 22.
5. Government of India (1999): *Annual Report, 1998-99,* Department of Agriculture and Cooperation, Ministry of Agriculture, New Delhi.
6. Joshi, Vijay and Little, I.M.D. (1996): *India's Economic Reforms: 1991-2001,* Oxford University Press, New Delhi.
7. Krishna, R. (1982): *Some Aspects of Agricultural Growth, Price Policy and Equity in Developing Countries,* Food Research Institute Studies, Vol. XVIII, No.3.
8. Krishnaji, N. (1988): "Foodgrains Stocks and Prices", in Amiya K. Bagchi (ed.) *Economy, Society and Polity,* Oxford University Press, New Delhi.
9. Pursell, G. and Ashok Gulati (1995): "Liberalising Indian Agriculture: An Agenda for Reform" in Cassen, Robert and Joshi, Vijay (eds.), *India: The Future of Economic Reforms,* Oxford University Press, New Delhi.
10. Ray, S.K. (1987): "Stabilisation through Food Stock Operations", *Journal of Quantitative Economics,* Vol.III, No.1.
11. Rangarajan, C. (1982): *Agricultural Growth and Industrial Performance in India,* Research Report 33, International Food Policy Research Institute, Washington D.C.
12. Sharma, Anil (1996): "Indian Agricultural Trade Liberalisation and the Uruguay Round Agreement" in Benoit Blarel, Gary Pursell and Alberto Vardes (eds.), *Implications of the Uruguay Round Agreement for South Asia: The Case of Agriculture,* World Bank, Allied Publishers, New Delhi.
13. Srinivasan, P.V. and Jha, Shikha (1999): "Food Security Through Price Stabilization", *Economic & Political Weekly,* Vol. XXXIV, Nos. 46 and 47, November 20-26.
14. World Bank (1999): *India: Foodgrain Marketing Policies – Reforming to Meet Food Security Needs,* Volume I and II, May, Washington D.C.

APPENDIX TABLE AGR.1: RELATIVE SHARES OF *KHARIF* AND *RABI* FOODGRAINS PRODUCTION

(in million tonnes)

Year	Foodgrains Production			% of *Kharif* to Total	% of *Rabi* to Total	%of *Rabi* to *Kharif*	Annual Growth Rate	
	Kharif	*Rabi*	Total				*Kharif*	*Rabi*
1966-67	48.89	25.34	74.23	65.86	34.14	51.83		
1967-68	60.76	34.29	95.05	63.92	36.08	56.44	24.28	35.32
1968-69	59.57	34.44	94.01	63.37	36.63	57.81	-1.96	0.44
1969-70	62.35	37.15	99.50	62.66	37.34	59.58	4.67	7.87
60's Avg.	**57.89**	**32.81**	**90.70**	**63.83**	**36.17**	**56.67**	**8.44**	**13.60**
1970-71	68.92	39.50	108.42	63.57	36.43	57.31	10.54	6.33
1971-72	62.99	42.18	105.17	59.89	40.11	66.96	-8.60	6.78
1972-73	58.64	38.39	97.03	60.43	39.57	65.47	-6.91	-8.99
1973-74	67.84	36.83	104.67	64.81	35.19	54.29	15.69	-4.06
1974-75	59.10	40.73	99.83	59.20	40.80	68.92	-12.88	10.59
1975-76	73.89	47.14	121.03	61.05	38.95	63.80	25.03	15.74
1976-77	66.53	44.64	111.17	59.85	40.15	67.10	-9.96	-5.30
1977-78	77.72	48.69	126.41	61.48	38.52	62.65	16.82	9.07
1978-79	78.08	53.82	131.90	59.20	40.80	68.93	0.46	10.54
1979-80	63.25	46.45	109.70	57.66	42.34	73.44	-18.99	-13.69
70's Avg.	**67.70**	**43.84**	**111.53**	**60.70**	**39.30**	**64.76**	**-0.95**	**1.82**
1980-81	77.65	51.94	129.59	59.92	40.08	66.89	22.77	11.82
1981-82	79.38	53.92	133.30	59.55	40.45	67.93	2.23	3.81
1982-83	69.90	59.62	129.52	53.97	46.03	85.29	-11.94	10.57
1983-84	89.23	63.14	152.37	58.56	41.44	70.76	27.65	5.90
1984-85	84.52	61.02	145.54	58.07	41.93	72.20	-5.28	-3.36
1985-86	85.25	65.19	150.44	56.67	43.33	76.47	0.86	6.83
1986-87	80.20	63.22	143.42	55.92	44.08	78.83	-5.92	-3.02
1987-88	74.56	65.79	140.35	53.12	46.88	88.24	-7.03	4.07
1988-89	95.64	74.28	169.92	56.29	43.71	77.67	28.27	12.90
1989-90	100.99	70.05	171.04	59.04	40.96	69.36	5.59	-5.69
80's Avg.	**83.73**	**62.82**	**146.55**	**57.14**	**42.86**	**75.02**	**2.96**	**3.38**
1990-91	99.44	76.95	176.39	56.38	43.62	77.38	-1.53	9.85
1991-92	91.59	76.79	168.38	54.39	45.61	83.84	-7.89	-0.21
1992-93	101.47	78.01	179.48	56.54	43.46	76.88	10.79	1.59
1993-94	100.40	83.86	184.26	54.49	45.51	83.53	-1.05	7.50
1994-95	101.09	90.41	191.50	52.79	47.21	89.44	0.69	7.81
1995-96	95.12	85.30	180.42	52.72	47.28	89.68	-5.91	-5.65
1996-97	103.92	95.52	199.44	52.11	47.89	91.92	9.25	11.98
1997-98	101.13	91.31	192.43	52.55	47.45	90.29	-2.68	-4.41
1998-99	102.67	99.87	202.54	50.69	49.31	97.27	1.52	9.37
90's Avg.	**99.65**	**86.45**	**186.09**	***53.55***	***46.45***	***86.75***	**0.40**	**3.59**

Source: Ministry of Agriculture, Government of India.

APPENDIX TABLE AGR.2: MINIMUM SUPPORT PRICES*

(Rs. per Quintal)

Year	Paddy	C.Cereals	Wheat	Gram	Sugarcane	Cotton H-4	Raw Jute	Groundnut (in Shell)
1978-79	85	85	115	140	10.00		150	175
1979-80	95	95	117	145	12.50		155	190
	11.8	*11.8*	*1.7*	*3.6*	*25.0*		*3.3*	*8.6*
1980-81	105	105	130	N.A.	13.00		160	206
	10.5	*10.5*	*11.1*	—	*4.0*		*3.2*	*8.4*
1981-82	115	116	142	N.A.	13.00		175	270
	9.5	*10.5*	*9.2*	—	*0.0*		*9.4*	*31.1*
1982-83	122	118	151	235	13.00		175	295
	6.1	*1.7*	*6.3*	—	*0.0*		*0.0*	*9.3*
1983-84	132	124	152	240	13.50	527	185	315
	8.2	*5.1*	*0.7*	*2.1*	*3.8*	—	*5.7*	*6.8*
1984-85	137	130	157	N.A.	14.00	535	195	340
	3.8	*4.8*	*3.3*	—	*3.7*	*1.5*	*5.4*	*7.9*
1985-86	142	130	162	260	16.50	535	215	350
	3.6	*0.0*	*3.2*	—	*17.9*	*0.0*	*10.3*	*2.9*
1986-87	146	132	166	280	17.00	540	225	370
	2.8	*1.5*	*2.5*	*7.7*	*3.0*	*0.9*	*4.7*	*5.7*
1987-88	150	135	173	290	18.50	550	240	390
	2.7	*2.3*	*4.2*	*3.6*	*8.8*	*1.9*	*6.7*	*5.4*
1988-89	160	145	183	325	19.00	600	250	430
	6.7	*7.4*	*5.8*	*12.1*	*2.7*	*9.1*	*4.2*	*10.3*
1989-90	185	165	215	421	22.00	690	295	500
	15.6	*13.8*	*17.5*	*29.5*	*15.8*	*15.0*	*18.0*	*16.3*
1990-91	205	180	225	450	23.00	750	320	580
	10.8	*9.1*	*4.7*	*6.9*	*4.5*	*8.7*	*8.5*	*16.0*
1991-92	230	205	280	500	26.00	840	375	645
	12.2	*13.9*	*24.4*	*11.1*	*13.0*	*12.0*	*17.2*	*11.2*
1992-93	270	240	330	600	31.00	950	400	750
	17.4	*17.1*	*17.9*	*20.0*	*19.2*	*13.1*	*6.7*	*16.3*
1993-94	310	260	350	640	34.50	1050	450	800
	14.8	*8.3*	*6.1*	*6.7*	*11.3*	*10.5*	*12.5*	*6.7*
1994-95	340	280	360	670	39.10	1200	470	860
	9.7	*7.7*	*2.9*	*4.7*	*13.3*	*14.3*	*4.4*	*7.5*
1995-96	360	300	380	700	42.50	1350	490	900
	5.9	*7.1*	*5.6*	*4.5*	*8.7*	*12.5*	*4.3*	*4.7*
1996-97	380	310	475	740	45.90	1380	510	920
	5.6	*3.3*	*25.0*	*5.7*	*8.0*	*2.2*	*4.1*	*2.2*
1997-98	415	360	510	815	48.45	1530	570	980
	9.2	*16.1*	*7.4*	*10.1*	*5.6*	*10.9*	*11.8*	*6.5*
1998-99	440	390	550	895	52.70	1650	650	1040
	6.0	*8.3*	*7.8*	*9.8*	*8.8*	*7.8*	*14.0*	*6.1*

N.A. : Not Available.

* : Fair Average Quality.

Note: Figures in italics indicate percentage change over the previous year.

Source: Ministry of Agriculture, Government of India.

APPENDIX TABLE AGR.3: PUBLIC DISTRIBUTION SYSTEM – PROCUREMENT, OFF-TAKE AND STOCKS (1979-80 to 1998-99)

(Million tonnes)

Year-ending	Procurement			Off-take			Stocks*		
March	Rice	Wheat	Total	Rice	Wheat	Total@	Rice	Wheat	Total@
1980	4.43	7.99	12.42	4.88	8.04	13.04	8.44	5.32	13.91
1981	5.34	5.86	11.20	5.88	7.51	13.54	6.69	3.07	9.87
1982	7.02	6.59	13.61	6.74	6.69	13.59	6.36	4.55	11.07
1983	7.14	7.71	14.85	7.69	7.90	15.73	5.24	5.64	11.10
1984	7.58	8.29	15.87	7.67	7.45	15.34	5.24	9.62	14.92
1985	9.82	9.30	19.12	6.61	6.72	13.40	8.58	12.47	21.20
1986	9.62	10.35	19.97	7.40	11.72	19.28	10.34	10.21	20.75
1987	9.36	10.54	19.90	9.03	10.35	19.61	10.04	9.44	19.53
1988	7.04	7.88	14.92	10.11	12.78	23.00	5.91	3.34	9.43
1989	7.64	6.53	14.17	9.08	8.66	17.97	3.86	2.31	6.18
Avg.80's	**7.50**	**8.10**	**15.60**	**7.51**	**8.78**	**16.45**	**7.07**	**6.60**	**13.80**
1990	11.17	9.00	20.17	7.48	7.51	14.99	7.06	3.46	10.52
1991	12.92	11.07	24.16	7.91	8.58	16.49	10.21	5.60	15.81
1992	9.41	7.75	17.16	10.26	10.48	20.74	8.86	2.21	11.07
1993	12.72	6.38	19.78	9.89	8.06	17.96	9.93	2.74	12.67
1994	13.56	12.84	26.40	9.46	9.14	18.61	13.55	7.00	20.54
1995	13.12	11.87	24.99	8.85	10.59	19.44	18.08	8.72	26.80
1996	9.91	12.33	22.24	14.00	12.82	26.82	13.06	7.76	20.82
1997	11.87	8.16	20.04	12.44	13.26	25.70	13.17	3.24	16.41
1998P	14.51	9.30	23.82	11.36	7.76	19.12	13.05	5.08	18.12
1999P	11.43	12.65	24.08	11.83	8.90	20.73	11.74	9.92	21.66
Avg.90's	**12.06**	**10.14**	**22.28**	**10.35**	**9.71**	**20.06**	**11.87**	**5.57**	**17.44**

P Provisional.

@ Includes coarse cereals.

* Stocks are as at month-end.

Source: Ministry of Food and Consumer Affairs, Government of India.

INDUSTRY



CHAPTER IV

INDUSTRY*

The Indian industry has been undergoing a significant transformation in the 'nineties. The process of organisational restructuring and the concomitant supportive changes in industrial policy aimed at creating a more competitive and challenging industrial environment are under way. The structural changes have impacted on the generally robust industrial performance. In the 'nineties, the overall industrial growth, based on the Index of Industrial Production (IIP) recorded a much wider variation (ranging between 0.6 per cent to 12.7 per cent) as compared with the relatively low order of variation (ranging between 3.2 per cent to 9.3 per cent) observed in the 'eighties. The need for industrial restructuring has raised several issues associated with mergers and acquisitions in the private corporate sector, reforms in the public sector enterprises and policy initiatives for competitiveness and effective working of the corporate sector. These form the major themes of this chapter. First, an overview is given of the structural transformation of the industrial sector.

Structural Transformation in Industry

Over the past three decades, the industrial sector has not shown any definitive trend either in its growth rate or in its contribution to GDP. During the 'seventies, the average annual growth rate of industrial production was 4.4 per cent. The growth rate ranged from an absolute decline of 2.6 per cent in 1979-80 to a positive growth of 11.6 per cent in 1978-79. In the 'eighties, the average annual growth rate was 7.2 per cent. The growth rate ranged between a low of 1.4 per cent in 1980-81 and a high of 11.2 per cent in 1989-90. During the 'nineties, industrial growth has been volatile, moving down from double digits of 11.2 per cent and 12.9 per cent in the first two years, to an absolute fall of 1.9 per cent in 1991-92 and has been above 6 per cent in the ensuing years. The annual average growth rate during the 'nineties (up to 1998-99) has been lower at 6.6 per cent. The share of industry in GDP rose from 18.6 per cent in 1970 to 27.0 per cent in 1995-96. However, it fell to 22.0 per cent in 1996-97 where it has remained in the subsequent two years.

In terms of the Index of Industrial Production, a slowdown in the rate of growth of production had set in from 1991-92 to 1998-99, which is generally identified as a period of wide-ranging reforms in the industrial sector. The decline in the rate of growth of production during the 'nineties is clearly visible in different sectors of industry, especially in case of mining and quarrying (Table IND.A and Graph IND.1).

Table IND. A: Annual Average Growth Rate of Industrial Production

(Per cent)

Sector	1981-82 to 1998-99	1981-82 to 1990-91	1991-92 to 1998-99
1	2	3	4
General Index	**6.9**	**7.8**	**5.8**
a) Manufacturing	6.9	7.6	5.9
b) Electricity	8.0	9.0	6.8
c) Mining and Quarrying	6.0	8.3	3.0

Graph IND.1: Annual Growth Rate of Industrial Production

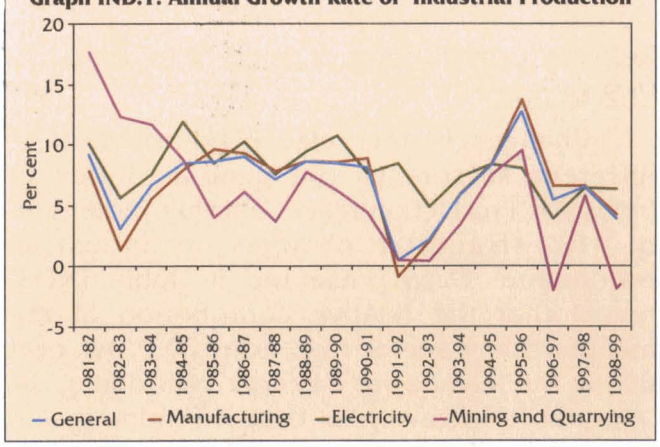


Table IND.B shows that while the basic and capital goods sectors grew at a faster rate during the 'eighties, it was the intermediate goods sector which recorded faster growth in

* **The Chapter is finalised on the basis of information received upto November 1999.**

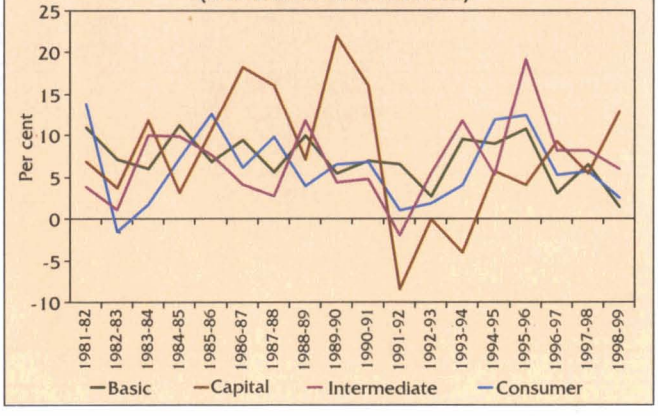
the 'nineties. The relative decline in the rate of growth of basic, capital and consumer goods sectors in the 'nineties is mainly due to restructuring taking place in the industrial sector, in general and in the basic and capital goods sectors, in particular (Graph IND.2).

Table IND. B: Annual Average Growth Rate of Industrial Production – Use-based Classification

(Per cent)

Sector	1981-82 to 1998-99	1981-82 to 1990-91	1991-92 to 1998-99
1	2	3	4
a) Basic Goods	7.1	7.9	6.2
b) Capital Goods	7.7	11.5	3.0
c) Intermediate Goods	6.7	5.9	7.7
d) Consumer Goods	6.2	6.7	5.5
i) Durables	*11.2*	*13.9*	*7.9*
ii) Non-Durables	*5.3*	*5.5*	*5.0*
General Index	**6.9**	**7.8**	**5.8**

Graph IND.2: Annual Growth Rate of Industrial Production (Use-Based Classification)



Relative Contribution of Sectors to Total Production

Changes in the relative contribution of different sectors to the general Index of Industrial Production reflect another dimension of the structural changes in industrial production. Data presented in Table IND.C reveal that the relative contribution of the manufacturing sector rose from 70.0 per cent during the 'eighties to 81.6 per cent during the 'nineties. However, in case of mining and quarrying, there was a noticeable decline (Graphs IND.3A and IND.3B). This was reflected in the changes in the weights assigned to different sectors in the construction of IIP series. The weight for the manufacturing sector rose from 77.11 per cent in the earlier series of IIP with base 1980-81=100, to 79.36 per cent in the current series with base 1993-94=100. Correspondingly, the relative weights of mining and quarrying and electricity sectors declined from 11.46 per cent and 11.43 per cent in the old series to 10.47 per cent and 10.17 per cent, respectively, in the new series (Table IND.D).

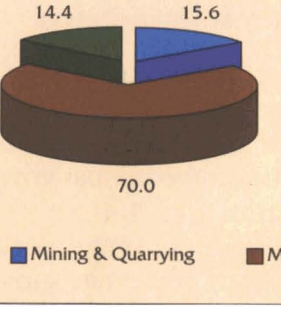
Table IND. C: Relative Contribution of Sectors to the Industrial Production

(Per cent)

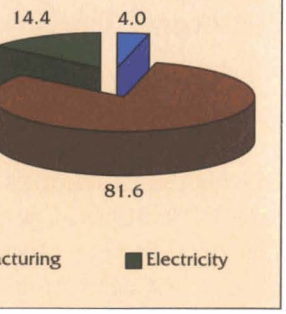
Sector	1981-82 to 1990-91 (Average)	1992-93 to 1998-99* (Average)
1	2	3
i) Manufacturing	70.0	81.6
ii) Electricity	14.4	14.4
iii) Mining and Quarrying	15.6	4.0
General Index	**100.0**	**100.0**

* The data relating to 1991-92 were excluded in this period because production was almost stagnant.

Graph IND.3A: Relative Contribution During 1981-82 to 1990-91(%)



Graph IND.3B: Relative Contribution During 1992-93 to 1998-99(%)



Mining & Quarrying Manufacturing Electricity

Table IND.D: Sector-wise Weighting Pattern

NIC Division	Sector	Base: 1970=100	Base: 1980-81=100	Base: 1993-94=100
1	2	3	4	5
Division 1	Mining & Quarrying	9.69	11.46	10.47
Division 2&3	Manufac-turing	81.08	77.11	79.36
Division 4	Electricity	9.23	11.43	10.17
Total	**General Index**	**100.00**	**100.00**	**100.00**

NIC : National Industrial Classification.

During the 'nineties, while the relative contributions of basic and capital goods sectors declined, there was a rise in those of intermediate and consumer goods sectors (Table IND. E and Graphs IND.4A and IND.4B). In the new series (Base: 1993-94=100), the weights of basic and capital goods sectors were reduced and those of intermediate goods and consumer goods sectors were raised.

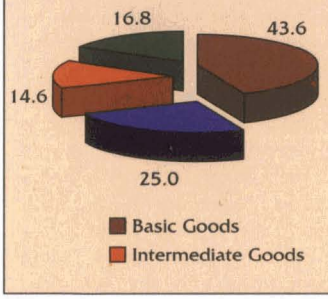
Table IND. E: Relative Contribution of Sectors to Industrial Production (Use-based Classification)

(Per cent)

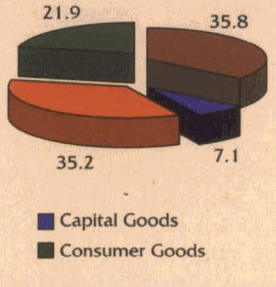
Sector	1981-82 to 1990-91 (Average)	1992-93 to 1998-99* (Average)
1	2	3
i) Basic Goods	43.6	35.8
ii) Capital Goods	25.0	7.1
iii) Intermediate Goods	14.6	35.2
iv) Consumer Goods	16.8	21.9
General Index	**100.0**	**100.0**

* The data relating to 1991-92 were excluded in this period because production was almost stagnant.

Graph IND.4A: Relative Contribution (Use-Based) During 1981-82 to 1990-91(%)



Graph IND.4B: Relative Contribution (Use-Based) During 1992-93 to 1998-99(%)



The relatively low contributions of the basic and capital goods sectors to overall industrial output in the 'nineties reflect, among others, the impact of trade liberalisation, particularly imports, and of financial liberalisation that enabled the corporate sector to make financial gains through 'other income', as also the lack of competitiveness requiring industrial restructuring and modernisation of technologies in a number of industries. It is in respect of the last factor that decisions need to be taken by the industries themselves, given the policy environment that is imbued with the spirit of incentivizing foreign trade, financial and real sectors to play their due roles in economic growth.

Recent Organisational Restructuring Mergers and Acquisitions (M&A)

The restructuring of the Indian corporate sector in the recent period has been prompted mainly by the globalised business environment. The structural reforms initiated in the early 'nineties have compelled the Indian industry to adopt focused strategies like corporate restructuring by shedding non-core activities and mergers and acquisitions.

The restructuring process in the Indian corporate sector involves a) focus on core competency, b) overseas expansion, c) resource mobilization, and d) rationalization of product portfolio. In recent years, mergers and acquisitions have been employed as corporate strategies for achieving faster growth. M&A would enable Indian companies to exploit the *scale and scope economies* to enable increased access to the capital market, increase capacity, induct new technology and develop export markets (Box IND.1). In this context, the process of restructuring of firms through consolidation has emerged as an inevitable logical sequence if private and public sector enterprises have to integrate themselves effectively into global competitors and to maintain their relative levels of performance in the domestic market.

Progress of M&A Activity in India

The process of restructuring of Indian industry did not commence immediately after liberalisation. It was the industrial slowdown since 1996 which squeezed the profit margins of Indian corporate entities and forced them to restructure their operations in order to achieve greater competitiveness. This took the form of downsizing, shedding non-core activities and expansion through M&A. Downsizing involved heavy costs for business in the form of voluntary retirement packages for the excess manpower. Focussing on core competencies resulted in reduction of size of enterprises. It was, however, realized that only larger-sized companies could effectively meet the challenges

posed by multinationals and one way to achieve this was through M&A.

An enabling policy improvement has come about through the formulation of a takeover code in 1994, and the issue of simplified takeover regulations by the SEBI in 1997 on the basis of the recommendations of the Bhagwati Committee. The major thrusts of the Bhagwati Committee report are greater transparency, fairness, and equity of treatment to all investors, timeliness and accuracy of disclosure of information, prevention of frivolous offers and enforcement against violations. The

Box IND.1: Principles of Mergers & Acquisitions

Mergers and acquisitions take place because of a variety of reasons. For an acquiring company, the reasons may be for obtaining profitable operations, for tax benefits, benefiting from managerial or technical expertise, product diversification, etc. For a selling company, the rationale may be the need for additional finance, the prospects of marketing or technological changes, the desire for the majority of stockholders to dispose of their holdings, existence of an attractive purchase offer or simply as a means of survival. Another major consideration could be the strategic stance of a business unit in moving from the existing product line to an altogether new product line which is perceived to be more advantageous against the backdrop of the changing comparative and competitive global environment. However, M&A have raised important issues both for business decisions and for public policy formulation. M&A may be critical to the healthy expansion of business firms as they evolve through successive stages of growth and development. Thus, entry into new product markets and into new geographical markets by a firm may require mergers and acquisitions at some stage in the firm's development.

Sceptics of the efficiency argument hold that companies acquired are already efficient and that their performance after acquisition does not improve. Moreover, the gains to shareholders merely represent a redistribution of stakes among stakeholders. Another view is that M&A activities represent the machinations of speculators who reflect the frenzy of a "Casino Society". Such speculative activities increase debt and erode equity, resulting in an economy slipping into a highly leveraged and vulnerable state of economic instability.

Mergers are intended to benefit both companies - the acquirer and the acquired. If the products and markets are complementary, then M&A strengthen each other. They can be suppliers or end-users which can provide backward or forward integration. Mergers can also lead to elimination or reduction of competition if both companies are in the same line of production. Mergers can save taxes and depreciation or writing off the losses, if the loss-making company is acquired by the profit-making companies.

Takeovers can be friendly or hostile. *Friendly takeovers* are arranged between the companies through bargaining. *Hostile takeovers* are unfriendly acquisitions of shares in a way as to hold a controlling interest in the company.

Mergers and acquisitions are expected to result in *synergy*. *Operating synergy* is mostly in the form of cost reductions which are the result of economies of scale or economies of scope. *Economies of scale* decrease the average cost through technological economies, which affect the minimum size of the plant in an industry, or managerial economies, which result in lower production and distribution costs. *Economies of scope* result from increase in the number of products offered. A company will be able to utilize one set of inputs to provide a broader range of products and services. Operating synergy is most likely to accrue from horizontal merger between two companies in the same line of business. In vertical merger (either backward with integration towards raw materials or forward with integration towards finished products), synergistic gains result when the merging firms are technologically or spatially proximate. Merging of group companies or acquiring those that were engaged in related businesses would enhance product scope/brands/geographical reach.

Financial synergy, on the other hand, is the impact of a merger on the cost of capital for the merging entities. One of the financial benefits of diversification is termed as the "coinsurance effect". The acquisition of a company which is less responsive to fluctuations in the economy would give the acquiring company a steady stream of earnings. Another reason could be the acquiring company's management belief that it can manage the target company's resources better. Furthermore, a target company having transferable tax losses would be of interest to an acquiring company which could offset its income.

M&A activities help to reduce the gestation period for launching new production facilities and promoting new brands, strengthen product portfolios, minimize duplication in basic research and development expenditure and expand marketing and distribution networks. In general, they enhance the shareholder value. Thus, M&A are perceived as prudent corporate strategy. It is necessary to recognise the importance of human resources too. Unless human resources are properly blended in the merged entity and organisational cross-cultures are properly acclimatized, many of the intended merger benefits will not accrue. Generally, mergers represent a resource allocation and reallocation process in the economy with firms responding to new investment and profit opportunities arising out of changes in economic conditions and technological innovations. Mergers rather than internal growth may sometimes be more efficient in terms of resource utilisation. One reason why merger activity is concentrated in periods of high business activity seems to be that firms are not motivated to make large investment outlays when business prospects are not favourable. Only when future benefits accruing to a business endeavour exceed its costs is the action warranted. M&A activities will be stimulated when such favourable business prospects are combined with changes in competitive conditions directly motivating a new business strategy.

There are certain pitfalls associated with M&A deals, such as insufficient investigation of the acquired company, over-bidding to acquire control, too broad a diversification, acquisition of companies in unrelated fields, etc. These would pose a potential threat to effective implementation of such activities.

takeover codes are currently undergoing further revision to make them more investor-friendly.

In India, financial institutions (FIs) have proposed to formulate a comprehensive policy for funding and encouraging mergers and acquisitions in the Indian industry. Since FIs have large exposures, both in terms of loans and equity holding in many companies, a uniform policy would facilitate smooth mergers and takeovers.

The Union Budget 1999-2000 has proposed changes to facilitate M&A activities by defining the tax treatment in respect of amalgamations, demergers and slump sales. In the case of amalgamations, the bill proposes to relax the conditions required to be fulfilled by an amalgamated company to avail of the benefits of set-off and carry forward of accumulated losses and unabsorbed depreciation. Demerger is defined as the transfer, pursuant to a scheme of arrangement, by a company of one or more of its undertakings to any resulting company. The company whose undertaking is transferred is the demerged company and the company to which the undertaking is transferred to has been defined as the resulting company. In case of a slump sale, one or more undertakings are transferred for a lump sum consideration without values being assigned to the individual assets and liabilities. The Budget seeks to ensure that the gains arising out of such sales would be treated as capital gains and taxed accordingly.

The proposed changes are likely to benefit major business groups which are undergoing restructuring activity. The restructuring dynamics of the Indian corporate sector have been boosted by conducive industrial policies. However, the exit policy needs to be reviewed in the light of the liberalisation of the industrial sector. Restructuring of the corporate sector would be much more growth-friendly with the help of proper corporate governance and a conducive exit policy.

During the financial year 1998-99, M&A deals worth Rs.151 billion were reported with nearly half of these deals reported in the last quarter. There were 66 open offer documents filed with the SEBI as against 37 open offers in the previous year. M&A activity was prominent in sectors like cement, steel, computer software, finance, pharmaceuticals, consumer durables, food products, agro-chemicals and textiles. During the first half of 1999-2000, M&A deals worth Rs.103.68 billion were transacted. Mergers have generally taken place among group companies for consolidation of the business activity. Holding companies have acquired their losing subsidiaries to protect their investments. Losing companies were merged with profitable companies for enjoying the benefit of efficient management. The common directors of the companies played key roles in effecting mergers among group companies. Multinational corporations have been involved in acquiring existing companies or existing capacities, instead of setting up new companies. Nearly 400 companies have undertaken equity restructuring in the past two and half years.

Restructuring of Public Sector Enterprises

a) General Policy

The Government's strategy towards Public Sector Enterprises (PSEs) comprises a judicious mix of strengthening strategic units, privatising non-strategic ones through gradual disinvestment or strategic sales and devising viable rehabilitation strategies for weak units. The strategies for restructuring PSEs for improving their performance on a long term basis, *inter alia*, include: (i) revival through the process of the Board for Industrial and Financial Reconstruction (BIFR), (ii) financial restructuring wherever appropriate, (iii) formation of joint ventures, (iv) manpower rationalisation and (v) proper governance through strengthening of boards/management.

b) Memorandum of Understanding

In order to give greater autonomy to the PSEs and at the same time to make them accountable for achievement of their objectives, the concept of Memorandum of Understanding (MoU) has been accepted and implemented by the Government since 1988. The MoU exercise has brought about positive achievements, as revealed by the results of their performance evaluation. The year-wise distribution of MoUs signed by the PSEs is given in Table IND. F.

Table IND. F: Year-wise Distribution of MoUs Signed by the PSEs

(Number)

Year	PSEs Signed MoUs	PSEs Evaluated	Excellent	Very Good	Good	Fair	Poor
1	2	3	4	5	6	7	8
1991-92	71	59	21	25	10	3	—
1992-93	98	67	28	22	10	7	—
1993-94	101	97	46	29	12	10	—
1994-95	106	67	39	26	—	—	2
1995-96	104	103	51	31	7	12	2
1996-97	110	110	46	27	19	11	7
1997-98	108	108	45	25	13	21	4
1998-99	109	..	..	..	..	..	..

c) Disinvestment

The disinvestment of equity of the PSEs was started primarily to subject them to the discipline of market forces and make their managements more professional and result-oriented. A Disinvestment Commission was set up in August 1996 to advise the Government on the extent, strategy, methodology and timing for disinvestment in PSEs. The Commission had submitted 8 reports till August 1998, containing recommendations relating to 43 PSEs. The recommendations, *inter alia,* are a) disinvestment through strategic sale in 19 PSEs, b) trade sale in 6 PSEs, c) offer of shares through GDR and domestic route for 5 PSEs, d) no investment for one PSE, e) investment deferred in 8 PSEs and f) closure in respect of 4 PSEs. Action on many of the recommendations has been taken and the remaining ones are under the active consideration of the Government.

For the financial year 1998-99, the Government had approved the disinvestment of equity of 4 PSEs, namely, Indian Oil Corporation (IOC), Gas Authority of India Limited (GAIL), Videsh Sanchar Nigam Limited (VSNL), and Container Corporation of India Limited (CONCOR). The Government is also disinvesting through strategic alliance/sale in Modern Food Industries Limited (MFIL), Bharat Aluminum Corporation Limited (BALCO), Indian Tourism Development Corporation (ITDC), and Kudremukh Iron Ore Company Limited (KIOCL).

During the period from 1991-92 to 1998-99, disinvestment of Government equity of Rs. 18,698 crore has been realised (Table IND. G). In the Union Budget for 1999-2000, disinvestment of PSE shares to the tune of Rs.10,000 crore has been proposed, of which Rs. 460 crore has been realised during April-September 1999.

Table IND. G: Year-wise Distribution of Disinvestment Receipts

(Rupees crore)

Year	Disinvestment Receipts	
	Budget Estimates	Actual
1	2	3
1991-92	2,500	3,038
1992-93	2,500	1,961
1993-94	3,500	-48
1994-95	4,000	5,607 @
1995-96	7,000	1,397 @
1996-97	5,001	455 @
1997-98	4,800	912
1998-99	9,006	5376 @(P)
1999-2000	10,000	460 @@

@ *Includes bonus shares of Rs. 530 crore, Rs. 1,035 crore, Rs.75 crore and Rs. 6 crore in 1994-95, 1995-96, 1996-97 and 1998-99, respectively.*

@@ Upto September, 1999

P Provisional

d) Autonomy

To make PSEs more efficient and competitive, the Government has granted

autonomy, of varying degrees, to select profit making PSEs. Depending upon the degree of autonomy granted, the select industries are called as *Navratnas* and *Mini-Ratnas.*

Navratnas

The Government has selected 11 PSEs for the Navratnas category up to 1998-99 (Box IND.2). These enterprises, subject to certain guidelines, have full freedom to make capital expenditure, decision regarding joint ventures and setting up of subsidiary offices abroad for technological and strategic alliance.

Box IND. 2 : List of Navratnas

1. Indian Oil Corporation (IOC)
2. Indian Petrochemicals Corporation Limited (IPCL)
3. Oil and Natural Gas Corporation (ONGC)
4. Bharat Petroleum Corporation Limited (BPCL)
5. Hindustan Petroleum Corporation Limited (HPCL)
6. National Thermal Power Corporation (NTPC)
7. Steel Authority of India Limited (SAIL)
8. Videsh Sanchar Nigam Limited (VSNL)
9. Bharat Heavy Electrical Limited (BHEL)
10. Gas Authority of India Limited (GAIL)
11. Mahanagar Telephone Nigam Limited (MTNL)

Mini-Ratnas

The Government has also granted enhanced financial, managerial and operational autonomy to other profit - making enterprises, called *Mini-Ratnas.* These enterprises should have earned profits continuously for the last three years, have positive net worth, do not seek budgetary support or guarantees from the Government and have not defaulted in the repayment of loans/interests to the Government. These enterprises can incur capital expenditure, enter into joint ventures, set up technological and strategic alliances, formulate schemes of human resources management, etc., subject to certain stipulations and guidelines.

e) National Renewal Fund

The Government had constituted the National Renewal Fund (NRF) in 1992 as a special safety net for workers to impart a human face to industrial restructuring, technology upgradation and modernisation. Assistance from NRF has so far been made available mainly for implementing the Voluntary Retirement Scheme (VRS) in the Central PSEs. The scope and coverage of the scheme has been widened to include counselling, retraining and redeployment assistance to employees. A dozen nodal agencies have set up Employee Assistance Centres (EACs) in various locations spread over 16 States. As on October 31,1998, a sum of Rs.2,029.84 crore has been released for implementing VRS which has benefited 1,25,184 workers in the Central PSEs. The NRF is being maintained in the Public Account, in which funds, once placed, do not lapse at the end of the financial year. A year-wise financial allocation of funds is given in Table IND. H.

Table IND. H : Year-Wise Distribution of National Renewal Fund

(Rs. crore)

Year	Amount allocated to NRF	Amount Transferred to Public Account
1	2	3
1991-92	200.00	..
1992-93	829.66	829.66
1993-94	1020.00	700.00
1994-95	500.00	100.00
1995-96	..	140.00
1996-97	250.00	150.00
1997-98	306.91	306.91
1998-99	300.00	278.00

f) State Public Sector Enterprises

The restructuring process is almost absent in many of the State Public Sector Enterprises (SPSEs), barring a few cases where some activities of restructuring of road transport corporations and electricity boards are visible. Most of the SPSEs have turned either sick or are on the verge of sickness. The inefficiency of these enterprises has caused a drain on the States' financial resources. There is, therefore, a need for comprehensive reforms and restructuring of SPSEs. Some States have already initiated steps in this respect. Orissa was the first State to bring reforms in the electricity sector through the enactment of the Orissa Electricity Reforms Act, 1995, which came into effect from April 1, 1996. Reforms in this sector have also been started in Haryana, Andhra Pradesh, Tamil Nadu, Maharashtra, Madhya Pradesh, Uttar Pradesh, Rajasthan, Karnataka and Gujarat. In the port sector, the Maritime

States Development Council (MSDC) has been formed to have an integrated approach towards the development of major and minor ports. The State Governments of Gujarat, Maharashtra and Andhra Pradesh have embarked upon ambitious port development programmes through private participation.

A national consensus is needed to gradually privatise the state public sector enterprises without causing large disruption.

Recent Policy Initiatives

The basic framework for the overall industrial policy of the Government of India is contained in the Statement on Industrial Policy, 1991. The Government has been constantly reviewing the policy framework to bring about improvements to suit the emerging situation. Some of the major policy developments which have taken place during the year are outlined below:

Industrial Licensing

During the year 1998-99, three industries, viz., i) coal and lignite, ii) petroleum (other than crude) and its distillation products and iii) sugar were delicensed. Accordingly, there are only six industries now under compulsory licensing (Box IND.3). Two industries, viz., coal and lignite and mineral oils were taken out from the list of industries reserved for the public sector. At present there are only four industries reserved for the public sector (Box IND.4). Nine items (six from 'farm implements and tools' and three from 'leather') were removed from the list of industries reserved for exclusive manufacture by the Small Scale Industry (SSI). Entries on toys now excludes electronic toys from the purview of reservation. During the year 1998-99, the number of items reserved for the SSI sector stood at 812.

Location Policy

At present, there is no requirement of obtaining industrial approvals from the Central Government (except for the industries under compulsory licensing) for locations not falling within 25 kms. of cities having population of more than one million. However, industries of non-polluting nature such as electronics, computer software and printing can be located within 25 kms. of the periphery of cities with more than 1 million population. Other industries are permitted only if they are located in Industrial Areas designated prior to July 25,1991. Further, zoning and land use regulations as well as environmental legislation continue to regulate industrial locations.

Box IND.3: List of Industries Requiring Compulsory Industrial Licensing

1. Distillation and brewing of alcoholic drinks
2. Cigars and cigarettes of tobacco and manufactured tobacco substitute
3. Electronic aerospace and defense equipment; all types
4. Industrial explosives including detonating fuses, safety fuses, gun powder, nitrocellulose and matches
5. Hazardous chemicals
6. Drugs* and pharmaceuticals (according to the modified Drug Policy issued in September, 1994)

* Bulk drugs industry has been delicensed.

Box IND.4: List of Industries Reserved for the Public Sector

1. Arms and ammunition and allied items of defence equipment, defence aircraft and warships
2. Atomic energy
3. The substances specified in the schedule to the Notification Number S.O. 212 (E), dated March 15, 1995 of the Government of India in the Department of Atomic Energy
4. Railway transport

Special Policy Package for North-East Region

The Government had formulated a new Industrial Policy for the North-East Region during 1997-98 to address effectively the continuing industrial under-development of the Region. The policy is being actively pursued so as to industrialise the North-East Region and bring it up to the national average.

Foreign Direct Investment Policy

The Government is committed to promoting increased flow of Foreign Direct Investment (FDI) for better technology,

modernisation, exports and for providing products and services of international standards. Therefore, the policy of the Government has been aimed at encouraging foreign investment, particularly in core infrastructure sectors so as to supplement national efforts. Towards this, the Government has been striving not only to provide greater transparency in the policy and procedures but also to enable a more dynamic and investor-friendly policy framework. At the same time, to provide a level playing field to the domestic industry and also to protect national interests, on the basis of sectoral sensitivities, simultaneous measures have been introduced in the form of dividend balancing, foreign exchange neutrality, foreign equity capital, etc. The salient features of the FDI policy are :

- There are two modalities for FDI approval: a) automatic approval by the Reserve Bank and b) approval by Foreign Investment Promotion Board (FIPB)/Government.
- 34 categories/groups of high priority industries, identified on the basis of National Industrial Classification, qualify for automatic approval up to 50/51/74/100 per cent FDI, depending on the nature of activity.
- Projects for electricity generation, transmission and distribution and construction and maintenance of roads, highways, vehicular tunnels, vehicular bridges, ports and harbours have been permitted foreign equity participation up to 100 per cent under the automatic route.
- FIPB is required to dispose of applications for FDI within a time frame of six weeks.
- FDI is not permissible in agriculture, real estate and insurance activities.
- Full repatriation of original investment and returns, except for dividend balancing and foreign exchange neutrality conditions in certain sectors.
- Liberal access to foreign technology. Automatic approval to lump sum payment of up to US $ 2 million and royalty at the rate of 5 per cent for domestic sales and 8 per cent for exports subject to a total payment of 8 per cent on sales for a period not exceeding 7 years from the date of commercial production.
- Easy access to domestic debt. Foreign companies that invest in India can leverage in India by way of domestic debt from domestic financial institutions.
- Liberal external commercial borrowings and debt servicing norms; and
- No ceiling on raising Global Depository Receipts (GDRs), American Depository Receipts (ADRs), and Foreign Currency Convertible Bonds (FCCBs).

Infrastructure

The Government has accorded high priority for the development of infrastructure. The role of the Government has been redefined from that of an owner of assets and the sole provider of services to that of ensuring the delivery of infrastructure services in a desirable manner with the involvement of the private sector. Over the last few years, the Government has taken up a number of initiatives for the development of efficient infrastructure and towards creating an enabling environment for private participation and enhancing competition in the infrastructure sector. All major infrastructure sectors have already been opened to private investment and a number of private sector projects are being implemented in power generation, telecommunication services, ports, roads, and airports. The recent changes in the telecom policy are discussed in Box IND.5.

In April 1999, the Reserve Bank issued new guidelines to accelerate credit disbursement to the infrastructure sector. These guidelines cover important aspects relating to the financing of infrastructure projects, such as the criteria for financing, types of financing, appraisal, regulatory compliance/concerns, administrative arrangements and inter-institutional guarantees. According to the Reserve Bank's October 1999 monetary and credit policy announcement, the stipulation regarding the ceiling on the quantum of term loans which can be granted by banks for a single project (Rs.1,000 crore for power projects and Rs.500 crore for other projects) has been dispensed with. Banks can now sanction term loans for infrastructure projects

Box IND.5: New Telecommunication Policy

The new Telecom Policy was announced in March 1999. It allows existing licences of basic and value-added services to migrate to a revenue – sharing arrangement from August 1, 1999. As an interim measure, the basic and cellular telecom operators would be required to pay 15 per cent of their gross revenues as licence fee after they migrate to the new structure, in case the Telecom Regulatory Authority of India (TRAI) fails to give its recommendations on the percentage of revenue share.

The new policy stipulated a five-year lock-in-period from the date of the licence agreement with respect to present shareholders. No transfer of shares would be permitted during this period. The policy allows new investors to come in through equity expansion, but does not permit existing shareholders from getting out. The licence period would be extended by 10 years taking it to 20 years, from the date of the existing licence agreement.

In respect of cellular services, the package specifies that both operators would either have to move to the revenue sharing regime, or stick to the old licence fee structure.

The new policy maintains that operators wishing to switch over to a revenue-sharing structure will have to accept a shift to a multipoly system from the existing duopoly policy system.

According to the new policy, the TRAI would be assigned an arbitration function for resolving the disputes between the government (as the licensor) and any licensee. The government would seek TRAI's recommendations on the number and timing of new licenses. In respect of functions, it would not be mandatory for the government to seek the TRAI's recommendations.

A separate Department of Telecom Services created by separating the policy and licensing functions of the DoT would be corporatised by 2001.

within the overall ceiling of the prudential exposure norms. Subject to certain safeguards, banks are also permitted to exceed the group exposure norm of 50 per cent to the extent of 10 per cent, provided the additional exposure is for the purpose of financing infrastructure projects.

Housing

The Government has taken major steps for encouraging housing development, including repeal of the Urban Land (Ceiling and Regulation) Act. To improve the flow of credit to this sector, the Union Budget 1999-2000 announced the following measures:

- To develop the primary and secondary market for housing mortgages, changes were proposed in the foreclosure laws in the housing sector through amendments in the National Housing Bank Act.
- To strengthen the housing financing companies, changes were proposed in the tax treatment of the income earned on non-performing assets.
- To enhance the availability of bank credit to the housing sector, commercial banks were asked to lend up to 3 per cent of their incremental deposits.
- The target of dwelling units to be covered under the Golden Jubilee Rural Housing Finance Scheme, implemented by the NHB, has been raised to 1.25 lakh during 1999-2000.

Small Scale Industries

With a view to improving the availability of credit to the SSI sector, the Union Budget 1999-2000 announced the following measures:

- Increase in the limit of composite loans from Rs.2 lakh to Rs.5 lakh (provided by SIDBI and commercial banks to small borrowers).
- To compute the working capital limits, the annual turn over limit has been proposed at Rs.5 crore.
- To increase the outreach of banks to the tiny sector, lending by banks to NBFCs or other financial intermediaries for purposes of on-lending to the tiny sector being included within the definition of priority sector for bank lending.
- To alleviate the problems relating to security and recovery of loans, a new credit insurance scheme will be launched.

Tiny Sector

The definition of the tiny sector has been revised by enhancing the ceiling for plant and machinery from Rs.5 lakh to Rs.25 lakh, to help

the tiny units to modernise and upgrade their technology and to facilitate them to diversify their activities and become more competitive. In the case of bank credit, 60 per cent of the credit flowing to the SSI sector under the priority sector lending has been earmarked for the tiny sector. Further, the excise duty exemption limit for SSI (including the tiny units), has been enhanced from Rs.30 lakh to Rs.50 lakh from June 1,1998. It has also been decided that the minimum of 40 per cent of the plots under the Integrated Infrastructure Development Scheme should be allotted to tiny units. Similarly, the National Small Industries Corporation has also been asked to earmark 40 per cent of the assistance to the tiny units in respect of supply of machinery on hire purchase, marketing support, technology assistance, training facilities, etc.

Performance of Industrial Sector

During 1998-99

Overall

As per the Index Number of Industrial Production (Base: 1993-94=100), the Indian industry registered a lower rate of growth of 4.0 per cent in 1998-99, as against 6.6 per cent in the previous year. The manufacturing sector recorded a growth rate of 4.4 per cent during the year under consideration as compared to 6.7 per cent recorded in the previous year. There was also an absolute decline in the mining and quarrying sector to the extent of 1.8 per cent as against a positive growth of 5.9 per cent in 1997-98. Electricity generation grew by 6.4 per cent in 1998-99 as against 6.6 per cent in 1997-98 (Appendix Table IND.1). The slowdown in the overall industrial production could be attributed to factors such as weak demand, inadequate investment in infrastructure sector, slowdown in investment due mainly to the subdued capital market conditions and partly to the process of corporate restructuring underway.

Manufacturing Sector

In the manufacturing sector, out of the seventeen groups (weight of 79.36 per cent in IIP), the rate of growth in 1998-99 either decelerated or was negative in ten categories with a combined weight of 51.41 per cent. Five groups with a combined weight of 32.61 per cent experienced deceleration in growth rates. Among them, the notable ones were 'beverages, tobacco and tobacco products' and 'non-metallic mineral products'. Five groups *viz.*, 'basic metal and alloy industries', 'textile products (including wearing apparel)', 'wood and wood products; furniture and fixtures' 'manufacture of jute and other vegetable fibre textiles (except cotton)', and cotton textiles with combined weight of 18.8 per cent witnessed negative growth rates. Seven groups, however, displayed robust performance during 1998-99. They were: 'metal products and parts (except machinery and equipment)', 'paper and paper products and printing, publishing and allied industries', 'transport equipment and parts', 'rubber, plastic, petroleum and coal products', 'leather and leather and fur products', 'other manufacturing industries' and 'food products' (Appendix Table IND.2).

Use-based Classification

During 1998-99, the capital goods sector witnessed a very high growth rate of 12.7 per cent as against 5.3 per cent in the previous year. All other remaining groups registered lower growth rates. During the year, basic goods, intermediate goods and consumer goods sectors recorded lower growth rates (Appendix Table IND.3).

Recent Performance (April-September 1999-2000)

Overall

The fiscal year 1999-2000 so far witnessed a definite turnaround in the performance of the industrial sector. The available indications suggest robust performance of some of the corporates in the first half of the year in terms of sales and profits implying the end of a somewhat long recessionary period. During the first half of 1999-2000 (April-September), the industrial sector recorded an appreciable growth rate of 6.4 per cent, which was higher than that recorded in the corresponding period of the preceding year (4.0 per cent). The manufacturing sector recorded an impressive growth rate of 6.8 per cent as compared with 4.1 per cent recorded in the corresponding period of the previous year. The mining and

quarrying sector has recorded a marginally higher growth rate of 0.4 per cent as compared with a negative growth rate of 0.4 per cent during April-September 1998-99. The electricity generation sector recorded a growth rate of 7.7 per cent, higher than the rate of 7.4 per cent recorded in the corresponding period of the previous year (Appendix Table IND.1).

Manufacturing Sector

Eleven out of seventeen two-digit industry groups have shown positive growth during April-September 1999-2000. The non-metallic mineral products showed the highest growth, followed by machinery equipment other than transport equipment and paper & paper products and printing, publishing & allied industries. On the other hand, wood and wood products, furniture & fixtures showed the highest decline. Out of the 17 industry groups, 8 groups (47.1 per cent weight in IIP) registered accelerated growth, while 3 groups (12.1 per cent weight in IIP) recorded decelerated growth and the remaining 6 groups (20.3 per cent weight in IIP) registered negative growth (Appendix Table IND.2).

Use-based Classification

Capital goods showed a decelerated growth rate of 9.2 per cent during April-September 1999-2000 as compared with 11.1 per cent during April-September 1998-99. Intermediate goods registered a higher growth rate of 9.1 per cent during April-September 1999-2000 as compared with 5.6 per cent growth recorded during the corresponding period of the preceding year. Consumer goods sector registered a growth rate of 1.0 per cent as compared with 1.8 per cent during corresponding period of the previous year. However, the basic goods sector registered a growth of 5.1 per cent during April-September 1999-2000 in comparison with 2.5 per cent during the same period of the preceding year (Appendix Table IND.3).

Relative Contribution

Among the three sectors, the manufacturing sector increased its contribution from 82.9 per cent during April-September 1999-99 to 87.2 per cent in the comparable period of the current fiscal year. The contribution by the electricity sector went down to 12.2 per cent during April-September 1999-2000 from 18 per cent in the corresponding period of the previous year. However, the mining sector increased its contribution marginally to 0.6 per cent during April-September 1999-2000 as against a negative contribution of 0.9 per cent during April-September 1998-99.

With a weight of 35.51 per cent in IIP, the basic goods sector contributed 27.0 per cent to the industrial growth during April-September 1999-2000, which was higher than that of 21.4 per cent during the corresponding period of the previous year. The contribution by the capital goods sector (weight in IIP: 9.69) had gone down to 13.5 per cent during April-September 1999-2000 from 24.3 per cent during the corresponding period in the previous year. The contribution of the intermediate goods sector (weight in IIP: 26.44) however, increased to 41.5 per cent during April-September, 1999-2000, as compared with 40.4 per cent during the same period of the previous year. The consumer goods sector (weight in IIP: 28.36) recorded an increase in its contribution to 17.4 per cent during April-September 1999-2000 from 12.8 per cent during April-September 1998-99.

The available indicators suggest that the industrial recovery may be sustainable. There is a definite pick up in non-food credit to the tune of Rs. 18,211 crore during the current financial year up to October 22, 1999 as against Rs. 9,498 crore during the corresponding period of the previous year. The total flow of credit to the commercial sector (which includes investments in commercial paper, bonds, debentures, shares, etc.) increased by Rs. 25,699 crore as compared with an increase of Rs.18,227 crore during the corresponding period in the previous year. The working capital requirements of the corporate sector seem to have gone up during the current year so far. The additional working capital limits for the blue chip companies (having working capital limit of Rs. 10 crore and above) sanctioned during the current year up to October 31, 1999 amounted to Rs. 32,045 crore as compared to Rs. 25,251 crore during the corresponding period of the previous year. The capacity utilisation of certain major infrastructure industries has improved during the current year so far. The favourable developments in these leading indicators together with appropriate Government policy measures are expected to provide a strong fillip to the industrial recovery on a sustainable basis.

Performance of Infrastructure Industries

The composite index (Base: 1993-94 =100) of the six infrastructure industries viz., Electricity, Coal, Saleable Steel, Cement, Petroleum Crude & Petroleum Refinery Products (weight in IIP: 26.7 per cent) recorded a decelerated growth rate of 2.7 per cent in 1998-99 as compared with 5.7 per cent in 1997-98. Industry-wise, petroleum refinery products registered an accelerated growth rate in 1998-99 (Appendix Table IND.4).

During April-September 1999-2000, the overall growth of six infrastructure industries was 6.7 per cent over the corresponding period of the previous year (3.4 per cent). During this period, petroleum refinery products has achieved the highest growth of 19.1 per cent as compared with a growth of 1.7 per cent recorded during the corresponding period of the previous year. The cement production recorded a growth rate of 18.8 per cent as compared with 4.2 per cent during the corresponding period of the previous year. Production of saleable steel recorded a growth of 4.3 per cent during April-September 1999-2000 as compared with 2.6 per cent during April-September 1998-99. In the case of the electricity sector, the rate of growth was marginally lower at 7.4 per cent as compared to 7.7 per cent of the previous year. Coal recorded a negative growth rate of 1.1 per cent as against a positive growth rate of 1.3 per cent in the corresponding period of the previous year (Appendix Table IND.4).

Performance of Selected Industries

The performance of some of the important emerging industries is analysed below:

Information Technology

The Indian software industry showed a significant growth of 58.3 per cent during 1998-99. Its annual revenue shot up to Rs.15,890 crore from Rs.10,040 crore in 1997-98, as per the annual survey of the National Association of Software and Service Companies (NASSCOM). Software exports alone generated Rs.10,940 crore and the domestic software market generated revenue of Rs.4,950 crore. Software exports, a valuable foreign exchange earner for the country, increased by 68.0 per cent in rupee terms and 51.4 per cent in dollar terms. The Y2K problem, IT-enabled services like e-commerce, euro-currency conversions and enterprise resource planning (ERP) are considered to be the driving forces behind the quick progress of the software industry. It is foreseen that the demand for Indian software would continue to surge even after the Y2K problem is sorted out. The domestic software market, experienced a growth of around 42 per cent in 1998-99, primarily due to the faster pace of computerisation in the Government offices and Y2K spending. In recognition of the importance of the IT industry, the Central Government has formed an independent Department of Information Technology. Fourteen State Governments have already announced their IT policy and formed high-level task forces.

Telecommunications

Recognising the fact that an efficient and advanced telecom infrastructure holds the key to the development and integration of the national economy with the world economy, this sector is receiving considerable attention. Consistent efforts are being made by the Department of Telecommunications (DoT) and its constituent organisations for upgrading and expanding the telecom networks and services with a view to facilitating rapid growth and improvement in infrastructure in terms of both availability and quality of services. The Union Budget, 1999-2000 proposed to spend Rs.16,801 crore on telecommunications which is 24.5 per cent higher than the revised estimates of 1998-99.

During the ten-year period from 1988-89 to 1997-98, the number of telephone exchanges increased by 9,681 to 23,406 and further to 23,624 up to November 1998. The number of telephone connections during the above decade increased by 136.28 lakh from 41.74 lakh to 178.02 lakh; making India's telecom network the twelfth largest in the world and the third largest among the emerging economies. The number of villages provided with telephone facility in the same period increased manifold from 27,316 to 3,10,687. The number of new telephone connections provided during 1998-99 was 37.92

lakh as against 32.59 lakh in 1997-98. The number of new telephone connections provided in the villages also has increased over the previous year by 10.2 per cent. As on December 31, 1998, tele-density reached 2 direct exchange lines (DELs) per hundred persons, and all the district headquarters are covered with STD connectivity. On the cellular service front, at the end of March 1999, there were 11.95 lakh subscribers in the country. This included almost 5.2 lakh subscribers in the metro circles. In March 1999 alone, the cellular network expanded by over 76,000 subscribers. The Integrated Services Digital Network (ISDN) services with in-built capacity to offer high speed fax and picture phone facility have been introduced in six more cities during 1997-98, extending its coverage to 17 towns/ cities and 1,211 subscribers.

Automobiles

One of the most important pre-requisites for rapid industrial development is a sound transportation system. The Indian automobile industry is gradually playing a catalytic role for producing a wide variety of vehicles- passenger cars, light, medium to heavy commercial vehicles and multi-utility vehicles. The contribution of this industry to GDP has risen from 2.8 per cent in 1992–93 to 4.4 per cent in 1997-98. This industry has provided direct employment to 4.5 lakhs in 1997-98 and generated indirect employment of one crore.

During 1998-99, the production of commercial vehicles, cars and utility vehicles and three wheelers has witnessed absolute declines as evident in their growth rates of (-) 15.5 per cent, (-) 5.9 per cent and (-) 11.0 per cent, respectively. The production of two wheelers has shown an accelerated growth rate of 9.8 per cent as against 3.1 per cent in the previous year. On the sales front too, commercial vehicles, cars and utility vehicles and three wheelers have shown negative growth rates, while two wheelers have shown an accelerated growth. On the export front, barring three wheelers, all the sectors, viz., commercial vehicles, cars and utility vehicles and two wheelers have shown negative growth during the year 1998-99.

During the first five months (April-August) of 1999-2000, while commercial vehicles and cars and utility vehicles have registered accelerated growth rates in production and sales, two wheelers and three wheelers have shown decelerated growths on the same fronts. However, in case of exports, barring cars and utility vehicles, all sectors have witnessed negative growth.

Food Processing

The food processing industry in India is one which has immense potential for growth. A strong and effective food processing sector plays a significant role in diversification and commercialisation of agriculture, improves value addition of the agricultural produce, generates employment, enhances income of farmers and creates surplus for export of agro-foods. The main types of food processing units are *(a)* grain processing, *(b)* consumer food industries (bakery products, cocoa products, soft drinks, branded juices and beer & alcoholic drinks), *(c)* fruit and vegetable processing, *(d)* milk and milk products, *(e)* meat and poultry processing, and *(f)* fish processing. Liberalisation of industrial and economic policies has helped the growth of the food processing industry resulting in a spurt of investment in this area. Since August 1991 till December 1998, 4,676 Industrial Entrepreneur Memoranda (IEM) envisaging an investment of Rs.53,490 crore (including foreign investment of Rs.8,809 crore) had been received. Of these, 646 IEM envisaging an investment of approximately Rs. 7,375 crore and direct employment of 81,686 persons have already been implemented.

Among the consumer food industries, the bakery industry is the largest. The annual production of bakery products is estimated to be in excess of 30 lakh tonnes. While the production of cocoa products like chocolates, cocoa butter, malted milk goods, etc. is approximately 34 thousand tonnes, the production of soft drinks has increased from 4,920 million bottles in 1997-98 to 5,670 million bottles in 1998-99. The estimated installed capacity of fruit and vegetable processing industries increased from 20.4 lakh tonnes in 1997 to 20.8 lakh tonnes in 1998. The production of processed fruits and vegetables increased from 9.1 lakh tonnes in 1997 to 9.4 lakh tonnes in 1998. The total production of milk products (other than ice cream, butter and ghee) is estimated to have

increased from 284.8 thousand metric tonnes in 1997 to 301.0 thousand metric tonnes in 1998. Production of processed fish from both marine and inland sources increased from 5.34 million tonnes in 1996-97 to 5.38 million tonnes in 1997-98. Exports of processed foods have also shown commendable performance. The total exports of processed food including marine products increased from Rs.10,407 crore in 1996-97 to Rs.11,014 crore in 1997-98. The processed food sector had been facing serious problems of finance as the industries have long gestation periods and the returns are small. Considering the demand of the industry and in view of the vast potential of this sector, the Government has decided to include the food and agro-processing sector within the definition of priority sector for bank lending.

Other Important Industries

The performance of some important industries remained lacklustre during 1998-99. Rubber industry recorded a decelerated growth of 1.5 per cent. While natural rubber industry recorded a decelerated growth of 3.6 per cent, synthetic and reclaimed rubber industries recorded negative growth rates of 5.6 per cent and 8.6 per cent, respectively. The industries amongst others which recorded negative growth rates are tyres, jute and iron ore industries. The automobile tyre industry suffered a huge setback of over 33 per cent. The performance of jute industry was also no better, as it recorded a negative growth of 4.9 per cent. The performance of iron ore industries also remained subdued as it reported a negative growth rate of 6.6 per cent (Appendix Table IND.5).

Research and Development

In the liberalised industrial environment, industrial dynamics demand adequate efforts for development of new technologies, design and product improvements. Initiatives should be boosted in order to broad-base the in-house research and development (R&D) in industry. As on March 31, 1998, the number of in-house R&D units, recognised by the Department of Scientific and Industrial Research, Ministry of Science and Technology, is placed at around 1,261 mainly in chemical and allied industries. It is estimated that the present R&D expenditure of 1,261 recognised R&D units is of the order of Rs.1,800 crore. The share of the public and joint sectors is about 35 per cent and that of the private sector is about 65 per cent. Two hundred and fifty six in-house R&D units spend over Rs.1 crore each on R&D, 350 in-house R&D units spend between Rs.25 lakhs to Rs.1 crore each per annum on R&D. The remaining units spend below Rs.25 lakhs each per annum on R&D. The majority of the in-house R&D units is located in and around major cities. In order to capitalise on the liberalisation, the corporate sector should be more attentive towards broad-basing the in-house research and development activities.

Small Scale Industries Sector

The number of units in the small scale sector witnessed a moderate growth rate of 3.6 per cent during 1998-99 as compared with 5.5 per cent in the previous year. Production in this sector registered a growth rate of 15.7 per cent (at current prices) during 1998-99 as compared to 12.7 per cent in the previous year. Exports by this sector recorded a growth rate of 11.3 per cent in 1998-99 as against 13.2 per cent in the previous year. During 1998-99, employment generated in this sector is projected to be around 172 lakh persons as compared to 167 lakh persons in 1997-98 (Appendix Table IND.6).

Industrial Sickness

Continuous efforts are being made by the Government of India and the Reserve Bank to bring down the incidence of sickness in Indian industries. Following the Tiwari Committee recommendations (1981), the Sick Industrial Companies (Special Provisions) Act, 1985 (SICA) was passed and a Board for Industrial and Financial Reconstruction (BIFR) was established (1987) for determining the preventive, ameliorative, remedial and other measures which need to be taken in respect of sick industrial companies and the expeditious enforcement of the measures so determined. Detailed guidelines have been issued by the Reserve Bank covering all areas of industrial rehabilitation, viz., detection of industrial sickness at incipient stage, identification of sick/ weak units, carrying out viability study of the unit, then extending relief and concessions to only viable units, coordination among banks and financial institutions and among banks

themselves, norms for promoters' contribution, extended period for repayment/rescheduling of loans, conversion of debt into equity, single window concept of lending, interest rate concessions and waiver of penal rate/compound interest, liquidated damages and right of recompense for sacrifices made. Banks and financial institutions have been given full delegation of powers/discretion to extend relief/ concessions even beyond the Reserve Bank's parameters wherever considered necessary by them. No prior approval for either normal relieves or those beyond parameters are required from the Reserve Bank.

The Reserve Bank guidelines do not envisage any write-off or compromise of the dues of the banks, i.e., either principal amount or interest. The banks in the consortium are not normally expected to continue after reaching One Time Settlement (OTS) of their dues with the units. However, there is no bar in extending credit facilities to a unit even after OTS has been reached, provided it is a part of the overall lending policy of the bank duly approved by its Board of Directors.

The number of sick/weak units, both SSI and non-SSI, which have availed of loans from scheduled commercial banks, declined by 13,388 (5.6 per cent) from 2,37,400 as at end-March 1997 to 2,24,012 as at end-March 1998. However, the amount of outstanding bank credit in this regard increased to Rs.15,682 crore from Rs.13,787 crore at the end of March 1997. In terms of numbers, the SSI sector accounted for about 99 per cent of total sick/weak units, which have availed of loans from scheduled commercial banks. However, its share in total bank credit outstanding to such units was only about 24.6 per cent (Appendix Tables IND.7 and IND.8).

Non-SSI Sick/Weak Units

The number of non-SSI sick/weak units, which have availed of loans from scheduled commercial banks, increased marginally to 2,476 as at end-March 1998 from 2,368 as at end-March 1997. Outstanding bank credit to these units also showed an increase of 16.2 per cent from Rs.10,177.81 crore as at end-March 1997 to Rs.11,825.25 crore as at end-March 1998 (Appendix Table IND.8).

Region-wise, as at end-March 1998, the Western Region had the largest number of non-SSI sick units (767) accounting for around 31.0 per cent of the total number of non-SSI sick units and 30.1 per cent of the total outstanding bank credit. Among the States, Maharashtra continued to have the largest number of non-SSI sick units followed by Andhra Pradesh, West Bengal, Gujarat, Uttar Pradesh and Tamil Nadu. As at end-March 1998, these six States together accounted for about 63.2 per cent of the total number of non-SSI sick units and 64.9 per cent of the total outstanding bank credit. Industry-wise, the maximum outstanding bank credit was accounted for by textiles (Rs.1,793 crore or 15.2 per cent of the total outstanding credit) followed by engineering (Rs.1,418 crore or 12.0 per cent), chemicals (Rs.1,352 crore or 11.4 per cent), electricals (Rs.1,119 crore or 9.5 per cent), and iron and steel (Rs.1,110 crore or 9.4 per cent) (Appendix Table IND.8).

Sick SSI Units

The number of sick SSI units, which have availed of loans from scheduled commercial banks, declined from 2,35,032 as at end-March 1997 to 2,21,536 as at end-March 1998. Outstanding bank credit locked up in these units, however, showed an increase from Rs.3,609 crore as at end-March 1997 to Rs.3,857 crore as at end-March 1998 (Appendix Table IND.7). Of the 2,21,536 sick SSI units, banks had conducted viability studies in respect of 2,18,320 units and identified 18,686 units as potentially viable. There were 1,99,634 non-viable units with outstanding bank credit at Rs.3,296.58 crore. The banks have yet to decide on viability of the remaining 3,216 units with outstanding bank credit at Rs.104.10 crore. Banks have put 13,063 units (with outstanding loans of Rs.281.19 crores) under nursing programme.

Region-wise, the majority of sick SSI units (44.7 per cent) continue to be in the Eastern Region, followed by Northern Region (21.2 per cent), Southern Region (17.6 per cent) and Western Region (16.4 per cent). However, in terms of the outstanding bank credit, the Western Region ranked first (31.3 per cent), followed by Southern Region (27.8 per cent), Northern Region (23.6 per cent) and Eastern Region (17.4 per cent) (Appendix Table IND.7).

Performance of Projects in the Central Sector

Based on the Flash Report on Central Sector Projects[1] for September 1999, published by the Ministry of Planning and Programme Implementation, as at the end of September 1999, eleven projects were ahead of schedule as compared with 8 projects in the corresponding period of the previous year. Thirty-three projects were going on schedule as on September 1999 as against 42 projects at the end of September 1998 (Appendix Table IND.9).

At the end of September 1999, out of the total of 201 projects, 103 projects were delayed, which accounts for 51.2 per cent of the total Central Sector Projects. Railways have the largest number of delayed projects (21), followed closely by petroleum (19), power (16), surface transport (16) and coal (15). Together, these five sectors have accounted for over 84.5 per cent of the total delayed projects. There are 54 projects without the date of commissioning. Railways has the largest number of projects (52) without the date of commissioning (Appendix Table IND.9).

Time Overrun

An analysis of year-wise distribution of delayed projects shows that at the end of September 1999, out of 103 projects, *a)* 42 were delayed by 2- 5 years; *b)* 28 projects were delayed up to one year; *c)* 17 were delayed by 5-10 years; and *d)* 16 projects were delayed by 1-2 years.

Causes for the delay

Going by the reasons for the delay[2] in the projects it was found that the maximum number of projects (20) were delayed due to the problems in civil works. Sixteen projects were affected due to problems in equipment supply, followed by 14 projects due to the problem of land. Problems of funds and award of contracts affected 13 projects each.

Cost Overrun

The magnitude of cost overrun in respect of delayed projects was 65.7 per cent over the original cost for the relevant projects in September 1999. Sector-wise, power, atomic energy, steel and railways accounted for around 84.3 per cent of the cost escalation. The cost had more than doubled in atomic energy, finance and power projects.

Performance of Public Sector Enterprises (PSEs)

The performance indicators of PSEs have shown positive improvement following the steps taken by the Government after setting in the reform measures. Net profits of PSEs have increased from Rs.9,992 crore (of 238 PSEs) in 1996-97 to Rs.13,725 crore (of 236 PSEs) in 1997-98. As a result, gross profit to capital employed has increased from 15.1 per cent to 16.2 per cent in 1997-98. The number of profit making PSEs increased from 130 in 1996-97 to 134 in 1997-98, while the number of loss making units decreased from 104 in 1996-97 to 100 in 1997-98. The value added of PSEs has shown a robust increase of 27.3 per cent in 1997-98 over the previous year (Appendix Table IND.10).

Employment

Employment in the organised sector (i.e., all non-agriculture establishments employing 10 or more workers) of the economy rose marginally by 0.5 per cent at the end of March 1998 as compared to the corresponding month in the previous year. In absolute terms, the number of employees increased by 1.3 lakhs at the end of March 1999 over the corresponding month in the previous year. In the public sector, there was a marginal decline (-0.1 per cent) in employment during 1997-98. However, in the private sector, employment recorded a growth of 1.7 per cent (from 86.85 lakh persons at the end of March 1997 to 88.35 lakh persons at the end of March 1998). The number of women employed in the organised sector went up by 3.8 per cent from 46.37 lakh at the end of March 1997 to 48.15 lakh at the end of March 1998. During the above period, the share of women employed to total employment in the organised sector rose from 16.6 per cent to 17.0 per cent (Appendix Table IND.11).

1. Relating to Central Sector Projects costing Rs. 100 crore and above.
2. Delay in projects are due to multiple reasons.

APPENDIX TABLE IND.1: TRENDS IN INDEX NUMBER OF INDUSTRIAL PRODUCTION

(Base : 1993-94 = 100)

Sector	Weight	April-September		April-March					
		1999-2000(P)	1998-99(P)	1998-99(P)		1997-98		1996-97	
		Index	Index	Index	Contribution to growth (%)*	Index	Contribution to growth (%)*	Index	Contribution to growth (%)*
1	2	3	4	5	6	7	8	9	10
a. Mining and Quarrying	10.47	115.7 (0.4)	115.2 (-0.4)	120.3 (-1.8)	-4.2	122.4 (5.9)	8.4	115.6 (-1.9)	-3.5
b. Manufacturing	79.36	150.4 (6.8)	140.8 (4.1)	146.7 (4.4)	88.9	140.6 (6.7)	82.2	131.8 (6.7)	96.7
c. Electricity	10.17	146.7 (7.7)	136.2 (7.4)	138.4 (6.4)	15.5	130.0 (6.6)	9.6	122.0 (4.0)	7.0
General Index	**100.00**	**146.4 (6.4)**	**137.6 (4.0)**	**143.1 (4.0)**	**100.0#**	**137.6 (6.6)**	**100.0#**	**129.1 (5.6)**	**100.0#**

P : Provisional.

* : Relative contribution to growth of a sector, say S during a given time frame, is measured by the ratio of incremental change in the index of S to incremental change in the overall index, adjusted for that sector's weight in the overall index.

: Due to rounding off, individual figures may not add up to 100.

Note: Figures in brackets are percentage variations over the previous year.

Source: Central Statistical Organisation, Government of India.

APPENDIX TABLE IND.2: SEVENTEEN MAJOR GROUPS OF MANUFACTURING SECTOR–INDEX, GROWTH RATE AND RELATIVE CONTRIBUTION

(Base : 1993-94=100)

Industry Group	Weight	Index April-September		Growth Rate (Per cent) April-September		Relative Contribution (Per cent) April-September		Index April-March		Growth Rate (Per cent) April-March		Relative Contribution (Per cent) April-March	
		1999-2000(P)	1998-99(P)	1999-2000(P)	1998-99(P)	1999-2000(P)	1998-99(P)	1998-99(P)	1997-98	1998-99(P)	1997-98	1998-99(P)	1997-98
1	2	3	4	5	6	7	8	9	10	11	12	13	14
I Acceleration (During 1998-99)													
1. Metal products and parts (except machinery and equipment)	2.81	129.3	138.6	-6.7	25.1	-3.4	18.2	141.6	120.2	17.8	8.4	12.3	3.7
2. Paper and paper products and printing,publishing and allied industries	2.65	187.1	160.3	16.7	14.9	9.2	12.9	169.8	146.4	16.0	6.9	12.7	3.6
3. Transport equipment and parts	3.98	180.5	180.0	0.3	19.5	0.3	27.3	177.9	153.8	15.6	2.6	19.5	2.2
4. Rubber, plastic, petroleum and coal products	5.73	139.3	134.6	3.5	10.8	3.5	17.5	138.7	124.6	11.3	5.2	16.4	5.1
5. Leather and leather and fur products	1.14	133.3	116.4	14.5	4.9	2.5	1.4	119.9	110.8	8.1	2.2	2.1	0.4
6. Other manufacturing industries	2.56	112.0	132.8	-15.7	10.6	-6.9	7.6	128.4	120.4	6.6	-2.7	4.2	-1.2
7. Food products	9.08	110.3	113.1	-2.5	-3.3	-3.3	-8.3	134.7	133.8	0.7	-0.4	1.7	-0.7
II Deceleration (During 1998-99)													
8. Beverages, tobacco and related products	2.38	192.6	176.2	9.3	17.2	5.1	14.4	178.5	158.1	12.9	19.4	9.9	8.7
9. Non-metalic mineral products	4.40	200.2	161.1	24.3	5.2	22.3	8.1	174.6	161.4	8.2	13.8	11.8	12.4
10. Basic chemicals and chemical products (except products of petroleum and coal)	14.00	162.8	146.9	10.8	7.4	28.9	33.0	149.8	140.5	6.6	14.5	26.5	35.7
11. Wool,silk and man-made fibre textiles	2.26	192.3	172.6	11.4	4.2	5.8	3.6	176.8	172.0	2.8	18.5	2.2	8.7
12. Machinery and equipment other than transport equipment	9.57	167.9	138.6	21.1	-3.2	36.4	-10.3	152.1	149.5	1.8	5.5	5.1	10.6
III Negative (During 1998-99)													
13. Basic metal and alloy industries	7.45	142.5	139.3	2.3	-0.6	3.1	-1.4	139.9	143.5	-2.5	2.6	-5.5	3.9
14. Textile products (including wearing apparel)	2.54	151.7	153.1	-0.9	-2.1	-0.5	-2.0	153.1	158.7	-3.5	8.5	-2.9	4.5
15. Wood and wood products; furniture and fixtures	2.70	106.8	127.2	-16.0	-3.6	-7.2	-3.0	121.0	128.5	-5.8	-2.6	-4.1	-1.3
16. Jute and other vegetable fibre textiles (except cotton)	0.59	101.3	105.3	-3.8	-5.4	-0.3	-0.8	106.0	114.3	-7.3	16.6	-1.0	1.4
17. Cotton textiles	5.52	121.1	115.3	5.0	-10.1	4.2	-16.6	115.9	125.6	-7.7	2.3	-10.9	2.2
Manufacturing Sector	**79.36**	**150.4**	**140.8**	**6.8**	**4.1**	**100.0#**	**100.0#**	**146.7**	**140.6**	**4.4**	**6.7**	**100.0#**	**100.0#**

P : Provisional

Note: # Due to rounding off, individual figures may not add upto 100.

Source: Central Statistical Organisation, Government of India.



APPENDIX TABLE IND.3: USE-BASED CLASSIFICATION OF INDEX OF INDUSTRIAL PRODUCTION

(Base : 1993-94 = 100)

Industry Group	Weight	Growth Rate (Per cent)				
		April-September		April-March		
		1999-2000(P)	1998-99(P)	1998-99(P)	1997-98	1996-97
1	2	3	4	5	6	7
a. Basic Goods	35.51	5.1 (27.0)	2.5 (21.4)	1.5 (12.5)	6.5 (33.8)	3.0 (19.3)
b. Capital Goods	9.69	9.2 (13.5)	11.1 (24.3)	12.7 (28.4)	5.3 (7.3)	9.3 (14.5)
c. Intermediate Goods	26.44	9.1 (41.5)	5.6 (40.4)	5.9 (41.3)	8.1 (34.2)	8.1 (39.3)
d. Consumer Goods *of which :*	28.36	4.0 (17.4)	1.8 (12.8)	2.4 (17.5)	5.7 (25.0)	5.2 (27.1)
i) Consumer Durables	5.12	12.8 (11.9)	1.9 (2.9)	4.7 (7.2)	7.8 (7.2)	4.6 (5.1)
ii) Consumer Non-durables	23.24	1.6 (5.5)	1.8 (10.1)	1.8 (10.1)	5.2 (18.0)	5.3 (21.9)
General Index	**100.0**	**6.4**	**4.0**	**4.0**	**6.6**	**5.6**

P : Provisional

Note: Figures in brackets indicate percentage of relative contribution of the segments to overall growth.

Source: Central Statistical Organisation, Government of India.

APPENDIX TABLE IND.4 : TRENDS IN INDEX NUMBER OF SIX INFRASTRUCTURE INDUSTRIES

(Base : 1993-94=100)

Industry	Weight	April - September		April-March		
		1999-2000(P)	1998-99(P)	1998-99(P)	1997-98	1996-97
1	2	3	4	5	6	7
Electricity	10.17	146.7 (7.4)	136.5 (7.7)	138.8 (6.8)	130.0 (6.6)	121.9 (3.8)
Coal	3.22	105.6 (-1.1)	106.8 (1.3)	117.8 (-2.3)	120.7 (4.0)	116.0 (5.9)
Saleable Steel	5.13	163.9 (4.3)	157.2 (2.6)	162.3 (1.0)	160.6 (6.3)	151.1 (5.8)
Cement	1.99	169.2 (18.8)	142.3 (4.2)	153.3 (5.7)	145.1 (9.1)	133.0 (9.6)
Petroleum Crude	4.17	121.4 (1.0)	120.2 (-4.0)	121.3 (-3.2)	125.3 (2.9)	121.8 (-4.7)
Petroleum Refinery Products	2.00	146.5 (19.1)	123.0 (1.7)	128.4 (5.1)	122.1 (3.7)	117.8 (7.0)
Composite Index of Six Infrastructure Industries	**26.68**	**142.7** **(6.7)**	**133.8** **(3.4)**	**138.3** **(2.7)**	**134.6** **(5.7)**	**127.3** **(3.7)**

P : Provisional.

Note: Figures in brackets are percentage variations over the previous year.

Source: Office of the Economic Adviser, Ministry of Industry, Government of India.

APPENDIX TABLE IND.5: GROWTH IN PRODUCTION OF MAJOR INDUSTRIES

(Per cent)

Industry	April-March	
	1997-98	1998-99(P)
1	2	3
1. Crude oil	2.9	-3.4
2. Petroleum refinery products	3.9	5.3
3. Rubber Industry	6.6	1.5
of which :		
a) Natural	6.4	3.6
b) Synthetic	10.8	-5.6
c) Reclaimed	4.5	-8.6
4. Coal	3.9	-1.6
5. Cement	9.1	5.7
6. Electric power	6.5	6.6
7. Pig iron	2.9	-11.8
8. Iron ore	11.0	-6.6
9. Automobile tyres	0.0	-33.3
10. Jute	19.8	-4.9

P : Provisional.

Source: 1. Ministry of Petroleum and Natural Gas, Government of India.
2. Rubber Board, Government of India.
3. Ministry of Coal, Government of India.
4. Ministry of Industry, Government of India.
5. Central Electricity Authority, Ministry of Power, Government of India.
6. Indian Bureau of Mines, Government of India.
7. Central Statistical Organisation, Government of India.
8. Jute Manufacturers Development Council, Calcutta.

APPENDIX TABLE IND.6: PERFORMANCE OF SMALL SCALE SECTOR

Item	April-March		
	1996-97	1997-98	1998-99(P)
1	2	3	4
1. Number of units (lakh nos.)	28.57	30.14	31.21*
	(4.9)	(5.5)	(3.6)
2. Production (Rupees crore at 1990 - 91 prices)			
a) Target	231,020	253,705	278,619
b) Achievement	247,311	268,159	294,734*
	(11.3)	(8.4)	(9.9)
3. Production (Rupees crore at current prices)			
a) Target	385,454	440,098	508,906
b) Achievement	412,636	465,171	538,357
	(15.8)	(12.7)	(15.7)
4. Employment (lakh persons)			
a) Target	158.91	166.86	175.20
b) Achievement	160.00	167.00	171.58*
	(4.8)	(4.4)	(2.7)
5. Exports (Rupees crore at current prices)			
a) Target	20,207	47,905	57,488
b) Achievement	39,249	44,437	49,481*
	(7.6)	(13.2)	(11.4)

* Projected

P : Provisional.

Notes: 1) Figures in brackets represent percentage variations over the previous year.

2) Data pertain to modern SSI Sector inclusive of powerloom and traditional industries.

Source: 1) Office of the Development Commissioner, Small Scale Industries, Ministry of Industry, Government of India.

2) Annual Report, 1998-99, Ministry of Industry, Government of India.

APPENDIX TABLE IND.7: POSITION OF SICK SMALL-SCALE INDUSTRIAL UNITS *

(Rupees crore)

State / Union Territory	End-March 1997		End-March 1998	
	No.of Sick Units	Amount Outstanding	No.of Sick Units	Amount Outstanding
1	2	3	4	5
I. Eastern Region	**105109**	**626.60**	**106756**	**648.96**
% share to All-India	*44.72*	*17.36*	*44.72*	*17.36*
Andaman and Nicobar Islands	13	0.08	45	1.60
Arunachal Pradesh	26	0.12	456	0.94
Assam	10133	54.18	15774	60.62
Bihar	22702	120.62	24935	142.74
Manipur	2707	9.85	1919	8.79
Meghalaya	5531	8.20	4076	6.52
Mizoram	1199	2.76	615	2.45
Nagaland	2738	9.44	1386	4.98
Orissa	3408	45.08	1889	35.63
Sikkim	30	0.14	33	0.11
Tripura	3171	4.46	2011	6.26
West Bengal	53451	371.67	53617	378.32
II. Northern Region	**49967**	**850.37**	**40579**	**954.97**
% share to All-India	*21.26*	*23.56*	*21.26*	*23.56*
Chandigarh	170	14.41	163	16.69
Delhi	3943	264.81	3580	298.59
Haryana	2574	63.95	2149	92.41
Himachal Pradesh	2206	17.68	735	22.15
Jammu and Kashmir	761	8.10	1627	25.15
Punjab	2466	84.44	2376	91.70
Rajasthan	14561	97.51	15655	108.62
Uttar Pradesh	23286	299.39	14294	299.66
III. Western Region	**38549**	**1128.94**	**33758**	**1137.57**
% share to All-India	*16.40*	*31.28*	*16.40*	*31.28*
Dadra and Nagar Haveli	1	0.90	2	1.16
Daman and Diu	4	1.41	5	3.83
Goa	604	13.86	670	16.15
Gujarat	6510	196.80	6808	224.63
Madhya Pradesh	12070	151.44	8348	141.86
Maharashtra	19360	764.53	17925	749.94
IV. Southern Region	**41407**	**1003.39**	**40443**	**1115.14**
% share to All-India	*17.62*	*27.80*	*17.62*	*27.80*
Andhra Pradesh	15460	214.39	12074	218.77
Karnataka	6937	203.26	6680	223.19
Kerala	8908	168.28	8969	190.12
Lakshadweep	0	0.00	0	0.00
Pondicherry	293	18.64	431	26.13
Tamil Nadu	9809	398.82	12289	456.93
All-India (I+II+III+IV)	**235032**	**3609.20**	**221536**	**3856.64**

* A small scale industrial unit is considered as sick when : i) any of its borrowal accounts has become a doubtful advance i.e., principal or interest in respect of any of its borrowal accounts has remained overdue for a period exceeding 2 & 1/2 years and ii) there is erosion in the net worth due to accumulated cash losses to the extent of 50 per cent or more of its peak net worth during the preceding two accounting years.

Source: Industrial Export & Credit Department, Reserve Bank of India.

APPENDIX TABLE IND.8: POSITION OF NON-SSI SICK/WEAK UNITS *

(Rupees crore)

State / Union Territory	End-March 1997		End-March 1998	
	No.of Non-SSI Sick/Weak Units	Amount Outstanding	No.of Non-SSI Sick/Weak Units	Amount Outstanding
1	2	3	4	5
I. Eastern Region	**423**	**1754.49**	**419**	**1879.58**
% share to All-India	*17.86*	*17.24*	*16.92*	*15.89*
Andaman and Nicobar Islands	0	0.00	0	0.00
Arunachal Pradesh	2	2.47	2	2.47
Assam	41	167.40	44	157.97
Bihar	64	190.81	63	358.24
Manipur	1	2.45	2	2.42
Meghalaya	1	0.89	2	1.39
Mizoram	0	0.00	0	0.00
Nagaland	2	3.43	2	4.48
Orissa	62	284.41	57	210.64
Sikkim	1	6.35	1	6.35
Tripura	6	9.95	6	9.41
West Bengal	243	1086.33	240	1126.21
II. Northern Region	**511**	**2036.96**	**526**	**2472**
% share to All-India	*21.58*	*20.01*	*21.24*	*20.91*
Chandigarh	10	22.73	3	7.54
Delhi	35	172.35	34	233.51
Haryana	78	328.28	86	394.87
Himachal Pradesh	31	37.47	32	54.30
Jammu and Kashmir	9	17.95	7	8.91
Punjab	62	200.84	69	203.01
Rajasthan	84	276.26	87	371.33
Uttar Pradesh	202	981.08	208	1198.97
III. Western Region	**742**	**2912**	**767**	**3563**
% share to All-India	*31.33*	*28.61*	*30.98*	*30.13*
Dadra and Nagar Haveli	4	6.43	8	18.47
Daman and Diu	3	9.37	5	27.77
Goa	12	31.79	13	51.66
Gujarat	213	664.81	215	881.34
Madhya Pradesh	111	364.75	116	491.68
Maharashtra	399	1834.77	410	2092.11
IV. Southern Region	**692**	**3474.44**	**764**	**3910**
% share to All-India	*29.22*	*34.14*	*30.86*	*33.07*
Andhra Pradesh	264	1186.71	295	1264.15
Karnataka	159	1024.48	171	1001.85
Kerala	81	492.81	85	495.73
Lakshadweep	0	0.00	0	0.00
Pondicherry	13	44.05	15	34.04
Tamil Nadu	175	726.39	198	1114.43
All-India (I+II+III+IV)	**2368**	**10177.81**	**2476**	**11825.25**

* i) "Sick industrial company" means an industrial company (being a company registered for not less than five years) which has at the end of any financial year accumulated losses equal to or exceeding its entire net worth.

ii) A non-SSI industrial unit is defined as a "weak" unit, if its accumulated losses as at the end of any accounting year resulted in the erosion of 50 per cent or more of its peak net worth in the immediately preceding four accounting years. It is clarified that weak unit will not include those units which fall within the purview of Sick Industrial Companies (Special Provisions) Act, 1985, (viz., Industrial Companies) but also other categories such as partnership firms, proprietory concerns, etc. A 'weak' industrial company would be termed as a potential "sick" company if and when it is reported to BIFR in terms of Section 23F(1) of SICA, 1985 amended up to February 1994.

Source: Industrial Export & Credit Department, Reserve Bank of India.

APPENDIX TABLE IND.9: STATUS OF CENTRAL SECTOR PROJECTS

(END-SEPTEMBER 1999)

(Number of projects)

Sector	Ahead	On Schedule	Delayed	Without D.o.C	Total	Delay as % of Total
1	2	3	4	5	6	7
1. Atomic energy	—	0	4	—	4	100.0
2. Civil aviation	—	—	3	—	3	100.0
3. Coal	—	5	15	—	20	75.0
4. Finance	—	—	1	—	1	100.0
5. Fertilizer	—	3	—	1	4	0.0
6. Mines	1	1	1	—	3	33.3
7. Steel	—	—	4	—	4	100.0
8. Petrochemicals	—	—	1	—	1	100.0
9. Petroleum	4	4	19	—	27	70.4
10. Power	5	7	16	1	29	55.2
11. Railways	1	7	21	52	81	25.9
12. Surface transport	—	5	16	—	21	76.2
13. Telecommunications	—	—	2	—	2	100.0
14. Others	—	1	—	—	1	0.0
Total	**11**	**33**	**103**	**54**	**201**	**51.2**

Notes: (i) Relates to Central Sector Projects costing Rupees 100 crore and above.

(ii) Delay is considered with reference to anticipated date of commissioning initially.

Source: Ministry of Planning and Programme Implementation, Government of India.

APPENDIX TABLE IND.10: PERFORMANCE OF CENTRAL PUBLIC SECTOR ENTERPRISES

(Amount in Rupees crores)

Item	1993-94	1994-95	1995-96	1996-97	1997-98
1	2	3	4	5	6
No.of operating enterprises	241	241	239	238	236
Capital employed	159836	161311	173765	201496	223047
Value added	41486	47986	57859	57116	72691
Gross Profit	18556	22516	27587	30609	36093
Net profit	4545	7217	9574	9992	13725
No.of profit making PSEs	121	130	132	130	134
No.of loss making PSEs	116	109	102	104	100
No.of no profit no loss PSEs	3	2	5	2	2
Gross margin as percentage of capital employed	17.33	20.61	23.11	22.23	23.59
Gross profit as percentage of capital employed	11.61	13.96	15.88	15.19	16.18

Source: Public Enterprises Survey 1997-98, (Volume-I), Government of India.

APPENDIX TABLE IND.11: EMPLOYMENT IN ORGANISED SECTOR

(In lakhs)

At the end of	Public Sector					Private Sector	Total	Women Employed out of Total	Percentage of Women Employed to Total
	Central Govt.	State Govt.	Quasi Govt.	Local Bodies	Total (2 to 5)		(6 + 7)		
1	2	3	4	5	6	7	8	9	10
March 1995	33.95 (+0.1)	73.55 (+0.2)	65.20 (+0.1)	21.97 (-0.3)	194.66 (+0.1)	80.58 (+1.6)	275.25 (+0.5)	43.04 (+3.6)	15.6
March 1996	33.66 (-0.9)	74.14 (+0.8)	64.58 (-1.0)	21.92 (-0.2)	194.29 (-0.2)	85.12 (+5.6)	279.41 (+1.5)	44.26 (+2.8)	15.8
March 1997(P)	32.95 (-2.1)	74.85 (+1.0)	65.35 (+1.2)	22.44 (+2.4)	195.59 (+0.7)	86.85 (+2.0)	282.45 (+1.1)	46.37 (+4.8)	16.4
March 1998(P)	..	..	..	..	195.40 (-0.1)	88.35 (+1.7)	283.75 (+0.5)	48.15 (+3.8)	17.0

P : Provisional

Note: Figures in brackets represent percentage variations over the previous year.

Source: Ministry of Labour, Government of India.

FISCAL SECTOR



CHAPTER V

FISCAL SECTOR*

The present fiscal scene is studied in this chapter with reference to the evolution of the fiscal strategies followed since the 'eighties. The fiscal position during the 'eighties was characterised by an accumulation of huge debt. While attempting to correct this position in the 'nineties, the Governments at both the Centre and States had to contend with a number of structural and cyclical issues. The high point of the 'nineties, is the clear recognition of the need to press ahead with fiscal reforms as an integral part of the economic reforms programme that encompassed structural measures in other major spheres of economic activity *viz.*, trade, industry, financial and banking sectors. In the process, the relationships between the Government of India and the Reserve Bank on the one hand and between the Central Government and the State Governments on the other underwent a noticeable change. For example, the automatic monetisation of fiscal deficit of the Central Government came to an end following the historic agreement between the Reserve Bank and the Government of India in September 1994. The system of *ad hoc* Treasury Bills as a result gave rise to the 'ways and means' mechanism of financing temporary shortfalls in Central Government finances. Questions of harmonisation of fiscal stance of State Governments and of ensuring consistency in the borrowing programmes of the Centre and States while pursuing consistent fiscal reforms came into sharp focus.

An Overview of Government Finances in 1998-99

The fiscal position of both the Central and State Governments was under stress during 1998-99. There was a marked increase in the major deficit indicators owing to a shortfall in revenue collection and a sharp rise in expenditure. The gross fiscal deficit (GFD) of the Central Government as percentage of GDP for 1998-99 was placed at 5.9 per cent according to the revised estimates as against the budget estimates of 5.1 per cent. The latest provisional accounts have placed the Centre's GFD for 1998-99 still higher at 6.3 per cent of GDP. The consolidated GFD of the State Governments for 1998-99 as a percentage of GDP reached a historic high of 4.3 per cent as per revised estimates as against 3.4 per cent projected in the budget estimates. Consequently, the combined GFD of the Government sector (Centre and States) reached a level of 8.5 per cent of GDP (after adjusting for inter-Governmental transactions) in 1998-99 which was 1.2 percentage points higher than 7.3 per cent projected in the budget estimates (Table FIS.A and Appendix Table FIS.10). If the GFD-GDP ratio of 6.3 per cent (based on the Centre's latest provisional accounts) is considered, the combined GFD-GDP ratio would be at 8.9 per cent, recording one of the high levels during the 'nineties so far.

Table FIS.A: Combined Deficits of Central and State Governments

(as percentage to GDP)

Year	Gross Fiscal Deficit	Net Fiscal Deficit	Gross Primary Deficit	Net Primary Deficit	Revenue Deficit	Monetised Deficit
1	2	3	4	5	6	7
1980-81	7.9	5.0	5.7	4.1	0.4	3.0
1985-86	8.5	7.0	5.2	5.3	2.0	1.7
1990-91	10.0	8.4	5.3	4.9	4.5	2.8
1997-98	7.1	6.5	2.1	2.5	4.0	0.9
1998-99 (BE)	7.3	6.6	2.2	2.3	4.2	—
1998-99 (RE)	8.5	7.8	3.2	3.5	5.7	1.0
1999-2000 (BE)	7.5	6.9	2.1	2.3	4.7	—

BE: Budget Estimates RE: Revised Estimates

Note: 1. Percentage to GDP for the years 1997-98 to1999-2000 are based on new GDP base of 1993-94 at current market prices.

2. The combined deficit indicators are estimated after making necessary adjustment in inter-Governmental transactions.

Source: Budget Documents of the Government of India and the State Governments.

* **Based on material available up to September 1999. All references to the years in this chapter relate to the fiscal year (April-March).**

The deterioration in Government finances in 1998-99 stemmed from a major shortfall in revenue collection (as against the budget estimates) in the face of a modest growth in expenditure. The combined revenue receipts in the revised estimates at Rs.3,08,660 crore fell short by 5.1 per cent of the budget estimates of Rs.3,25,079 crore. The shortfall was mainly on account of tax collection as reflected in a 7.6 per cent reduction in the revised estimates. The fiscal slippage, therefore, is an outcome of deterioration in the revenue account, with the combined revenue deficit exceeding the budget estimates. Thus, in comparison with the budget estimates of 4.2 per cent, the combined revenue deficit to GDP ratio stood at 5.7 per cent in the revised estimates – a level which was much higher than the average figure of 3.6 per cent recorded during the first seven years of the 'nineties (1991-98). In absolute terms, the combined revenue deficit amounted to Rs.1,00,965 crore, which was higher by Rs.26,458 crore (35.5 per cent) over the budget estimates. The combined gross primary deficit – a measure of sustainability of the current level of fiscal operations – which stood at 3.2 per cent of GDP in 1998-99 exceeded the budget estimates by 1.0 percentage point as compared with 2.1 per cent of GDP in 1997-98 and 2.1 per cent, on an average, during 1991-98.

The slippage in major deficit indicators from their targeted levels was also reflected in an excessive growth in the borrowings of the Government. According to the Reserve Bank records, the combined gross market borrowings of the Centre and the States during 1998-99 aggregated to Rs.1,06,067 crore, recording thereby a 17.6 per cent increase over the budgeted figure of Rs.90,224 crore and a 57.4 per cent rise over the gross borrowings of Rs.67,386 crore in 1997-98. With the overshooting of the borrowing requirements, the debt and liabilities of the Government sector scaled new heights. The outstanding combined liabilities of the Government sector at Rs.10,19,773 crore at end-March 1999 recorded a rise of Rs.1,28,234 crore over the end-March 1998 level. Accordingly, the debt-GDP ratio rose to 58.0 per cent in 1998-99 from 57.0 per cent in 1997-98.

The rising levels of debt witnessed in the last two decades have generated considerable debt servicing burden on the fiscal front. In the face of downward inflexibility on the expenditure front, the increasing debt service obligations created further pressure on the fiscal operations of the Government.

As the factors outlined above are structural in character, and reflected mainly the weakness of the Indian fiscal system, the emergence of structural deficits was an obvious outcome. In other words, the observed deficits embody both the structural and cyclical factors influencing the fiscal operations. A tentative estimate of the decomposition of the fiscal deficit of the Government sector reveals that the structural factors contributed almost 90 to 95 per cent of the budgetary balance during the 'nineties. While the combined GFD of the Government sector constituted on, an average, 8.0 per cent of the GDP during 1990-99, the structural component worked out to be around 7.5 per cent on an average, during the 'nineties and nearly 8.5 per cent of the GDP in the 'eighties (Table FIS.B and Box FIS.1).

Table FIS.B: Structural Deficit and Fiscal Balances (Government Sector)

(Percentage to GDP)

Period	Structural	Cyclical	GFD
1980-85 (Average)	7.26	0.34	7.60
1985-90 (Average)	9.67	-0.23	9.44
1990-91	9.72	0.28	10.00
1991-92	7.10	0.33	7.43
1992-93	7.12	0.30	7.42
1993-94	8.44	0.32	8.75
1994-95	6.68	0.76	7.44
1995-96	6.03	0.91	6.94
1996-97	5.99	0.85	6.85
1997-98	7.41	0.42	7.83
1998-99	8.77	0.43	9.20
1990-99 (Average)	7.47	0.51	7.98

Note: 1. Details on the estimates are given in the Box.
2. Ratios are based on nominal GDP at 1980-81 base.

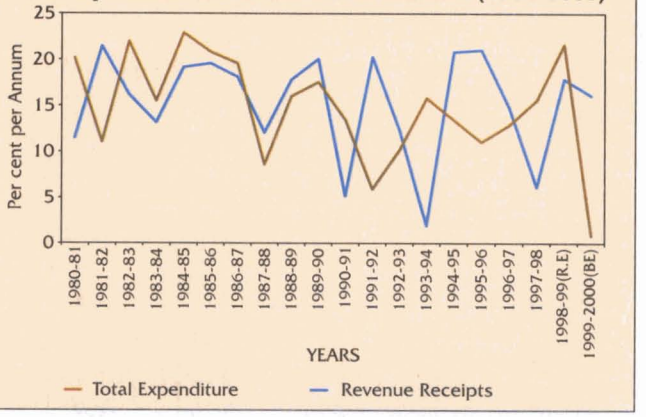
Fiscal Structure and Budgetary Outcome

Central Government Finances

The long-term trend in the Central Government finances indicates that the revenue

generation has been lower than the expenditure requirements, reflecting the inherent structural weakness of the finances of the Central Government. The divergent trend between revenue receipts and revenue expenditure has been apparent since the beginning of the 'eighties, when the revenue account slipped into a persistent deficit (Graph FIS.I). The Central Government expenditures continued to rise unabated in the wake of persistent slackness in the revenue collection culminating in mounting debt accumulation, leading ultimately to fiscal crisis at the beginning of the 'nineties. The debt-GDP ratio of the Centre rose sharply by 15 percentage points between 1980-81 (43.9 per cent of GDP) and 1989-90 (58.7 per cent of GDP).

Graph FIS.1: Growth in Revenue Receipts and Total Expenditure of the Central Government (1980-2000)



With the launching of the economic reforms programme in July 1991, the process of fiscal consolidation through structural reforms formed an integral part of the macro-economic

Box FIS.1 : Structural Fiscal Balance in India: Some Empirical Evidence

The Government budget balance is largely influenced by both temporary and permanent factors. In other words, changes in deficit (in government accounts) could arise either in response to cyclical changes (temporary factors) in the national output or as a result of discretionary fiscal policy actions (permanent or structural factors). The cyclical changes in output have a transitory effect on the budget balance, as they are self-cancelling in nature whereas the structural factors would have a more lasting impact on the budgetary balance. The traditional deficit indicators do not distinguish between the above two effects and hence fail to correctly analyse and portray the impact of fiscal operations on the rest of the economy. Any analysis of fiscal actions without properly gauging the influence of such temporary and permanent factors on the budget would, therefore, be self-defeating in nature. The delineation of temporary factors from the permanent or structural influence is, therefore, important from the point of view of evolving appropriate medium-term fiscal policy strategy, particularly when a country has already initiated an exercise towards fiscal correction and consolidation.

For estimating the decomposition of the budget balance into the cyclical and structural components, two important methodologies merit attention. The IMF methodology consists of estimating a structural budget balance (SBB) as the residual balance after removing the business cycle influence from the actual budget balance (Hagemann, 1999). This involves estimation of the potential output and related output gap, quantification of cyclical components of expenditure and resources to derive the structural budget balance. The OECD methodology, on the other hand, makes a distinction between discretionary budget changes and built-in-stabilizer as a prelude to define the structural budget balance. The built-in-stabilizer component of the budget balance is self-cancelling in nature (as the revenue and expenditure will be influenced by the cyclical upturn and downturn) and hence it represents the cyclical component of the budgetary balance. The other component of the budgetary balance is structural which essentially captures the effects of discretionary policy action as well as fiscal drag and represents the combined effect of potential change in output and built-in budget balance. Though the common element of these two approaches is the budgetary influence of the actual output deviation from its potential level, the estimation of potential output for decomposing the actual budget balance into the structural and the cyclical components is, however, subject to limitations. Secondly, in both the cases, the estimation of structural deficit is based on the assumption of constant elasticities of revenue and expenditure.

The OECD methodology is preferred in this exercise for purposes of estimating the components of budget balance (fiscal deficit) in view of its simplicity in computation procedure and felicity in depicting the components precisely. The results obtained from the present exercise indicate the dominance of structural component in the budgetary balances of both the Central and State Governments. The structural deficit component as a proportion of GDP reveals a continuously rising trend throughout the decade of the 'eighties, hovering over 10 per cent of GDP in the last half of the 'eighties (Table and Graph). It may, however, be mentioned that the estimation of structural balance and its interpretation should be done with caution. This is because of the difficulties in projecting actual output, and in knowing the potential output. Finally, the estimation of structural balances could depend on the extent to which the elimination of the output gap would translate into enhanced tax revenues and reduced expenditure. The fiscal consolidation and restructuring exercise undertaken by the Central Government in 1991-92 following the balance of payments crisis, led to a sharp compression in expenditures. Simultaneously, measures were initiated towards augmentation of revenue culminating in a sharp decline in the structural deficit of the Central Government. In the subsequent years, the Government initiated wide ranging measures in the form of liberalisation of the economy and a strategic retreat from the non-core sectors of the economy, thus releasing resources to be more productively used. This led to the declining trend in the structural deficit till 1997-98. Thereafter, the structural component in the deficit regained its dominance. Similar behaviour was noted in the case of State Governments with the structural factors emerging more dominantly than in the case of Central Government.

Box FIS.1: Structural Fiscal Balance in India: Some Empirical Evidence *(Concld.)*

Structural and Cyclical components of GFD as per cent of GDP

Year	Centre			States			Combined		
	SD	*CD*	*GFD*	*SD*	*CD*	*GFD*	*SD*	*CD*	*GFD*
1980-81	5.84	0.26	6.10	2.39	0.34	2.73	7.61	0.31	7.93
1981-82	4.92	0.51	5.42	1.89	0.65	2.54	6.03	0.61	6.64
1982-83	5.76	0.21	5.97	2.53	0.27	2.80	5.99	0.25	6.24
1983-84	5.90	0.37	6.28	2.58	0.48	3.06	7.24	0.45	7.69
1984-85	7.46	0.07	7.53	3.46	0.09	3.54	9.44	0.08	9.52
1985-86	8.40	-0.06	8.34	2.95	-0.08	2.87	8.53	-0.08	8.46
1986-87	9.35	-0.36	8.99	3.63	-0.46	3.16	10.94	-0.43	10.51
1987-88	8.57	-0.45	8.12	3.95	-0.59	3.37	10.28	-0.55	9.73
1988-89	7.88	-0.07	7.81	3.04	-0.09	2.95	9.15	-0.08	9.07
1989-90	7.80	0.00	7.80	3.38	0.00	3.38	9.44	0.00	9.44
1990-91	8.10	0.23	8.33	3.21	0.30	3.51	9.72	0.28	10.00
1991-92	5.61	0.27	5.89	2.71	0.36	3.06	7.10	0.33	7.43
1992-93	5.44	0.25	5.69	2.64	0.32	2.96	7.12	0.30	7.42
1993-94	7.17	0.26	7.43	2.20	0.34	2.54	8.44	0.32	8.75
1994-95	5.36	0.63	5.99	2.06	0.81	2.87	6.68	0.76	7.44
1995-96	4.63	0.75	5.38	1.83	0.98	2.81	6.03	0.91	6.94
1996-97	4.53	0.70	5.23	2.01	0.91	2.93	5.99	0.85	6.85
1997-98	5.75	0.35	6.10	2.68	0.45	3.13	7.41	0.42	7.83
1998-99	5.24	0.36	5.60	4.17	0.46	4.63	8.77	0.43	9.20

SD = Structural Deficit CD = Cyclical Deficit

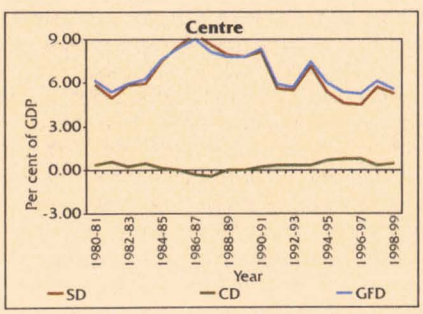
The two algebraic equations under the OECD methodology used in the estimates of structural and cyclical components are:

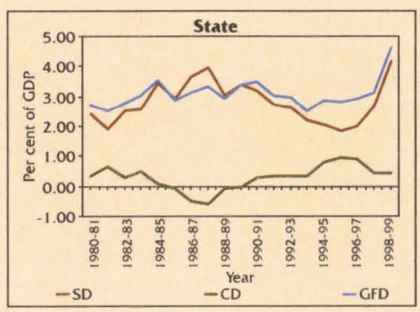
CD = $\{(Go/Yo)\ Egy - (Ro/Yo)Ery\}(Y_t - Y_t^*)$ to capture cyclical component and

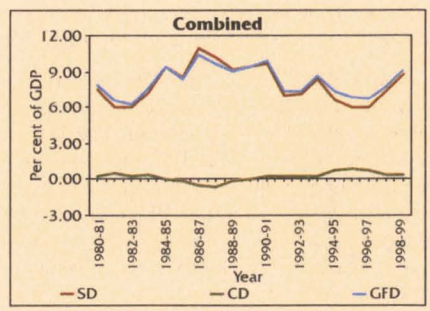
SD = $[Go - Ro] + [\{G_t - Go + (Go/Yo)Egy(Y_t - Yo)\} - \{R_t - Ro + (Ro/Yo)Ery(Y_t - Yo)\}] + [\{(Go/Yo)Egy - (Ro/Yo)Ery\ \{Yo(e^{rt} - 1)\}]$ to estimate structural deficit.

where

Ery = Revenue Elasticity, Ro = Base Year receipts, Egy = Expenditure Elasticity, Go = Base Year expenditure, Yo = Base Year output







Selected References:

1. Blejer, I. Mario and Adrienne Cheasty, (1991), The Measurement of Fiscal Deficits: Analytical and Methodological Issues, *Journal of Economic Literature* Vol. XXIX, December.
2. Heller, Peter S., Richard D. Haas, and Ahsan S. Mansur, (1986), A Review of Fiscal Impulse Measure, *IMF Occasional Paper,* No.44, May.
3. Hagemann, (1999), The Structural Budget Balance – The IMF's Methodology, *IMF Working Paper,* 95, July.
4. Muller P. and R.W.R. Price, (1984), Structural Budget Deficits and Fiscal Stance,*OECD Working Paper,* No.15.

policy formulation. Accordingly, top priority was accorded to the restoration of fiscal balance ushering in some improvements in the fiscal position of the Government. This is reflected in the gross fiscal deficit declining to 5.7 per cent of GDP in 1997-98 from the peak level of 8.3 per cent in 1990-91 (Appendix Table FIS.1). There were, however, wider fluctuations in GFD-GDP ratio in some of the years during the period under consideration. Such variability in the finances of the Centre reveals the continued presence of structural imbalances in the fiscal operations of the Government. Secondly, the nature of correction effected on the expenditure front during the reform period through fiscal retrenchment (characterised by substantial cut-backs in investment expenditures) also posed issues relating to the quality of the fisc from the point of view of growth and development. The expenditure-GDP ratio declined sharply from 19.7 per cent in 1990-91 to 14.8 per cent of GDP in 1997-98. Thirdly, the fiscal imbalances are also an outcome of the structural rigidities in downsizing government consumption expenditures.

A major structural weakness of the Central Government finances could be gleaned through an analysis of the composition of its expenditure, particularly with reference to the non-plan expenditure. The non-plan expenditure of the Central Government forms almost three-fourths of the aggregate expenditure, with the revenue component constituting a significant proportion. The principal non-plan components are interest payments, defence, subsidies and non-plan grants to States and Union Territories (UTs) on the revenue side, and non-plan loans to States and UTs on the capital side. While the rates of growth in defence and subsidies were contained substantially, the interest expenditure continues to strain Central finances. This is manifested in the interest expenditure rising from 2.8 per cent in the 'eighties to 4.2 per cent of GDP in the 'nineties. Furthermore, interest expenditure, on an average, absorbed 28.6 per cent of the revenue receipts during the 'eighties as compared with 46.4 per cent in the 'nineties. This reflects the mounting pressure on Centre's finances arising out of debt accumulation. Another major item of expenditure which exerted pressure on the Centre's finances is the non-plan loans to States and UTs against small savings. Non-plan loans to States and UTs, on an average, contributed 14.5 per cent of the Centre's GFD during the 'nineties (1991-98)[1]. Thus, the earmarking of an increasing proportion of Centre's resources towards meeting non-plan expenditure has resulted in reducing the leverage of the Central Government in directing financial flows towards developmental needs. The steady deterioration of the capital outlay which as a proportion of GDP declined from 2.7 per cent in the 'eighties to 1.4 per cent in the 'nineties shows the limitation in the dependence on Government for enhancing capital formation.

The inability on the part of the Government to raise larger revenue receipts in view of the growing expenditure commitments constituted yet another structural weakness of the Central finances. This is evident from the fact that the revenue receipts and revenue expenditure recorded a growth of 16.8 per cent and 18.6 per cent in the 'eighties as compared with 14.3 per cent and 14.6 per cent, respectively, in the 'nineties. The slowdown in the revenue collection mainly stemmed from a steady deterioration in the tax collection. The tax revenue, on an average, could finance a sizeable proportion (60 per cent) of the Centre's revenue expenditure in the 'eighties; it could, however, finance a comparatively lower proportion (55 per cent) of the Centre's revenue expenditure in the 'nineties. The declining efficacy of tax revenue is also reflected in the deterioration of the tax-GDP ratio (by about 2.2 percentage point of GDP) between 1990-91 and 1998-99. Similarly, the tax-GDP ratio declined from 11.2 per cent of GDP in the second half of the 'eighties to 8.5 per cent of GDP in 1998-99.

As has been stated earlier, the steady deterioration in tax-GDP ratio experienced during the 'nineties is closely related to the structural change that has been taking place in the income composition of the Indian economy. As may be seen from the Table FIS.C, between

1. As per the Scheme existing till 1998-99, seventy-five per cent of the small savings collections were passed on to the States/UTs in the form of non-plan loans. The Union Budget 1999-2000 introduced a new Scheme, the National Small Savings Fund in the Public Account, under which, net collections to the Fund will be invested in State and Central Government securities in the ratio of 75:25.

1990-91 and 1998-99, the share of industrial sector has dropped by 6.4 percentage points. Correspondingly, the tax-GDP ratio has declined by 2.2 percentage points during the same period. The tax revenue from the agricultural sector being negligible, the industrial sector continues to constitute the only principal tax base though it has suffered a reduction in the share of GDP over the period. Despite the fact that the services sector has shown substantial buoyancy, its contribution to the exchequer is not significant in relation to its sizeable share in GDP. Thus, in order to impart buoyancy to the revenue receipts, and to provide consistency and equity in the tax structure *vis-à-vis* the composition of income, it is imperative to bring a major part of the services sector under the tax net.

Table FIS.C: Structural Change in the Indian Economy and Revenue Buoyancy

(Per cent)

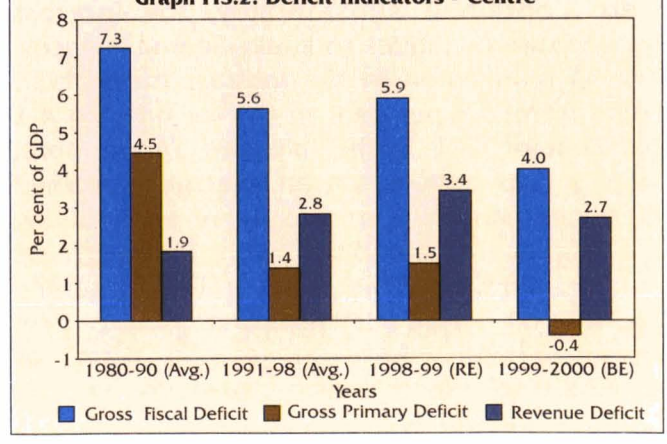
Year	Share in GDP			Tax-GDP Ratio @		
	Agriculture	Services	Industry	Direct	Indirect	Total
1980-81	38.1	41.0	20.9	2.1	7.6	9.7
1984-85	35.9	41.1	22.9	2.0	8.1	10.1
1990-91	30.9	43.7	28.4	2.1	8.6	10.7
1995-96	26.0	47.0	26.7	2.8	6.4	9.1
1996-97	28.0	49.9	22.0	2.7	6.4	9.1
1997-98	26.4	51.2	22.3	3.1	5.8	8.9
1998-99	26.8	51.2	22.0	2.8	5.6	8.5

@ Centre's Gross tax collections.

Another major weakness of the Indian tax system that has contributed to the slippage in tax-GDP ratio during the 'nineties *vis-à-vis* 'eighties has been the continued dependence on indirect taxes. The collection of Union excise duties (which form a predominant proportion of the indirect taxes) is largely dependent on the industrial activity. The growth in Centre's gross indirect tax collections has decelerated from 16.9 per cent in the 'eighties to 10.1 per cent in the 'nineties. There has also been a compositional shift in the tax structure with the share of indirect taxes in gross tax revenue declining from 80.3 per cent in the 'eighties to 70.7 per cent in the 'nineties. These structural shifts would indicate that the tax structure is becoming increasingly vulnerable to the industrial performance. This calls for a widening of the tax base if fiscal stability is to be ensured in the years ahead.

The fiscal stress experienced during 1998-99 was essentially a manifestation of the structural weakness embedded in the Central finances. For the year 1998-99, the budget projected a 17.0 per cent growth in revenue receipts and a relatively lower growth of 13.9 per cent in aggregate expenditure. On this basis, the GFD was placed at 5.1 per cent of GDP as compared with a 5.7 per cent in 1997-98 (Graph FIS.2). In contrast, the revised estimates for 1998-99 have placed GFD higher at Rs.1,03,737 crore as against the budgeted figure of Rs.91,025 crore while the GFD-GDP ratio for 1998-99 at 5.9 per cent turned out to be the highest since 1993-94 and the second highest since the initiation of fiscal reforms. Financing of GFD in 1998-99 indicated that market borrowings contributed 62.6 per cent as compared with 36.5 per cent in 1997-98, while the share of the other liabilities (small savings, provident fund, reserves and deposits etc.) decelerated to 33.4 per cent from 63.3 per cent in the previous year (Appendix Table FIS.3). The revenue receipts as per the revised estimates for 1998-99 suffered a setback as compared to the budget estimates, mainly due to a substantial shortfall in the indirect tax collections, *viz.*, the customs duties (-Rs.5,500 crore) and the Union excise duties (-Rs. 2,247 crore). The shortfall in the customs revenue was on account of both a lower volume and a fall in the unit price of imports, while the decline in excise duties was the result of a slowdown in the industrial growth. The gross tax collection fell by 0.4 per cent of GDP as compared with the budget estimates; Union excise duties contributed 0.2 per cent of the shortfall and custom duties declined by 0.3 percentage point. The aggregate expenditure in the revised

Graph FIS.2: Deficit Indicators - Centre



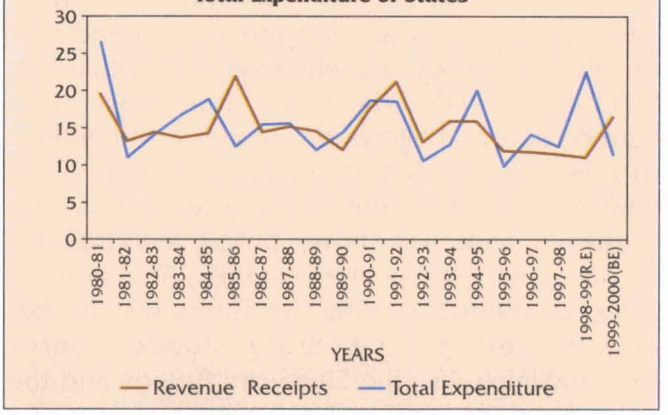
estimates exceeded the budget estimates by Rs.13,985 crore (5.2 per cent), essentially due to a sharp rise in the non-plan expenditure. The non-plan revenue expenditure exceeded the budget estimates by Rs.10,390 crore (6.2 per cent) mainly due to expenditure overruns under the heads of subsidies (+Rs.2,658 crore), interest payments (+Rs.2,247 crore) and pensions (+Rs.2,712 crore). The non-plan capital expenditure exceeded the budget estimates by Rs.7,226 crore (24.4 per cent) in 1998-99 due to increased outgo of loans to the States and UTs to the extent of Rs.9,588 crore over those in the budget estimates on account of buoyant small savings collections.

The dominance of structural factors influencing the budgetary balance is evident from the decomposition of Centre's fiscal deficit into cyclical and structural components (Box FIS.1). The structural deficit which reflects the discretionary policy actions of an expansionary fiscal stance of the Government was particularly high during the second half of the 'eighties. The fiscal correction initiated in 1991-92 arrested somewhat the rising trend of GFD and structural deficit during the first half of the 'nineties; the structural component of GFD ruled below 90 per cent between 1994-95 and 1996-97 though it rose in 1997-98 and 1998-99 to rule above 90 per cent, indicating the continued dominance of structural factors in fiscal operations.

State Government Finances

The stress on the State finances hinges upon the inadequacy of receipts in meeting the expenditure requirements as has been evidenced by the structural imbalances manifested through the revenue deficits since the mid-'eighties. The long-run structural character of the State finances is indicative of a unidirectional trend between the rate of growth of expenditures and receipts. However, the rate of growth of expenditure has been higher than that of revenue receipts (Graph FIS.3). The resultant gap between receipts and expenditure revealed that the revenue position could not support the total expenditure requirements. The resource gap has further worsened since the mid-'nineties, when revenue growth began to stagnate, while expenditure growth accelerated. Constrained by the compulsions in meeting the large committed

Graph FIS.3: Rate of Growth of Revenue Receipts and Total Expenditure of States



non-plan expenditures, the States often resorted to financing non-plan expenditure through cutbacks in developmental expenditures. Until 1986-87, the States were generating surpluses in their revenue account. They were releasing such surpluses for the purpose of augmenting capital investment. However, with the emergence of revenue deficits since 1987-88, the State Governments started diverting the capital receipts, essentially high cost borrowed funds, towards current expenditure. This has resulted in the slashing down of investment programmes. Such a shift may have adversely affected their efficacy in realising the potential gains in output. Besides, it led to rising levels of internal debt and debt servicing burden on the part of the States.

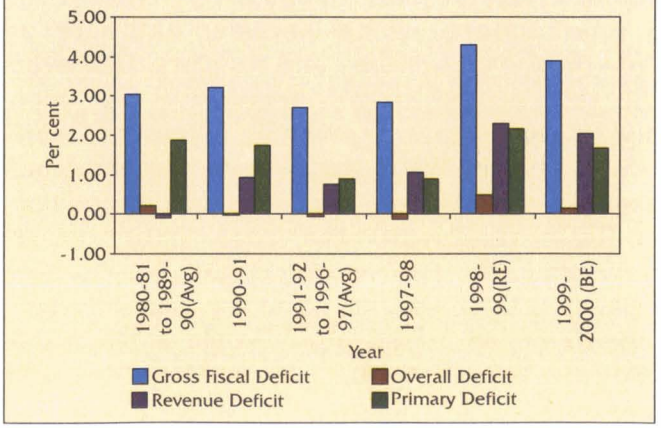
The structural imbalance in State Government finances stems from the limited resource base of the States in relation to the growing expenditure commitments. While the State Governments collect about one-third of the consolidated combined Government sector receipts, they incur more than three-fourths of the total expenditure on social services and more than half of the total expenditure on economic services. The inter-temporal budget constraint in the case of State Governments, therefore, arises out of both endogenous and exogenous factors. In other words, the level of resource flows are determined by the efforts of the States in the generation of States' own resources as well as resource transfers from the Centre. Under the existing federal-fiscal relationship, States are conferred with the right to collect certain taxes, of which, the predominant ones are the sales tax and State excise duties. The tax receipts of States had

exhibited rigidity during the 'nineties *vis-à-vis* 'eighties. This is because the States' tax base has remained narrow with greater dependence on indirect taxes, mainly sales tax while the inter-State tax structure has not been harmonized and allows distortions and rigidities to creep in. The States own tax revenue which financed 32.2 per cent of the total expenditure in the 'eighties has shown only a marginal rise to 34.5 per cent in the 'nineties. The internal resource mobilisation by the States was further constrained as the State Public Sector Undertakings, *viz.,* the Electricity Boards and the State Transport Undertakings have been running into losses putting further pressure on the States' resources. With increasingly large responsibilities for carrying out social and economic development obligations, the resulting fiscal gap is financed by vertical resource transfers, from the Centre and borrowings. However, the resource flow from the Centre has shown some deceleration, particularly capital transfers in the form of loans and advances to the States, following the strengthening of the fiscal reform programme by the Centre. There is also a cap on the size of the market borrowings of the States. Thus, while the internal resources of the States have not shown adequate buoyancy, the falling trend in the resource transfers from the Central Government have also weakened the finances of the State Governments. The severe mis-match in the budgetary operations of the States primarily emanates in the form of structural imbalance in the revenue account which eventually seeps into debt accumulation. The debt-GDP ratio of the States has shown steady rise from 17.6 per cent in 1980-81 to 19.4 per cent in 1998-99. It is further expected to be 20.5 per cent in 1999-2000.

As a part of the structural adjustment process, the Central Government has undertaken the fiscal consolidation exercise with expenditure management and control as an integral element. The process of adjustment which has already been initiated seems to have affected the system of federal-fiscal transfers. Thus, the States which are largely dependent on federal transfers seem to be undergoing the burden of adjustment to some extent. This is reflected in the growth of Central transfers to the States decelerating from 15.2 per cent in the 'eighties to 14.5 per cent in the 'nineties. The deceleration in transfers emerged, despite an increase in the proportion of tax transfers recommended by various Finance Commissions. This is reflective of the low level of buoyancy in both income tax and Union excise duties, the two components of shareable taxes with States. Keeping this in view, the Tenth Finance Commission had recommended an alternative approach to devolution, wherein 29 per cent of the total divisible pool of the Central taxes was to be transferred to States, so as to provide the State Governments with more resources.

The budgetary outcome of State Governments during 1998-99 was only a reflection of the inherent structural weakness of State finances. The revised position indicates a sharp overshooting of the major deficit indicators *vis-à-vis* the budgeted levels. The overall borrowing requirements (GFD) exceeded the budgeted levels by 25.9 per cent to Rs.75,256 crore and the revenue deficit by 53.1 per cent to Rs.40,491 crore. In terms of GDP, these key parameters *viz.,* the GFD and the revenue deficit have recorded highs of 4.3 per cent and 2.3 per cent, respectively (Graph FIS.4 and Appendix Table FIS.4). The primary deficit reflecting the sustainability of current policies recorded a sharp increase of 64.0 per cent to Rs.38,335 crore, in the revised estimates, over the budgeted level of Rs.23,378 crore, underscoring the need for further strengthening fiscal consolidation. During 1998-99, the revenue receipts of States registered a decline of 6.9 per cent over the budgeted levels (Appendix Table FIS-5). This represents a further slowdown from the 'eighties when revenue receipts grew at an average of

Graph FIS.4: Major Deficit Indicators - States



15.3 per cent, but decelerated to 14.6 per cent in the 'nineties. The States' tax receipts in 1998-99 fell by 6.8 per cent, while the non-tax receipts declined by 2.3 per cent over the budgeted levels, owing partly to the general sluggishness in the economy. The Central transfers to States during 1998-99 were placed at Rs.1,12,893 crore, marginally higher by 1.6 per cent than the budgeted levels while the net transfers at Rs.82,738 crore had recorded a marginal decline of 0.5 per cent over the budget estimates. Apart from the inbuilt resource gap, the sharp deterioration in the finances of State Governments during 1998-99 was also due to the additional expenditure burden arising out of the implementation of the revised pay scales of the State Government employees during 1997-98 with a spillover effect in the subsequent year. Additional expenditure commitment on account of pay revision was to the extent of 1.1 per cent of the GDP. The gross expenditure of States during 1998-99 was at Rs.2,79,321 crore, recording a growth of 22.4 per cent over the previous year – much higher than the average decadal growth for the 'eighties and 'nineties at 15.7 and 15.1 per cent, respectively. Apart from a sharp increase in expenditure in the wake of developments as outlined above, the fiscal situation in the 'nineties was also characterised by a sharp qualitative deterioration in expenditure composition in terms of a shift towards the non-developmental component. Developmental expenditure which constituted 70.7 per cent of the total expenditure during the 'eighties, fell to 65.4 per cent during the 'nineties and was at 62.7 per cent during 1998-99.

Sustainability of Domestic Debt

The above analysis indicates that the budgetary operations of the Governments entail an unusually high proportion of the structural deficit component. This implies that there is a structural rigidity in the downward adjustment in the combined domestic debt of the Government sector to GDP ratio. The persistence of debt / GDP ratio at higher levels (54.8 per cent at end-March 1999 and estimated at 57.0 per cent at end- March 2000) demonstrates this point. While the domestic debt of the Central Government declined in the 'nineties, the combined debt of State governments exhibited downward rigidity during this period, raising concerns like the sustainability of debt in the wake of declining public investment, crowding out of private savings for current consumption of the Government and high real interest rates. However, a clear appreciation of the issue of debt dynamics in the Indian context requires an understanding of the structural changes in the composition of debt, the changing fiscal structure, and the magnitude and dimension of the market borrowing programme.

(a) Structural changes in the composition of Government Debt

The dynamics of accumulation of domestic debt of the government sector shows that debt/GDP ratio rose from 43.6 per cent in the first half of the 'eighties to 56.5 per cent in the second half of the 'eighties. Although debt/GDP ratio witnessed some decline during the early period of reforms, the trend has reversed since 1997-98, essentially on account of rising revenue deficits reflecting the changing fiscal structure and its impact on fiscal sustainability. While the revenue deficits of State Governments did not contribute to accumulation of debt till the late 'eighties, the rising revenue deficit witnessed since the early 'nineties contributed to a continuously rising level of the debt/GDP ratio. Further this ratio started displaying downward inflexibility in the wake of heavy debt servicing burden. The combined revenue deficit of the Government sector at 5.7 per cent of GDP in 1998-99, therefore, emerges as a major challenge to the debt reduction process and towards achieving fiscal sustainability. A decomposition of the combined Government debt shows that while the fiscal consolidation measures brought about some reduction in Central Government debt from 52.9 per cent at end-March 1991 to 46.6 per cent of GDP at end-March 1999, the combined State Government debt witnessed strong downward rigidity owing to persistence of rising levels of structurally induced deficits; a decline from 20.6 per cent to 19.4 per cent of GDP during the same period (1991-99).

The Government borrowing was accommodated mainly through issues of Government securities during the 'eighties with the market loans contributing to 31.0 per cent of the total outstanding domestic debt of the Government during this period. With the emergence of an active government securities market during the 'nineties and larger recourse

to market, the outstanding market loans contributed 35.4 per cent of domestic debt as at end-March 1999. However, as the interest rates on government securities were somewhat aligned to the market during the latter half of the 'eighties, the borrowings from the market were mobilised at higher interest rates. The weighted average interest rates on Central Government securities rose from 7.03 per cent in 1980-81 to 11.49 per cent in 1989-90 and to 11.86 per cent in 1998-99. The interest rate on State Government loans also rose from 6.75 per cent to 11.50 per cent and 12.35 per cent, respectively, during the same period. Thus, raising borrowings at market related interest rates also added to the debt accumulation process during the last decade. The other important constituent of the domestic debt of the Government sector is the public accounts liabilities, consisting mainly of small savings and provident funds. Over the period, the average share of public account-liabilities in combined Government domestic debt increased from 36.9 per cent in the first half of the 'eighties to 42.8 per cent in the latter half and further to 44.9 per cent during the 'nineties (1991-99). The average implicit interest rates on such liabilities which stood at 7.22 per cent in 1980-81 moved to 10.81 per cent in 1990-91 and further to 12.15 per cent in 1997-98. This source of fund mobilisation involves additional fiscal burden, over and above the interest cost, as investors are allowed tax rebate on such investments. The dynamics of interest cost for borrowings reveals not only the gradual alignment to market related rates but also a convergence of interest rates on market borrowing and other sources (mainly small savings, deposits, etc.) adding to the debt accumulation process. Thus, the concerns on sustainability of public debt in India essentially arise from the high stock of domestic debt, its changing composition from low cost to high cost constituents, and interest rates on such borrowings.

Maturity Structure and Rollover Problems

The growing volume of domestic debt casts uncertainties in the financial markets and gives rise to expectations about high real interest rates. A high overhang of domestic debt reduces the manoeuverability of the debt management authorities in ensuring an interest rate structure that would be most appropriate for promoting growth with financial stability. Since the higher stock of debt constrains the leverage in lowering interest rates on long-term bonds, bonds are placed at the shorter end of the market with the underlying objective of smoothening the inter-temporal maturity pattern of debt. As a result, the share of dated securities of short-term maturity (*i.e.* under 5 years) as a proportion of total outstanding dated securities witnessed a sharp increase from 8.6 per cent in 1991 to 41.0 per cent in 1998 while the share of long-term loans (i.e. above 10-years) declined from 85.8 per cent to 18.2 per cent during the same period (Table FIS.D). The inevitable consequence of such a policy move was the sharp bunching of securities for redemption and the frequent roll-over of short-term issues which together posed problems for the central bank in the management of liquidity. This is evident from the fact that the schedule of market loans issued up to end-March 1999 and due for redemption during the next five years would be in the range of Rs. 28,159 crore to Rs. 31,252 crore. Recognising the dimension of the problem on hand, the policy stance of the Government (towards the debt management operations during the fiscal years 1997-98 and 1998-99) has been focussed towards balancing the objectives of interest cost minimisation and controlling roll-over problems.

Table FIS.D: Maturity Structure of Central Government Outstanding Dated Securities

(Per cent)

End of March	Below 5 years	5 to 10 Years	Over 10 Years
1981	11.9	16.5	70.0
1986	10.2	15.5	73.6
1991	8.6	5.6	85.8
1992	7.4	16.8	75.8
1993	8.1	14.2	77.8
1994	21.4	22.3	56.3
1995	25.3	27.4	47.3
1996	38.4	30.3	31.3
1997	45.2	29.0	25.8
1998	41.0	40.8	18.2

Narrow Base of the Government Debt Market

In the Indian context, accumulation of Government domestic debt has been contributed by growing draft of resources from the market. This is reflected in the fact that the outstanding stock of market loans increased from 13.6 per cent at end-March 1981, to 16.5

per cent at end-March 1990 and to a level of 19.4 per cent of GDP at end-March 1999. The primary market in government debt continues to be dominated by commercial banks and insurance companies, which have since long been the captive investors in government securities market (Table FIS.E). Although the statutory liquidity ratio of banks has been lowered from 38.5 per cent of Net Demand and Time Liabilities (NDTL) in 1990 to 25 per cent in 1997, the investments in Government securities turned out to be attractive. The distinctive features like the offer of market related interest rates (since 1992-93), the zero risk nature of such investments and the depressed conditions in the credit market have contributed immensely to the investors preference for Government securities. As a result, banks' investment in government securities exceeded their stipulated statutory requirements. This has a two-fold implication for the Government budget. First, the large magnitude of borrowing puts pressure on the absorptive capacity of the market, particularly when the commercial banks are holding excess government securities. Therefore, their choice regarding further subscription to government paper obviously depends upon the attractiveness of return on other competing assets, particularly on loans and advances. When the industrial outlook improves, this issue would assume paramount importance. Secondly, the concentration of the debt market in a few large investors introduces an element of rigidity in the downward adjustment of interest rate on government securities, particularly in the event of fulfilling the targeted market borrowing programme of the Government.

Table FIS.E: Ownership Pattern of Investment in Central and State Government Dated Securities

(Percentage to outstanding Government dated securities)

End of March	RBI	Commercial Banks	LIC	Others
1981	20.6	45.6	12.0	21.8
1986	25.2	48.1	10.6	16.1
1991	20.3	59.4	12.3	8.0
1992	17.9	63.7	13.3	5.1
1993	8.2	66.4	14.7	10.7
1994	2.4	72.5	15.8	9.3
1995	2.0	69.6	16.2	12.2
1996	7.3	64.9	16.8	11.0
1997	2.8	63.0	18.7	15.5
1998	10.7	..	18.0	..

.. Not Available.

Besides the explicit debt and liabilities as outlined above, there has been a phenomenal growth in implicit (contingent) liabilities in the form of guarantees extended by the Governments during the 'nineties. Guarantees have emerged as an alternative fiscal instrument of the Government to meet the investment requirements by the state level bodies. However, a persistent growth of this liability, if unchecked, would turn out to be an important source of fiscal distortion having significant implications for the sustainability of the current fiscal stance of the Government as well as the stability of the financial system. The outstanding guarantee obligations given by the Central and State Governments together account for above 9 per cent of GDP (Table FIS.F). Apart from the magnitude of the contingent liabilities, an important dimension which has an impact on the sustainability of fiscal operations of the Government, is the quality of guarantees extended alongwith the element of risk embedded in such guarantees (in the wake of poor risk assessment of guaranteed loans). Since most of the guarantees are given to financial institutions, it often discourages comprehensive risk assessment of credit by such institutions thus, posing a moral hazard problem.

Table FIS.F : Outstanding Government Guarantees (as at end-March)

(Rs. crore)

Year	Centre	States*	Total
1	2	3	4
1992	50,575 (8.2)	40,159 (6.5)	90,734 (14.7)
1993	58,088 (8.2)	42,515 (6.0)	100,603 (14.3)
1994	62,834 (7.2)	48,866 (5.6)	111,700 (12.7)
1995	62,468 (6.0)	48,479 (4.7)	110,947 (10.7)
1996	65,573 (5.4)	52,631 (4.3)	118,204 (9.7)
1997	69,748 (4.9)	63,409 (4.5)	133,157 (9.4)
1998	73,877 (4.7)	73,751 (4.7)	147,628 (9.4)

* Pertains to 17 major States

Note: Figures in brackets are ratio to GDP at current market prices (Base: 1993-94).

Source: Finance Accounts, Government of India, CAG Reports and Budget Documents of State Governments.

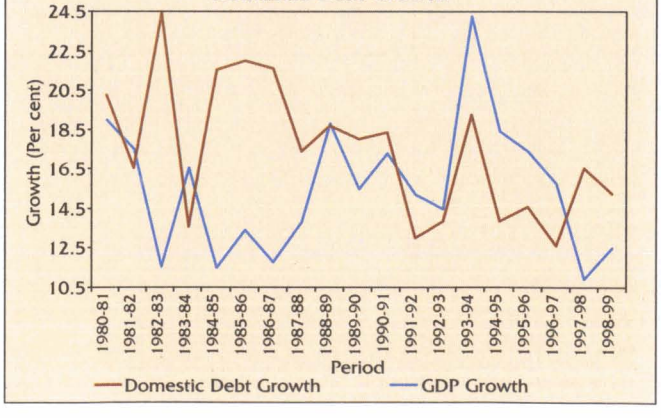
(b) Sustainability of Government Domestic Debt in India

The basic notion of sustainability of government deficits and debt centres around the issue as to whether the present set of fiscal policies could be pursued in the medium to long-term period so as to bring public debt on a long-run equilibrium path. The sustainability condition under an *'accounting approach'* suggests that the real output growth should exceed the real interest rate for ensuring the stability of the debt/GDP ratio. If the real output growth exceeds real interest rate, even a persistent rise in the debt/GDP ratio may not have adverse implications from the point of view of fiscal sustainability. For given levels of primary deficit and *seigniorage*, the larger the gap between the real interest rate and the real growth (with real interest rate higher than the real growth), the higher will be the growth in debt/GDP ratio. However, the debt/GDP ratio alone may not serve as an appropriate indicator of fiscal sustainability. If the interest rate exceeds the growth rate, even with the existence of a primary account balance, the interest burden on the existing debt would be translated into perpetual growth in debt/GDP ratio. In such a scenario, adequate primary surpluses are required to be generated so as to offset the gap between the interest rate and the growth rate in order to stabilise the debt/GDP ratio. In other words, mere stabilization of debt/GDP ratio is not a sufficient condition for fiscal stability if the level at which the ratio to be stabilised is already high. It implies that to stabilise debt/GDP ratio, adequate primary surpluses should be generated, unless revenues from *seigniorage* happen to be significantly higher. The sustainability condition should also be examined from the point of view of inter-temporal budget constraint or the *'present value constraint approach'* - an alternative test to establish fiscal sustainability. The inter-temporal budget constraint test brings to the fore that it is the behaviour of the lenders to the Government that ultimately determines the sustainability of fiscal policy. Viewed from this angle, the size of Government market borrowing and the interest rate structure would turn out to be principal fiscal variables in the pursuit of debt/GDP stability.

The sustainability condition further suggests that the mounting debt burden cannot be serviced indefinitely by creating new debt. In other words, it is imperative that there is a shift of Government policy stance from a *Ponzi Scheme* type of financing debt. In the case of developing countries, it has been the experience that the rate of growth of nominal debt stock remains very high in relation to the nominal rate of growth of the economy. Thus, the relationship between nominal growth in output and debt stock provides a broad measure of the sustainability of the debt accumulation process. In the Indian context, the nominal growth in the combined domestic liabilities of the Government sector assumed explosive proportions during the decade of the 'eighties, mainly led by a relatively higher growth in the domestic debt of the Central Government. The pressure on sustainability of the fiscal position was distinctly evident from the fact that while the nominal growth in domestic debt was high at 19.4 per cent, the growth in nominal GDP remained much lower at 14.9 per cent. While the debt accumulation slowed down during the period of fiscal consolidation, the prevailing level of debt growth of 15.2 per cent, still exceeds the nominal GDP growth rate of 12.5 per cent. Thus, the Indian economy witnessed the phenomenon of *crossover of debt growth* over the GDP growth during the entire 'eighties as well as in the later part of the 'nineties (Graph FIS.5).

The sustainability of Government debt in the Indian context, therefore, needs to be assessed in the perspective of debt servicing burden on the budgets and the quality of government expenditure. In the 'eighties, interest rates were mainly administered and

Graph FIS.5: Crossover of Nominal Growth Rate and Domestic Debt Growth



'repressionary' financing was adopted for financing Government outlay. Therefore, interest rates did not fully reflect the pressure of Government debt on financial markets and on the interest rate structure. On the contrary, the relative magnitude of primary account balance offered a better measure of assessing fiscal stability. The fiscal structure remained unsustainable during the 'eighties, despite the fact that the stability condition was satisfied for most of the years of the 'eighties in an accounting sense (Table FIS.G). In other words, the relatively high primary deficits of 4.1 per cent and 4.8 per cent during the first and second half of the 'eighties, respectively, led to secular growth in the debt/GDP ratio during the decade of 'eighties, notwithstanding the fact that the output growth rate stayed above the real interest rates. The combined domestic debt/GDP ratio rose from 45.8 per cent to 57.0 per cent during the same period. In the 'nineties, though the growth in debt/GDP ratio has been arrested to some extent, the debt servicing burden, however, has escalated to unreasonably high levels. While presently the interest payments pre-empt 49 per cent of the revenue receipts of the Central Government, such pre-emption in the case of the State Governments amounts to about 20 per cent. The higher level of interest payments crowd out capital expenditure with (adverse) implications for output growth. In other words, the present level of the Government sector debt is not consistent with the medium-term sustainability of fiscal policies.

Table FIS.G: Indicators of Fiscal Sustainability of the Central Government

(Per cent)

Year	PD/GDP	Debt/GDP	r_D	r_{ML}	r_{SPF}	y
1	2	3	4	5	6	7
1981-85 (average)	4.05	45.8	-3.17	-0.89	-0.95	5.7
1986-90 (average)	4.83	56.9	0.97	4.66	3.36	6.0
1990-91	4.32	58.7	-1.65	1.11	0.51	5.4
1991-92	1.58	57.5	-4.61	-1.92	-2.42	0.8
1992-93	1.29	56.9	-0.72	2.36	0.96	5.3
1993-94	2.68	54.5	1.42	4.33	4.08	6.2
1994-95	1.31	51.9	-1.08	1.11	1.87	7.8
1995-96	0.84	49.8	2.02	5.95	3.92	7.6
1996-97	0.51	47.9	3.99	7.29	6.30	7.8
1997-98	1.49	49.8	5.32	7.12	7.26	5.0
1998-99	1.51	49.8	3.47	4.97	..	6.0

PD = Primary Deficit, r_D = Implicit real interest rate on aggregate debt, r_{ML} = Weighted real interest rate on marketable debt, r_{SPF} = Implicit real Interest rate on small savings and provident funds, y = real GDP growth rate

Fiscal Stance of 1999-2000 Budgets

Fiscal Consolidation

The serious fiscal slippage in 1998-99 necessitated the Government to take adequate policy measures for the restoration of fiscal sustainability and macro-economic stability. Therefore, both the Central and State Governments have accorded high priority for fiscal reform and consolidation. Accordingly, the combined GFD of the Government sector during 1999-2000 is budgeted to reduce from the level of 8.5 per cent of the GDP in the revised estimates for 1998-99 to 7.5 per cent of GDP. This improvement would be brought about by strengthening the resource mobilisation efforts as well as through better expenditure management. In line with this objective, it is envisaged to bring down the Centre's GFD by 1.9 percentage point and the States' GFD by 0.4 percentage point. The process of correction aims at pruning the revenue gap. Accordingly, the combined revenue deficit is budgeted to be brought down by 1.0 percentage point to 4.7 per cent of GDP in 1999-2000. The fiscal correction initiatives during 1999-2000 would also reduce the combined primary deficit to 2.1 per cent of GDP from 3.2 per cent in 1998-99 through moderation in primary expenditures and additional resource mobilisation measures.

The main thrust of the Central Government budget for the year 1999-2000 is towards evolving a medium-term strategy which ultimately aims at a complete elimination of revenue deficit and gradual reduction of fiscal deficit to below 2.0 per cent of the GDP in a four year time span. Keeping these medium-term objectives in view, the 1999-2000 budget has placed the fiscal deficit target at 4.0 per cent of the GDP as against 5.9 per cent in 1998-99 and 5.6 per cent, on an average, during 1991-92 to 1997-98. The revenue deficit is estimated to decline to 2.7 per cent of the GDP in 1999-2000 as compared with that of 3.4 per cent in 1998-99. The primary balance is projected at a surplus of 0.4 per cent of GDP during 1999-2000 as against a primary deficit of 1.5 per cent of GDP during 1998-99 (Graph FIS.2 and Appendix Table FIS.1). The moderation in Centre's GFD will impact positively particularly in the wake of the reduced size of the Centre's

market borrowing. For the current fiscal year 1999-2000, the gross market borrowing programme of the Central Government is placed at Rs.84,014 crore which is lower by 10.6 per cent than that of Rs.93,953 crore during 1998-99. The net market borrowings at Rs. 57,461 crore during 1999-2000 would be lower by 8.7 per cent over its corresponding level in the preceding year (Appendix Table FIS.7).

The areas identified for strengthening the process of fiscal consolidation are expenditure management, tax reforms and restructuring of the public sector. Expenditure management consists of promoting transparency, downsizing the government and curbing the growth of contingent liabilities. The Government has proposed to constitute an *Expenditure Reforms Commission*, which would identify areas for curtailing expenditure. Also, with a view to promoting fiscal transparency and curbing the growth of Government contingent liabilities, a *Guarantee Redemption Fund* has been proposed in the Budget with an initial corpus of Rs.50 crore. The strategy towards public sector reforms would continue to be a judicious mix of strengthening strategic units and privatising non-strategic ones through disinvestment or strategic sales and rehabilitation of weak units. A new accounting framework has been effected in respect of small savings and its sharing between the Centre and the States (Box FIS.2). The change in accounting of small savings would help to reduce the Centre's GFD by 1.2 percentage point during 1999-2000. On the resource mobilisation front, the fiscal consolidation process would largely focus on enlarging revenue mobilisation from taxes and non-debt capital receipts through disinvestment. The budget has introduced measures aimed at rationalisation and reforms of indirect taxes, keeping in view the medium-term strategy of moving towards a single rate and a full-fledged Value Added Tax (VAT) system and phasing down custom duty rates to Asian levels in 5 years. At the same time, measures have been introduced to use taxation as an instrument to promote investment in the critical areas of housing, capital market and infrastructure.

At the State Governments level, fiscal stabilisation is sought to be achieved through fresh additional resource mobilisation measures and expenditure moderation both on the revenue accounts and capital disbursements. It is expected that with the budgeting of higher receipts, the resource position of States would improve. The consolidated revenue receipt of the States are anticipated to record a growth of 16.4 per cent over the revised estimates higher than the decadal growth recorded in both the 'eighties and the 'nineties. The new taxation measures are expected to yield additional resources to the tune of Rs.5,413 crore. Simultaneously, moderation in expenditure is envisaged both in the revenue and capital components. The overall expenditure growth is budgeted to decelerate from 22.4 per cent for 1998-99 to 11.4 per cent during 1999-2000. These measures would result in an improvement in the major deficit indicators of the State Governments. The revenue deficit as a percentage to GDP for 1999-2000 is budgeted to be marginally lower at 2.0 per cent as compared with 2.3 per cent in 1998-99. The fiscal deficit too, as a percentage to GDP, is budgeted at 3.9 per cent as compared with 4.3 per cent in 1998-99. The primary deficit is budgeted to decline to 1.7 per cent of GDP, a decline of 14.1 per cent over the previous year (Apppendix Table FIS.4 and Graph FIS.3). As a part of the reform process, some of the States have also proposed policy initiatives towards attracting private investments in the infrastructure sectors. Besides, some of the States have already signed Memoranda of Understanding (MoU) with the Government of India to undertake State-level fiscal reforms. Concomitantly, the Government of India has agreed to extend financial assistance to these States to alleviate their temporary financial

Box FIS.2: New Accounting Framework

With effect from April 1,1999, a new system of transferring 75 per cent of the net small savings collections to States and UTs from Public Account was introduced. Under the new system, the small savings collection would be credited to "National Small Savings Fund" (NSSF) in the Public Account. All withdrawals of small savings by the depositors would be made out of the accumulation in the Fund. The balance in the Fund will be invested in Central and State Government securities. The debt servicing of these Government securities will be an income of the Fund while the cost of the interest and cost of management of small savings will be an expenditure of the Fund. For 1999-2000, the investment in Central and State Government securities is budgeted at Rs. 8,000 crore and Rs.25,000 crore, respectively. The investment in Central Government securities would form a part of Centre's internal debt.

difficulties. These reform measures aim at focusing on expenditure restructuring, identification of non-merit subsidies and measures to increase user charges.

Assessment

The Central budget for 1999-2000 accorded top priority for the restoration of fiscal consolidation through reduction in revenue deficit and gross fiscal deficit. The Government has proposed measures for additional revenue mobilisation and substantial moderation in expenditures towards the attainment of the fiscal deficit target during 1999-2000. Nevertheless, the attainment of the GFD target during 1999-2000 as well as the medium-term objective would largely depend upon the elimination of the structural weakness in Central finances both on the revenue and expenditure fronts. This would presuppose major restructuring in the expenditures as well as further strengthening of the tax reforms.

The progress of the fiscal consolidation both at Centre and State Governments levels hinges on corrections in the structure of public expenditure and its management, as the large size of Government sector provides inflexibility to macroeconomic management. While the Government sector expenditure has declined from 32.2 per cent of GDP in the latter half of the 'eighties to 26.7 per cent in the 'nineties (1991-99), the expenditure reduction has been effected mainly through the cutbacks in capital expenditures. It is observed from cross country experiences that in the periods of restrictive fiscal policies and fiscal consolidation, the burden of adjustment (in terms of drastic cuts in expenditure) in the first instance falls on the capital expenditures given the fact that these are the least rigid components of expenditures. However, if the cutbacks in public expenditures, especially those directed towards basic infrastructure are not adequately compensated by private investments, such cuts may obviously result in output losses. This would necessitate reorienting the role of the state and a realignment of priorities (according to expenditure programmes) in line with the growth objectives. The two major areas of expenditure corrections that merit attention in this regard are the Government current consumption expenditure on wages and salaries, and interest payment obligations. These two components together pre-empt more than half of revenue receipts of the Government. Accordingly, as a strategic policy stance, the Government should withdraw from those sectors where it lacks core competency. In other words, the disinvestment strategy needs to be followed vigorously to achieve higher levels of efficiency and productivity in the economy. Pursuance of this goal against the backdrop of a medium-term strategy would eventually result in minimising the role of the state to activities like defence and infrastructure.

Another area of special attention is the social sector development, the prime mover of economic growth and development. It is evident that the social sector expenditure of the Government has remained stagnant between 7 and 8 per cent of GDP during the latter half of the 'eighties and in the 'nineties, while the aggregate Government expenditure has remained steady at an average of 29 per cent of GDP during the same period. However, a low level of expenditure on social sector would have adverse implications for the growth of the economy by slowing down the process of infrastructure build up. Ideally, infrastructure build up should go hand in hand with the envisaged potential growth of the economy. This situation is a cause for concern especially at the State level, since the latter considerably lag behind in this area though they are assigned the basic responsibility of providing social infrastructure under the existing federal-fiscal arrangement. The aggregate expenditure on social sector by the State Governments has declined from 6.6 per cent of GDP in the latter half of the 'eighties to 5.8 per cent in the 'nineties. This trend needs to be reversed forthwith lest the adverse implications of the present structure of public expenditure with a built-in bias towards diversion of capital receipts towards non-developmental expenditure impinges adversely on the growth process. Simultaneously, with the envisaged social sector growth, adequate protection needs to be provided to the weaker segments of the population by means of suitable safety nets to make the reforms sustainable.

In view of the criticality of tax reform policy in the success of fiscal reforms, it would be important to hasten the process of

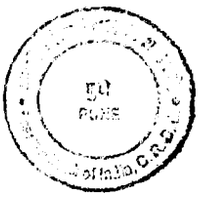
implementation of the unfinished agenda in this regard. As the experience of developing countries suggests, the tax system generally does not result in adequate revenue realisation in the initial stages of tax reforms. The theoretical literature suggests that at least in the short-term, the goal of improving the efficiency of the tax system should usually be separated from the goal of fiscal revenue. In the Indian context, the 'nineties witnessed a steady fall in revenue buoyancy. The aggregate tax revenue of the Government has declined from 16.8 per cent of GDP in the latter half of the 'eighties to 14.7 per cent in the 'nineties. While this decline has been to some extent contributed by the reduction in tax rates and the changing structure of the economy, lack of an effective tax administration has also been an important factor leading to a steady decline in tax/GDP ratio.

The major administrative limitation in respect of Union excise duties and custom duties relates to pricing of commodities, valuation of excisable commodities and innumerable provisions of exemption which have a large bearing on the revenue potential of the government. Further, a major problem confronted in the implementation of a comprehensive VAT system in the present context, is the existence of a large segment of unorganised sector in the economy. Unless the transactions in this sector (relating to both manufacturing and trading) are properly recorded, the operation of VAT would be rendered difficult and would hamper the realisation of the full potentiality of a VAT system. At the State level, the abolition of inter-State sales tax, local taxes like *octroi* are the most contentious issues in the implementation of a full-fledged VAT system. The successful implementation of VAT at the State level would also require proper accounting system and the rationalisation of the existing multiplicity of rate structure. The beneficial effects of tax simplification and major reductions effected in the tax rates during the first phase of reform process would largely depend upon the efficacy of base-broadening. There is, therefore, an imperative need to widen the tax base by bringing in the services sector under the tax net alongside exploring the feasibility of bringing in the agricultural sector in order to align the tax structure with the changing structural (sectoral) composition of income. This would enable the (equitable) exploitation of the revenue potential of the growing economy in line with its developmental requirements.

The issues in the federal structure basically relate to the changing structure of federal-fiscal resource flows (from the Centre to the States) during the process of fiscal consolidation and its impact on the financial position of the State Governments and other public entities *vis-à-vis* that of the Central Government. The gross resource transfer from the Centre to the States, on an average, contributed 43.5 per cent of the States' gross expenditure during the 'eighties which has subsequently declined to 41.5 per cent in the 'nineties. This is an inevitable outcome of the fiscal adjustment process carried forward by the Centre. At the same time, the expenditure obligations of the States are disproportionately high as State Governments incur more than three-fourths of the aggregate expenditure on social services and more than half of the aggregate expenditure on economic services. The reduced scale of resource transfers thus led to pruning of such expenditures in the State budgets. Another outcome of the present federal-fiscal structure is that State Governments predominantly depend on the Centre for their borrowed funds to meet a major portion of their expenditure requirements. As such, the structure of States liabilities exhibit a huge portion of non-marketable debt (arising from loans from the Central Government), which gets automatically refunded with adjustment against the fresh borrowings. Since the element of market risk is borne by the Central Government, the huge outstanding debt due for repayment to the Central Government often results in extension of maturity structure and the write-off of loans. Further, in the context of declining resource flow to States and the growing demand for basic infrastructure services at the State level, the States have in the recent past taken recourse to providing larger amount of guarantees to overcome the decline in investment expenditure in their budgetary accounts. It may be noted that many projects were found to be suffering from cost and time over-runs. In view of these problems, it is essential that these guarantees should be extended by the State Governments only after undertaking a proper risk assessment

exercise in coordination with the banking system. Else, they could prove to be a potential source of fiscal burden to the State Governments in the years ahead.

The major concerns towards achieving a sustainable debt/GDP level stem from the persistence of significant primary and revenue deficits of the Government sector over the years. The distortions created by the present fiscal structure would lead to an unsustainable accumulation of the Government debt. Another factor contributing to the pressure on the fiscal front is that growth in the nominal GDP is estimated to be lower than the growth in combined domestic debt of the Government. This adverse trend in the debt growth, apart from crowding out private investment, may exert pressure on the interest rates. The latter outcome may further exacerbate the situation by adversely affecting the investment climate. This would not be consistent with the need to open up the economy further and to effect integration of the money, forex and capital markets. The reduction in the combined Government debt to a sustainable level in the medium time frame, therefore, gains immense relevance in this context.



APPENDIX TABLE FIS.1 : KEY FISCAL INDICATORS OF GOVERNMENT OF INDIA

(Rupees crore)

Items	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99 (Budget Estimates)	1998-99 (Revised Estimates)	1999-2000 (Budget Estimates)	Average (1980-81 to 1989-90)	Average (1991-92 to 1997-98)
1	2	3	4	5	6	7	8	9	10	11	12	13
1 Gross Fiscal Deficit	36,325	40,173	60,257	57,704	60,243	66,733	88,937	91,025	103,737	79,955		
	(5.9)	(5.7)	(6.9)	(5.6)	(4.9)	(4.7)	(5.7)	(5.1)	(5.9)	(4.0)	(7.3)	(5.6)
2 Revenue Deficit	16,261	18,574	32,716	31,029	29,731	32,654	46,449	48,068	60,474	54,147		
	(2.6)	(2.6)	(3.7)	(3.0)	(2.4)	(2.3)	(3.0)	(2.7)	(3.4)	(2.7)	(1.9)	(2.8)
3 Monetised Deficit #	5,508	4,257	260	2,130	19,855	1,934	12,914	..	11,800	..		
	(0.9)	(0.6)	(0.0)	(0.2)	(1.6)	(0.1)	(0.8)		(0.7)		(2.3)	(0.6)
4 Gross Primary Deficit	9,729	9,098	23,516	13,643	10,198	7,255	23,300	16,025	26,489	-8,045		
	(1.6)	(1.3)	(2.7)	(1.3)	(0.8)	(0.5)	(1.5)	(0.9)	(1.5)	(-0.4)	(4.5)	(1.4)
5 Revenue Receipts	66,031	74,128	75,453	91,083	110,130	126,279	133,901	161,994	157,665	182,840		
	(10.7)	(10.5)	(8.6)	(8.8)	(9.0)	(9.0)	(8.6)	(9.1)	(9.0)	(9.1)	(10.3)	(9.3)
6 Direct Taxes (Net to Centre)	10,103	12,075	12,522	18,409	22,287	25,374	27,172	34,909	35,356	42,248		
As per cent of total tax revenue	20.2	22.3	23.4	27.3	27.2	27.1	28.4	29.9	32.3	31.9		
	(1.6)	(1.7)	(1.4)	(1.8)	(1.8)	(1.8)	(1.7)	(2.0)	(2.0)	(2.1)	(1.5)	(1.7)
7 Indirect Taxes (Net to Centre)	39,966	41,969	40,927	49,045	59,652	68,327	68,500	81,948	74,181	90,117		
As per cent of total tax revenue	79.8	77.7	76.6	72.7	72.8	72.9	71.6	70.1	67.7	68.1		
	(6.5)	(5.9)	(4.7)	(4.7)	(4.9)	(4.8)	(4.4)	(4.6)	(4.2)	(4.5)	(7.3)	(5.1)
8 Non-tax Receipts	15,962	20,084	22,004	23,629	28,191	32,578	38,229	45,137	48,128	50,475		
	(2.6)	(2.8)	(2.5)	(2.3)	(2.3)	(2.3)	(2.4)	(2.5)	(2.7)	(2.5)	(2.5)	(2.5)
of which :												
Interest Receipts	10,933	12,487	15,078	15,797	18,419	22,106	25,323	27,954	30,544	33,034		
	(1.8)	(1.8)	(1.7)	(1.5)	(1.5)	(1.6)	(1.6)	(1.6)	(1.7)	(1.7)	(1.6)	(1.6)
9 Capital Receipts	38,528	36,178	55,440	68,695	58,338	61,544	98,167	105,933	124,247	101,042		
	(6.2)	(5.1)	(6.3)	(6.6)	(4.8)	(4.4)	(6.3)	(6.0)	(7.1)	(5.1)	(6.7)	(5.7)
10 Total Expenditure	111,414	122,618	141,853	160,739	178,275	201,007	232,068	267,927	281,912	283,882		
	(18.1)	(17.4)	(16.2)	(15.5)	(14.6)	(14.3)	(14.8)	(15.1)	(16.0)	(14.2)	(18.8)	(15.8)
11 Revenue Expenditure	82,292	92,702	108,169	122,112	139,861	158,933	180,350	210,062	218,139	236,987		
	(13.3)	(13.1)	(12.3)	(11.8)	(11.5)	(11.3)	(11.5)	(11.8)	(12.4)	(11.9)	(12.2)	(12.1)
12 Capital Disbursements	29,122	29,916	33,684	38,627	38,414	42,074	51,718	57,865	63,773	46,895		
	(4.7)	(4.2)	(3.8)	(3.7)	(3.2)	(3.0)	(3.3)	(3.3)	(3.6)	(2.3)	(6.6)	(3.7)
13 Capital Outlay	11,399	13,619	13,230	14,891	14,099	14,196	17,526	23,275	19,519	24,400		
	(1.8)	(1.9)	(1.5)	(1.4)	(1.2)	(1.0)	(1.1)	(1.3)	(1.1)	(1.2)	(2.7)	(1.4)
14 Subsidies	12,253	11,995	12,682	12,932	13,372	16,364	19,487	22,025	24,684	23,837		
	(2.0)	(1.7)	(1.4)	(1.2)	(1.1)	(1.2)	(1.2)	(1.2)	(1.4)	(1.2)	(1.7)	(1.4)
of which :												
i) Food	2,850	2,800	5,537	5,100	5,377	6,066	7,900	9,400	9,100	8,560		
	(0.5)	(0.4)	(0.6)	(0.5)	(0.4)	(0.4)	(0.5)	(0.5)	(0.5)	(0.4)	(0.5)	(0.5)
ii) Fertiliser	5,185	5,796	4,562	5,241	6,235	5,906	7,322	6,983	7,598	8,750		
	(0.8)	(0.8)	(0.5)	(0.5)	(0.5)	(0.4)	(0.5)	(0.4)	(0.4)	(0.4)	(0.7)	(0.6)
iii) Exports	1,758	818	665	658	318	397	420	500	575	630		
	(0.3)	(0.1)	(0.1)	(0.1)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.3)	(0.1)
15 Defence Expenditure	16,347	17,582	21,845	23,245	26,856	29,505	35,278	41,200	41,200	45,694		
	(2.7)	(2.5)	(2.5)	(2.2)	(2.2)	(2.1)	(2.3)	(2.3)	(2.3)	(2.3)	(3.1)	(2.3)
16 Interest Payments	26,596	31,075	36,741	44,060	50,045	59,478	65,637	75,000	77,248	88,000		
	(4.3)	(4.4)	(4.2)	(4.2)	(4.1)	(4.2)	(4.2)	(4.2)	(4.4)	(4.4)	(2.8)	(4.2)
17 Wages and Salaries $	11,069	12,624	13,357	14,497	17,036	19,549	26,632	29,742	..	..		
	(1.8)	(1.8)	(1.5)	(1.4)	(1.4)	(1.4)	(1.7)	(1.7)			(2.0)	(1.6)
18 Total Non-plan Expenditure	80,453	85,958	98,191	113,361	131,901	147,473	172,991	195,925	213,541	206,882$$		
	(13.0)	(12.2)	(11.2)	(10.9)	(10.8)	(10.5)	(11.1)	(11.0)	(12.1)	(10.3)	(12.0)	(11.4)
19 Budgetary Support to Public Enterprises @	6,920	6,576	7,451	8,205	6,418	6,834	7,555	8,600	7,576	8,637		
	(1.1)	(0.9)	(0.8)	(0.8)	(0.5)	(0.5)	(0.5)	(0.5)	(0.4)	(0.4)	(2.3)	(0.7)
Memo Items :												
1 Interest Payments as per cent of Revenue Receipts	40.3	41.9	48.7	48.4	45.4	47.1	49.0	46.3	49.0	48.1		
2 Revenue Deficit as per cent of Gross Fiscal Deficit	44.8	46.2	54.3	53.8	49.4	48.9	52.2	52.8	58.3	67.7		
3 Monetised Deficit as per cent of Gross Fiscal Deficit	15.2	10.6	0.4	3.7	33.0	2.9	14.5	0.0	11.4	0.0		

According to Reserve Bank of India Records.

$ According to the Economic and Functional Classification of the Central Government Budget, figures for 1997-98 and 1998-99 relate to revised estimates and budget estimates, respectively.

$$ Reduction in Non-plan expenditure is due to change in the system of accounting of small savings introduced with effect from April 1, 1999.

@ Figures relate to Revised Estimates, for all years except 1998-99 and 1999-2000.

.. Not available.

Note : Figures in brackets are percentage to GDP.

Source : Budget Documents of the Government of India.

APPENDIX TABLE FIS.2 : INTEREST PAYMENTS BY THE CENTRAL GOVERNMENT

(Rupees crore)

Items	1980-81	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98 (Revised Estimates)	1998-99 (Revised Estimates)	1999-2000 (Budget Estimates)
1	2	3	4	5	6	7	8	9	10	11	12
I. Interest Payments on Internal Debt	1,369	9,814	11,317	13,541	15,588	19,168	22,179	27,233	31,459	39,439	45,972
of which :											
i) On Market Loans	808	6,366	7,355	8,147	9,258	13,205	15,400	19,125	22,189	28,072	34,371
ii) On 91/182/ 364 days Treasury Bills	558	3,392	3,789	5,245	6,188	5,520	6,047	7,003	1,982	6,270	6,469
II. Interest on External debt	231	1,834	2,704	3,529	3,724	4,026	4,414	4,223	4,150	4,273	4,184
III. Interest on Small Savings, Provident Funds etc	860	5,537	6,942	7,568	10,288	12,392	13,309	16,855	20,432	21,441	26,189
IV. Interest on Special Deposits of Non-Government Provident Funds etc.	41	3,876	5,141	5,868	6,648	7,921	9,222	10,246	8,615	9,100	10,200
V. Interest on Reserve Funds	49	112	138	159	170	220	253	378	510	483	426
VI. Interest on Other Obligations	54	325	354	410	323	333	668	543	534	2,512	1,029
Total Interest Payments (I to VI)	**2,604**	**21,498**	**26,596**	**31,075**	**36,741**	**44,060**	**50,045**	**59,478**	**65,700**	**77,248**	**88,000**

Source : Finance Accounts of Government of India and Budget Documents of Government of India, 1999-2000.

APPENDIX TABLE FIS.3 : FINANCING OF GROSS FISCAL DEFICIT OF THE CENTRAL GOVERNMENT

(Rupees crore)

Year	Internal Finance				External Finance	Total Finance/ Gross Fiscal Deficit (5+6)
	Market Borrowings #	Other Liabilities @	91-day Treasury Bills $	Total (2+3+4)		
1	2	3	4	5	6	7
1980-81	2,679	1,862	2,477	7,018	1,281	8,299
	(32.3)	(22.4)	(29.9)	(84.6)	(15.4)	(100.0)
1985-86	4,884	10,209	5,315	20,408	1,449	21,857
	(22.4)	(46.7)	(24.3)	(93.4)	(6.6)	(100.0)
1990-91	8,001	22,103	11,347	41,451	3,181	44,632
	(18.0)	(49.5)	(25.4)	(92.9)	(7.1)	(100.0)
1991-92	7,510	16,539	6,855	30,904	5,421	36,325
	(20.7)	(45.5)	(18.9)	(85.1)	(14.9)	(100.0)
1992-93	3,676	18,866	12,312	34,854	5,319	40,173
	(9.2)	(47.0)	(30.6)	(86.8)	(13.2)	(100.0)
1993-94	28,928	15,295	10,960	55,183	5,074	60,257
	(48.0)	(25.4)	(18.2)	(91.6)	(8.4)	(100.0)
1994-95	20,326	32,834	961	54,121	3,582	57,703
	(35.2)	(56.9)	(1.7)	(93.8)	(6.2)	(100.0)
1995-96	33,087	17,031	9,807	59,925	318	60,243
	(54.9)	(28.3)	(16.3)	(99.5)	(0.5)	(100.0)
1996-97	20,012	30,550	13,184	63,746	2,987	66,733
	(30.0)	(45.8)	(19.7)	(95.5)	(4.5)	(100.0)
1997-98	32,499	56,257	-910 +	87,846	1,091	88,937
	(36.5)	(63.3)	-(1.0)	(98.8)	(1.2)	(100.0)
1998-99(RE)	64,911	34,682	3,234 +	102,827	910	103,737
	(62.6)	(33.4)	(3.1)	(99.1)	(0.9)	(100.0)
1999-2000(BE)	57,461	21,649	—	79,110	845	79,955
	(71.9)	(27.1)	—	(99.0)	(1.0)	(100.0)

RE Revised Estimates. BE Budget Estimates.

Includes Zero Coupon Bonds, Loans in conversion of maturing Treasury Bills, 364-day Treasury Bills, etc. since 1993-94.

@ Other liabilities comprise small savings, provident funds, special deposits, reserve funds, etc. With effect from 1999-2000 (BE) Small Savings and Public Provident Funds are represented through Centre's investment in Government securities.

$ Variations in 91-day Treasury Bills issued net of changes in cash balances with RBI.

\+ Drawing down of cash balances.

Note : Figures in brackets represent percentages to total finance (gross fiscal deficit).

Source : Central Government Budget Documents.

APPENDIX TABLE FIS.4 : KEY DEFICIT INDICATORS OF STATE GOVERNMENTS

(Rupees crore)

Year	Gross Fiscal Deficit	Net Fiscal Deficit	Net Primary Deficit	Conven-tional Deficit	Revenue Deficit
1	2	3	4	5	6
1981-85 Average	(2.9)	(1.7)	(1.3)	(0.5)	(-0.4)
1985-90 Average	(3.1)	(2.2)	(1.6)	(-0.1)	(0.3)
1990-91	18,787.0 (3.5)	14,532.1 (2.7)	8,280.8 (1.5)	-71.6 (0.0)	5,309.0 (1.0)
1991-92	18,900.1 (3.1)	15,746.4 (2.6)	10,122.0 (1.6)	155.9 (0.0)	5,650.7 (0.9)
1992-93	20,891.2 (3.0)	15,768.8 (2.2)	6,496.8 (0.9)	-1,829.4 (-0.3)	5,114.1 (0.7)
1993-94	20,596.0 (2.3)	16,262.7 (1.9)	5,187.6 (0.6)	461.7 (0.1)	3,812.5 (0.4)
1994-95	27,696.8 (2.7)	23,507.2 (2.3)	9,458.3 (0.9)	-4,467.8 (-0.4)	6,156.2 (0.6)
1995-96	31,425.8 (2.6)	26,695.4 (2.2)	10,555.7 (0.9)	-2,849.7 (-0.2)	8,200.6 (0.7)
1996-97	37,251.2 (2.6)	33,460.0 (2.4)	16,054.6 (1.1)	7,041.5 (0.5)	16,113.5 (1.1)
1997-98	44,199.9 (2.8)	39,134.9 (2.5)	16,932.1 (1.1)	-2,102.9 (-0.1)	16,332.9 (1.0)
1998-99 (B.E)	59,795.3 (3.4)	50,455.9 (2.8)	20,918.4 (1.2)	3,538.1 (0.2)	26,439.4 (1.5)
1998-99 (R.E)	75,256.0 (4.3)	65,992.7 (3.8)	36,584.6 (2.1)	8,275.5 (0.5)	40,490.7 (2.3)
1999-2000 (B.E)	77,893.6 (3.9)	69,107.0 (3.5)	31,560.3 (1.6)	2,720.6 (0.1)	40,724.2 (2.0)

Note : 1. Figures in brackets indicate percentage to GDP. Percentages to GDP from 1993-94 onwards are at new GDP base of 1993-94 at curent market prices.

2. *Minus* indicates surplus.

Source : Budget Documents of the State Governments.



APPENDIX TABLE FIS.5: OVERALL BUDGETARY POSITION OF STATE GOVERNMENTS

(Rupees crore)

Items	1980-81	1985-86	1990-91	1995-96	1997-98	1998-99 (Budget Estimates)	1998-99 (Revised Estimates)	1999-2000 (Budget Estimates)
1	2	3	4	5	6	7	8	9
I Aggregate Receipts (A+B)	**21,872.6**	**46,557.1**	**91,313.6**	**180,433.5**	**230,237.7**	**271,390.8 (268,421.2)**	**271,045.8**	**308,565.7 (303,152.7)**
A. Revenue Receipts (1+2)	**16,293.3**	**33,424.1**	**66,466.8**	**136,803.4**	**170,300.8**	**203,106.0 (200,136.4)**	**189,118.4**	**220,153.6 (214,740.6)**
1. Tax Receipts (a+b)	**10,405.1**	**21,810.9**	**44,586.3**	**92,912.8**	**121,640.6**	**147,094.5 (144,918.6)**	**134,419.8**	**158,218.1 (153,878.3)**
a. States' Taxes	6,616.2	14,551.0	30,344.8	63,865.2	81,229.4	100,393.1 **(98,217.2)**	93,530.7	112,347.4 **(108,007.6)**
b. Share in Central Taxes	3,788.9	7,259.9	14,241.5	29,047.6	40,411.2	46,701.4	40,889.1	45,870.7
2. Non-Tax Receipts (c+d)	**5,888.2**	**11,613.2**	**21,880.5**	**43,890.6**	**48,660.2**	**56,011.5** (55,217.8)	**54,698.6**	**61,935.5** (60,862.3)
c. Grants from the Centre	2,622.6	6,322.6	12,643.3	20,995.8	24,222.5	28,306.1	30,091.1	33,701.1
d. States' Non-Tax Receipts	3,265.6	5,290.6	9,237.2	22,894.8	24,437.7	27,705.4 (26,911.7)	24,607.5	28,234.4 (27,161.2)
B. Capital Receipts (1+2)	**5,579.3**	**13,133.0**	**24,846.8**	**43,630.1**	**59,936.9**	**68,284.8**	**81,927.4**	**88,412.1**
1. States' Capital Receipts *of which:*	2,557.4	4,764.7	10,872.5	24,030.6	29,165.8	32,214.6	40,014.9	41,523.2
a. Market Borrowings (Gross)	317.5	1,428.3	2,560.5	6,404.2	7,861.5	8,918.5	12,064.6	11,366.9
b. Recovery of Loans and Advances	449.2	808.6	1,500.5	3,500.8	5,491.6	2,161.8	2,937.9	2,444.9
2. Loans from the Centre	3,021.9	8,368.3	13,974.3	19,599.5	30,771.1	36,070.2	41,912.5	46,888.9
II Aggregate Disbursements (A to E)	**22,770.0**	**44,868.8**	**91,242.0**	**177,583.8**	**228,134.8**	**274,928.9**	**279,321.3**	**311,286.3**
A. Developmental Expenditure@ (1 + 2)	**15,961.0**	**31,732.5**	**63,369.9**	**114,819.4**	**145,267.8**	**163,358.6**	**175,246.1**	**187,501.5**
1. Social Services	6,601.0	14,540.2	29,960.1	57,835.4	73,520.0	87,162.5	94,838.7	102,445.6
of which: Expenditure on Natural Calamities	277.3	744.1	876.5	1,927.8	1,976.8	1,412.2	2,162.6	1,459.1
2. Economic Services	9,360.0	17,192.3	33,409.8	56,984.0	71,747.8	76,196.1	80,407.4	85,055.9
B. Non-Developmental Expenditure@	**4,289.0**	**9,617.6**	**22,600.3**	**55,379.9**	**71,767.5**	**98,636.5**	**88,795.6**	**109,422.0**
C. Repayment of Loans to the Centre	**1,458.0**	**2,610.9**	**3,996.7**	**4,798.6**	**7,094.6**	**7,281.7**	**9,260.5**	**8,164.6**
D. Discharge of Internal Debt	**178.0**	**503.2**	**337.1**	**1,055.2**	**1,047.9**	**1,984.0**	**2,245.6**	**2,329.6**
***of which :* Market Loans(Gross)**	**119.0**	**418.0**	**5.0**	**516.5**	**581.4**	**1,284.3**	**1,282.3**	**1,220.6**
E. Others #	**884.0**	**404.6**	**938.0**	**1,530.7**	**2,957.0**	**3,668.1**	**3,773.5**	**3,868.6**
III Overall Surplus(+)/ Deficit(-)(I-II)	**-897.4**	**1688.3**	**71.6**	**2,849.7**	**2,102.9**	**-3,538.1 (-6,507.7)**	**-8,275.5**	**-2,720.6 (-8,133.6)**
IV Financing of surplus(+)/ Deficit(-)								
A. Increase(+)/Decrease(-)in cash balances(Net)	**-316.5**	**-454.2**	**-265.8**	**464.6**	**561.3**	**-2,383.8 (-5,353.4)**	**-8,854.3**	**-432.1 (-5,845.1)**
B. Additions to(+)/Withdrawals from(-) Cash Balance Investment Account(Net)	**-270.5**	**988.9**	**427.4**	**3,589.1**	**-384.7**	**-1,257.3**	**531.7**	**-2,314.5**
C. Repayment of(+)/Increase in (-) Ways and Means Advances and Overdrafts from R.B.I.(Net)	**-310.4**	**1,153.6**	**-90.0**	**-1,204.0**	**1,926.3**	**103.0**	**47.1**	**26.0**

@ Comprise expenditure on Revenue and Capital accounts and Loans and Advances extended by States.

Comprise compensation and assignments to local bodies, reserve with Finance Department and grants-in-aid and contribution.

Note: 1. Figures outside brackets under budget estimates for 1998-99 include the estimated net yield of Rs.2969.6 crore from Additional Resource Mobilisation measures proposed by the States.

2. Figures outside brackets under budget estimates for 1999-2000 include the estimated net yield of Rs.5413.0 crore from Additional Resource Mobilisation measures proposed by the States.

3. Data from 1993-94 onwards relate to 26 State governments including the National Capital Territory of Delhi.

Source: Budget Documents of State Governments.

APPENDIX TABLE FIS.6: FINCANCING PATTERN OF GROSS FISCAL DEFICIT OF STATE GOVERNMENTS

(Rupees crore)

Fiscal Year	Loans from the Central Government (net)	Market Borrowings (net)	Others+	Gross Fiscal Deficit (GFD) (2+3+4)
1	2	3	4	5
1980-85 (Average of 5 yrs)	(47.5)	(7.7)	(44.8)	(100.0)
1985-90 (Average of 5 yrs)	(57.8)	(14.2)	(28.0)	(100.0)
1990-91	9,977.6 (53.1)	2,555.5 (13.6)	6,253.9 (33.3)	18,787.0 (100.0)
1991-92	9,373.5 (49.6)	3,305.4 (17.5)	6,221.2 (32.9)	18,900.1 (100.0)
1992-93	8,921.3 (42.7)	3,501.2 (16.8)	8,468.7 (40.5)	20,891.2 (100.0)
1993-94	9,532.8 (46.3)	3,620.4 (17.6)	7,442.8 (36.1)	20,596.0 (100.0)
1994-95	14,760.1 (53.3)	4,074.8 (14.7)	8,861.9 (32.0)	27,696.8 (100.0)
1995-96	14,800.9 (47.1)	5,887.8 (18.7)	10,737.0 (34.2)	31,425.8 (100.0)
1996-97	17,547.3 (47.1)	6,515.1 (17.5)	13,188.8 (35.4)	37,251.2 (100.0)
1997-98	23,676.5 (53.6)	7,280.1 (16.5)	13,243.3 (30.3)	44,199.9 (100.0)
1998-99 (R.E.)	32,652.0 (43.4)	10,782.3 (14.3)	31,821.6 (42.3)	75,255.9 (100.0)
1999-2000 (B.E.)	38,724.3 (49.7)	10,146.3 (13.0)	29,023.0 (37.3)	77,893.6 (100.0)

Note: 1. Figures in brackets are proportion to GFD.

2. State Governments' data from 1993-94 onwards relate to the budgets of 26 States including the National Capital Territory of Delhi.

\+ Include loans from Financial Institutions, Provident Funds, Reserve Funds, Deposits and Advances etc.

R.E. Revised Estimates

B.E. Budget Estimates.

Source: Budget Documents of State Governments.



APPENDIX TABLE FIS.7: MARKET BORROWINGS OF CENTRAL AND STATE GOVERNMENTS AND THEIR SPONSORED INSTITUTIONS

(Rupees crore)

Government/Authority	Gross				Repayments				Net			
	1999-2000 (BE)	1998-99+	1997-98+	1990-91+	1999-2000 (BE)	1998-99+	1997-98+	1990-91+	1999-2000 (BE)	1998-99+	1997-98+	1990-91+
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Central Government (a+b)	84,014	93,953	59,637	8,989	26,553	31,050	19,143	988	57,461	62,903	40,494	8,001
a) Dated Securities @	..	83,753	43,390	8,989	16,353	14,803	10,902	988	..	68,950	32,488	8,001
b) 364-day Treasury Bills	..	10,200	16,247	—	10,200	16,247	8,241	—	..	-6,047	8,006	—
2. State Governments	12,267	12,114	7,749	2,569	1,301	1,414	557	—	10966 $	10,700	7,193	2,569
3. Institutions Sponsored by Central Government	..	341	553	2,442	..	141	153	14	..	200	400	2,429
4. Institutions Sponsored by State Governments (includes SFCs and SLDBs/SCARDBs)	..	480 P	433	1,194	..	158 P	83	96	..	322 P	350	1,098
Grand Total(1+2+3+4)	..	**106,888**	**68,372**	**15,194**	..	**32,763**	**19,936**	**1,098**	..	**74,125**	**48,437**	**14,097**

BE Budget Estimates.

\+ Actuals as per RBI Records.

@ Includes fresh issues of dated securities and amount raised through Capital Indexed Bonds.

$ Net allocation

P Provisional

.. Not Available

— Nil

Source: Central Government Budget Documents and Reserve Bank of India Records.

APPENDIX TABLE FIS.8: COUPON RATES ON CENTRAL AND STATE GOVERNMENT SECURITIES

(Per cent per annum)

	1990-91	1995-96	1996-97	1997-98	1998-99	1999-2000 (Upto Sept. 1999)
Central Government						
1 1/2		13.50 @				
2		13.25 *	13.50 *		11.40 #	
		13.50 #	13.62			
3		13.65	13.70	12.14	11.55	
			13.40		11.47	
4		13.73 +	13.72 $	10.85	11.68	
5	10.50 @	13.25 **	13.75	12.69	11.10	
		13.85 $$	13.55	11.15	11.75	
				6.00 ++	11.78 #	
6			13.82	11.83	11.50	11.36
				11.57 @	11.75	11.24 @
					11.95	
					11.98 #	
7		13.80		12.59 #		11.68
8				11.19	11.75 #	
9					11.90	11.74
10	10.75 @	13.75	13.85 ##	13.05 #	12.00 #	11.99
		14.00 @	13.65	12.15 @	12.10	11.74 @
					12.22	11.48
					12.25 #	11.59
11					12.29 @	11.73 @
12					12.25	12.05
					12.32 @	11.96 @
						11.97 @
15	11.25 @				12.40 @	12.40 @
						12.14 @
17						12.30 @
						12.23
20	11.50 @				12.60 @	12.60 @
						12.42 @
State Governments						
10		14.00 @	13.85 @	13.05 @	12.15 @	12.25 @
			13.75 @	12.30 @	12.50 @	11.72 b
					12.39 a	11.75 c
						11.85 @
20	11.50 @					

@ Pre-announced.

* Coupon rate on Government dated stock issued in lieu of conversion of maturing Government dated stock.

\# Auctioned as well as fixed coupon rate.

\+ Interest rate on Government of India Floating Rate Bonds, 1999 for the half-year ending March 29, 1996.

$ Implicit yield on Government of India Zero Coupon Bonds.

** Cut off yield rate offered in lieu of conversion of Treasury Bills.

$$ Implicit yield on Government of India Zero Coupon Bonds and fixed coupon on Government dated stock.

Government of India Partly Paid Stock and Fixed Coupon Issue.

++ Fixed Coupon on Capital Indexed Bonds issued on Tap.

a Punjab (Auction) b Tamil Nadu (Auction) c Andhra Pradesh (Auction)

Source : Reserve Bank of India Records.

APPENDIX TABLE FIS.9 : EXPENDITURE ON SOCIAL SECTOR

(Rupees crore)

Year	Centre		States		Centre and States combined	
	Total Expenditure	Expenditure on Social sector	Total Expenditure	Expenditure on Social sector	Total Expenditure	Expenditure on Social sector
1	2	3	4	5	6	7
1980-81	23,194	1,697 (7.3)	22,770	6,601 (29.0)	37,879	8,298 (21.9)
1985-86	53,808	3,189 (5.9)	44,869	17,031 (38.0)	78,627	20,220 (25.7)
1989-90	95,226	8,029 (8.4)	76,809	29,045 (37.8)	145,137	37,074 (25.5)
1990-91	107,994	6,122 (5.7)	91,242	35,132 (38.5)	163,673	41,254 (25.2)
1991-92	114,483	6,817 (6.0)	108,646	39,255 (36.1)	185,905	46,072 (24.8)
1992-93	126,063	7,261 (5.8)	119,335	44,468 (37.3)	203,043	51,729 (25.5)
1993-94	146,050	12,020 (8.2)	134,649	49,837 (37.0)	232,649	61,857 (26.6)
1994-95	165,205	15,178 (9.2)	161,554	56,298 (34.8)	272,874	71,476 (26.2)
1995-96	183,059	18,701 (10.2)	177,584	65,053 (36.6)	303,586	83,754 (27.6)
1996-97	206,414	20,209 (9.8)	202,769	72,991 (36.0)	343,548	93,200 (27.1)
1997-98	238,814	24,754 (10.4)	228,135	83,475 (36.6)	392,389	108,229 (27.6)
1998-99 (Budget Estimates)	276,233	30,726 (11.1)	274,929	100,020 (36.4)	466,822	130,746 (28.0)
1998-99 (Revised Estimates)	290,094	29,597 (10.2)	279,321	108,351 (38.8)	477,926	137,948 (28.9)
1999-2000 (Budget Estimates)	293,129	30,259 (10.3)	311,286	117,972 (37.9)	523,590	148,231 (28.3)

Note : 1. Figures in brackets represent percentages to respective total expenditure.

2. Figures for the Centre and States do not add up to the combined position due to inter-governmental adjustment.

3. State Governments' data from the year 1993-94 onwards relate to the budget of 26 States including National Capital Territory of Delhi.

4. Total expenditure of Central Government is inclusive of Commercial Departments.

Source : Budget Documents of Government of India and State Governments.

APPENDIX TABLE FIS.10 : COMBINED RECEIPTS AND DISBURSEMENTS OF THE CENTRAL AND STATE GOVERNMENTS

(Rupees crore)

Items	1994-95	1995-96	1996-97	1997-98	1998-99 (Budget Estimates)	1998-99 (Revised Estimates)	1999-2000 (Budget Estimates)
1	2	3	4	5	6	7	8
I. Total Disbursements (A+B+C)	**272,874**	**303,586**	**343,548**	**392,389**	**466,822**	**477,926**	**523,590**
of which :							
A. Developmental (i +ii +iii)	**150,367**	**165,361**	**185,368**	**208,993**	**241,692**	**254,894**	**269,965**
i) Revenue	111,390	128,180	148,325	163,816	188,847	203,281	214,134
ii) Capital	24,766	23,694	22,306	29,985	36,065	33,948	39,335
iii) Loans	14,211	13,487	14,737	15,192	16,780	17,665	16,496
B. Non-Developmental (i+ii+iii)	**119,322**	**135,274**	**154,900**	**178,311**	**220,040**	**215,620**	**247,930**
i) Revenue	111,131	125,746	144,910	166,819	207,072	202,570	232,999
of which :							
Interest Payments	52,326	58,874	70,088	77,756	90,621	92,804	107,702
ii) Capital	7,476	8,900	9,428	10,342	11,827	11,576	13,748
iii) Loans	715	628	562	1,150	1,141	1,474	1,183
C. Others (i+ii)	**3,185**	**2,951**	**3,280**	**5,085**	**5,090**	7,412	5,695
i) Revenue	1,303	1,531	1,932	2,957	3,668	3,774	3,868
ii) Capital	1,882	1,420	1,348	2,128	1,422	3,638	1,827
II. Total Receipts	**276,381**	**296,629**	**323,322**	**394,492**	**463,284**	**469,651**	**520,869**
of which :							
A. Revenue Receipts	**186,639**	**217,527**	**246,399**	**270,810**	**325,079**	**308,660**	**356,130**
i) Tax Receipts (a + b + c)	148,073	174,852	199,840	217,313	263,951	243,957	290,583
a) Taxes on commodities and services	113,892	133,027	152,268	162,257	197,802	182,501	217,848
b) Taxes on Income and Property	33,980	41,601	47,294	54,743	65,865	61,150	72,423
c) Taxes of Union Territories (Without Legislature)	201	224	278	313	284	306	312
ii) Non-Tax Receipts	38,566	42,675	46,559	53,497	61,128	64,703	65,547
of which :							
Interest Receipts	10,023	11,122	15,311	15,239	14,038	16,692	15,190
B. Non-debt Capital Receipts (i+ii)	**12,713**	**6,968**	**8,363**	**8,708**	**9,828**	**16,084**	**15,163**
i) Recovery of Loans & Advances	7,106	5,571	7,908	7,796	4,228	6,575	4,863
ii) Disinvestment proceeds	5,607	1,397	455	912	5,600	9,509	10,300
III. Gross Fiscal Deficit [I - ICii - (IIA + IIB)]	**71,640**	**77,671**	**87,438**	**110,743**	**130,493**	**149,544**	**150,470**
IV. Financed by :							
A. Institution-wise (i+ii)							
i) Domestic Financing (a+b)	68,058	77,353	84,451	109,652	128,156	148,634	149,625
a) Total Bank Credit to Government#	18,501	35,359	30,842	41,977	$	56,554	$
of which :							
Net RBI Credit to Centre	2,130	19,855	1,934	12,914	$	11,800	$
b) Non-Bank Credit to Government	49,557	41,994	53,609	67,675	$	92,080	$
ii) External Financing	3,582	318	2,987	1,091	2,337	910	845
B. Instrument-wise (i+ii)							
i) Domestic Financing (a+b+c+d+e)	68,058	77,353	84,451	109,652	128,156	148,634	149,625
a) Market Borrowings (net) @	24,401	38,975	26,527	39,779	55,960	75,693	67,607
b) Small Savings (net)	14,426	10,076	12,142	24,497	21,640	29,000	33,000
c) State Provident Funds (net)	5,790	7,163	7,710	4,383	5,350	5,350	6,000
d) Budget Deficit	-3,507	6,957	20,226	1,193	-3,538	-5,041	-2,721
e) Others	26,948	14,182	17,846	39,800	48,744	43,632	45,739
ii) External Financing	3,582	318	2,987	1,091	2,337	910	845
V. I as per cent of GDP	**26.3**	**24.9**	**24.4**	**25.1**	**26.3**	**27.2**	**26.2**
VI. II as per cent of GDP	**26.6**	**24.4**	**22.9**	**25.2**	**26.1**	**26.7**	**26.1**
VII. IIA as per cent of GDP	**18.0**	**17.9**	**17.5**	**17.3**	**18.3**	**17.6**	**17.8**
VIII. IIA (i) as per cent of GDP	**14.3**	**14.4**	**14.2**	**13.9**	**14.9**	**13.9**	**14.5**
IX. III as per cent of GDP	**6.9**	**6.4**	**6.2**	**7.1**	**7.3**	**8.5**	**7.5**

\# : As per RBI records.

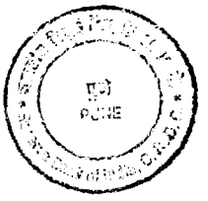
@ : Borrowings, through short, medium and long-term securities and 364-day Treasury Bills.

$: Budget estimates are not available.

(-) : Indicates Surplus.

Note: Regarding State Governments, data relate to the budgets of 26 States including the National Capital Territory of Delhi.

Source: Budget Documents of Central and State Governments.



MONEY, CREDIT AND PRICES

CHAPTER VI

MONEY, CREDIT AND PRICES*

The monetary policy developments continue to be dominated by efforts at promoting economic growth and ensuring price stability. The achievement of these objectives requires that financial conditions are such that allocative efficiency is ensured. In order to obtain such efficiency gains, monetary policy initiatives have been supplemented by financial sector reforms, as a part of a package of overall macroeconomic and structural reforms encompassing all the sectors of the economy.

The movements in monetary aggregates in the recent past need to be analysed in the context of the emerging economic circumstances. The rate of growth in broad money (M_3) at 18.4 per cent during 1998-99, was a little higher than 18.0 per cent recorded in 1997-98. The growth in M_3 (excluding the contribution of receipts under the Resurgent India Bonds) was 16.2 per cent and was close to the target of 15 to 15.5 per cent announced in the monetary and credit policy statement at the beginning of the year. A large part of the M_3 growth was accounted for by the net bank credit to the government, which increased by 17.1 per cent in 1998-99 as compared with 14.5 per cent in 1997-98, largely driven by the growth in the fiscal deficit over its budgeted level for 1998-99. The commercial banks' credit to the government expanded by 19.4 per cent in 1998-99 - higher than 17.7 per cent in 1997-98. Consequently, banks' investments in government securities exceeded the SLR requirement by about Rs.60,000 crore by July 1999. The bank credit to the commercial sector grew at a lower rate of 13.2 per cent in 1998-99 as compared with 15.1 per cent in 1997-98. Scheduled commercial banks' non-food credit grew at 13.0 per cent as against a growth of 15.1 per cent observed in 1997-98. This marked a significant deceleration in non-food credit as compared with the growth rates of 29.8 per cent and 22.5 per cent, respectively witnessed in 1994-95 and 1995-96.

The deceleration in non-food credit growth has been a source of concern particularly in the context of a strong growth in deposits of the banking system and a generally improving interest rate climate. The aggregate deposits of the banking system (including the co-operative banks), rose by 19.9 per cent and 18.9 per cent, respectively, in 1997-98 and 1998-99. With the expansion in M_3 at the trend rate of growth of above 17.0 per cent, there was comfortable liquidity in the banking system. The interest rates have ruled easy following the restoration of normalcy in the foreign exchange market and in the wake of a substantial easing of monetary policy thereafter. The prime lending rates of major banks declined from 14.0 per cent in 1997-98 to 12.0 per cent in 1998-99.

It is well recognised that monetary policy is an arm of macroeconomic policy. Hence, the monetary and credit developments in this sense could be well appreciated within the framework of the emerging structural changes in the economy. While the developments on the monetary front concomitantly reflect the emerging credit scenario (availability and cost of credit), an understanding of the structural factors would enable us to discern the factors affecting the demand for and supply of credit. It may be noted that over a longer horizon since 1980-81, while broad money has grown at the trend rate of above 17.0 per cent (17.2 per cent in the 'eighties and 17.3 per cent in the 'nineties), non-food credit has decelerated to 15.0 per cent in the 'nineties from 18.0 per cent in the 'eighties. The slowdown in the non-food credit growth, particularly in the context of comfortable liquidity, has raised a number of issues regarding the factors that explain the credit behaviour in the Indian economy. The issue of credit growth in the economy, therefore, gained paramount relevance in recent years particularly in the context of the emerging monetary and structural changes that are under way since the inception of the economic reforms programme in July 1991.

*** This chapter is based on information available up to March 1999, unless otherwise stated.**

Structural Changes in the Monetary Sector

An analysis of the structural changes in the monetary aggregates *vis-à-vis* credit availability over the years would enable an understanding as to whether the former was in line with the demand for credit as reflected in the growth requirements. Such an analysis would also throw light on the changing behaviour of the monetary process that has been occuring over the years and its bearing on the credit creation process of the banking system. It is with this end in view the trends in monetary aggregates are examined here.

Broad money grew at the decadal average of 17.3 per cent in the 'nineties, a shade higher than 17.2 per cent in the 'eighties (Table MON.A), whereas reserve money grew at a lower rate of 14.5 per cent in the 'nineties as compared with a growth of 16.8 per cent in the 'eighties. Correspondingly, the money multiplier, *i.e.*, the interacting variable between these two monetary aggregates, has risen to 3.29 in the 'nineties from 3.12 in the 'eighties. The distinct shift displayed by the money multiplier indicates the changing dynamics of the monetary process in the economy and the impact of the structural reforms that have been under way since the early 'nineties on the components and sources of money stock (Tables MON.A and MON.B).

On the components side of broad money, currency with the public has risen at high rates in years when the agricultural sector grew at a relatively high rate or when prices of primary articles ruled high requiring larger holding of cash balances for transaction purposes. While demand deposits have grown at a higher rate in the 'nineties reflecting higher levels of economic activities, the availability of alternative (new) financial instruments could explain the marginal deceleration in the growth of time deposits (Table MON.A). On the sources side, the major items which have experienced higher growth rates in the 'nineties are the net foreign exchange assets of the RBI as well as the banking sector and the banking system's investments in government securities (Table MON.B).

Table MON.A: Variations in Monetary Aggregates and their Components

(Per cent)

Last Friday/last reporting Friday/ end-March	Currency with the Public	Other Deposits with the RBI	Bankers' Deposits with the RBI	Demand Deposits	Time Deposits	Aggregate Deposits	Reserve Money (M_0)	Narrow Money (M_1)	Broad Money (M_3)
1	2	3	4	5	6	7	8	9	10
1980-81	15.2	5.1	24.6	20.5	18.8	19.2	17.4	17.1	18.1
1981-82	7.8	-59.1	14.5	7.4	16.9	14.7	7.9	6.5	12.5
1982-83	15.1	10.7	-2.5	13.6	18.1	17.1	10.1	14.4	16.6
1983-84	17.7	56.5	52.5	15.5	19.0	18.3	25.5	17.0	18.2
1984-85	15.7	104.5	33.3	23.3	18.6	19.6	21.5	19.5	19.0
1985-86	10.5	-51.4	5.6	12.6	19.5	18.1	8.4	10.5	16.0
1986-87	13.3	6.9	28.5	21.8	19.7	20.1	17.4	16.8	18.6
1987-88	18.2	28.5	23.2	7.8	17.3	15.4	19.4	13.7	16.0
1988-89	14.2	74.8	23.2	12.9	19.9	18.5	17.7	14.1	17.8
1989-90	20.8	-13.8	29.6	23.0	18.3	19.2	23.2	21.4	19.4
1990-91	14.6	12.7	10.9	14.7	15.4	15.2	13.1	14.6	15.1
1991-92	15.2	31.3	9.6	33.8	17.2	20.3	13.4	23.2	19.3
1992-93 #	11.7	48.4	9.3	3.9	18.4	15.4	11.3	8.4	14.8
1993-94 #	20.5	92.3	33.1	21.1	16.8	17.6	25.2	21.5	18.4
1994-95 #	22.3	34.0	20.6	33.7	19.6	22.3	22.1	27.5	22.4
1995-96 #	17.5	-1.2	12.0	5.7	14.6	12.8	14.9	11.7	13.6
1996-97 #	11.7	-4.5	-13.1	13.0	18.5	17.4	2.8	12.0	16.2
1997-98 #	10.2	10.9	20.5	12.7	21.5	19.9	13.2	11.3	18.0
1998-99 #	16.4	7.9	11.0	13.8	19.9	18.9	14.6	15.1	18.4
1980s (Avg.)	**14.8**	**16.3**	**23.3**	**15.8**	**18.6**	**18.0**	**16.8**	**15.1**	**17.2**
1990s (Avg.)	**15.6**	**25.8**	**12.7**	**16.9**	**18.0**	**17.8**	**14.5**	**16.2**	**17.3**

Revised in line with the new accounting standards and consistent with the methodology suggested by the Working Group on Money Supply: Analytics and Methodology of Compilation (June 1998). The revision is in respect of pension and provident funds with commercial banks which are classified as other demand and time liabilities and includes those banks which have reported such changes so far.

Table MON.B: Variations in Sources of Monetary Aggregates

(Per cent)

Last Friday/ last reporting Friday/ end-March	Net Bank Credit to Govern-ment	Net RBI Credit to Central Govern-ment	Other Banks' Invest-ments in Govern-ment Securities	Bank Credit to Com-mercial Sector	Net foreign Exchange Assets of the Banking Sector	Net Foreign Exchange Assets of the RBI	Net Foreign Exchange Assets of Other Banks	Govern-ment's Currency Liabilities to Public	Net Non-monetary Liabilities of Banking Sector	Net Non-monetary Liabilities of RBI	Net Non-Monetary Liabilities of Other Banks (Residual)	Gross Claims on Banks
1	2	3	4	5	6	7	8	9	10	11	12	13
1980-81	28.5	30.3	21.9	18.2	-11.5	-11.4	0.0	4.4	22.6	17.6	27.0	6.3
1981-82	19.1	21.0	9.9	18.6	-41.5	-43.3	-237.8	6.3	23.8	21.7	25.5	31.1
1982-83	15.1	18.2	22.0	17.7	-34.0	-36.1	59.7	3.8	6.6	-6.9	17.3	21.0
1983-84	15.3	18.1	11.2	18.7	-10.0	-6.1	-77.8	5.6	9.3	-12.6	23.0	36.8
1984-85	23.9	23.5	15.6	16.8	90.4	78.5	968.2	8.1	29.4	64.5	13.8	14.5
1985-86	15.8	19.4	22.8	16.7	23.5	29.0	-44.3	20.7	19.2	22.5	17.0	-22.4
1986-87	23.5	18.6	31.0	14.4	24.4	23.5	48.1	26.9	17.3	25.6	11.7	12.1
1987-88	17.1	14.5	23.1	13.5	17.8	17.2	32.0	15.8	11.2	5.8	15.4	60.9
1988-89	14.3	12.6	16.3	19.0	19.9	14.5	134.0	6.9	13.0	19.1	8.8	59.4
1989-90	21.4	23.7	17.9	18.6	0.3	-2.1	25.2	5.4	18.2	3.5	29.5	5.6
1990-91	19.7	20.5	18.1	13.2	55.2	31.6	246.4	4.2	26.1	54.1	8.9	33.9
1991-92	12.9	6.3	25.1	9.4	100.6	136.0	-8.1	5.1	-10.6	1.5	-21.1	-49.0
1992-93	11.4	4.6	21.1	17.1	15.2	20.2	-24.8	7.0	12.4	3.0	22.9	93.7
1993-94	15.7	0.3	34.5	8.0	123.4	127.1	77.7	9.1	11.3	-7.8	29.0	-43.8
1994-95	9.1	2.2	15.6	23.1	44.7	45.3	35.2	19.6	5.7	12.8	1.1	142.6
1995-96	15.9	20.1	12.8	17.7	3.9	-0.8	86.7	5.2	27.4	10.0	40.4	63.0
1996-97	12.0	1.6	20.5	9.2	28.4	28.0	32.7	16.6	-12.0	8.9	-24.2	-68.1
1997-98	14.5	10.7	18.9	15.1	30.9	22.2	107.9	14.9	8.7	23.0	-3.3	1.3
1998-99	17.1	8.8	20.0	13.2	28.0	19.0	74.8	14.7	2.3	39.7	-37.5	86.9
1980s (Avg.)	**19.4**	**20.0**	**19.2**	**17.2**	**7.9**	**6.4**	**90.7**	**10.4**	**17.1**	**16.1**	**18.9**	**22.5**
1990s (Avg.)	**14.2**	**8.3**	**20.7**	**14.0**	**47.8**	**47.6**	**69.8**	**10.7**	**7.9**	**16.1**	**1.8**	**28.9**

Table MON.C presents the major sources of changes in the monetary aggregates classified under domestic and foreign assets of the banking sector. The share of domestic credit (DC) in M_3 declined from 116.8 per cent in the 'eighties to 101.7 per cent in the 'nineties (of which the net bank credit to the government declined from 49.1 per cent in the 'eighties to 45.0 per cent in the 'nineties), while the percentage share of NFA (facilitated by substantial capital inflows in the 'nineties) increased from 3.7 per cent in the 'eighties to 12.1 per cent in the 'nineties.

The significant structural changes that have been occuring on the monetary front could also be discerned from the changing composition of items as reflected in the RBI's balance sheet. The adoption of this approach particularly enables an understanding of the implications of changes in the Reserve Bank's balance sheet for reserve money and its compositional changes. On the components side, bankers' deposits with the RBI in the 'nineties have experienced a lower growth, as a result of a general downward drift in the CRR requirements (Table MON.A). On the sources side, the RBI's NFA have emerged as an important contributory factor for the generation of primary liquidity (reserve money) with a concomitant decline in the share of Centre's monetised deficit. In more recent years, the shift in the asset portfolio has gathered further momentum, with the relative shares of the RBI's NFA and net credit to Central Government accounting for 53.2 per cent and 56.1 per cent, respectively, as at end-March 1999 (Table

Table MON.C: Domestic Credit and Net Foreign Exchange Assets of the Banking Sector

(Amount in Rupees crore)

Last Friday/last reporting Friday/ end-March	Domestic Credit (DC)	Net Foreign Exchange Assets (NFA)	Broad Money (M_3)	DC as % of M_3	NFA as % of M_3
1	2	3	4	5	6
1980-81	62,359	4,730	55,774	111.8	8.5
1981-82	74,095	2,768	62,752	118.1	4.4
1982-83	86,419	1,828	73,184	118.1	2.5
1983-84	1,01,368	1,646	86,525	117.2	1.9
1984-85	1,21,296	3,134	1,02,933	117.8	3.0
1985-86	1,41,124	3,872	1,19,394	118.2	3.2
1986-87	1,66,761	4,815	1,41,632	117.7	3.4
1987-88	1,91,857	5,672	1,64,275	116.8	3.5
1988-89	2,24,357	6,800	1,93,493	116.0	3.5
1989-90	2,68,855	6,818	2,30,950	116.4	3.0
1990-91	3,11,962	10,581	2,65,828	117.4	4.0
1991-92	3,46,256	21,226	3,17,049	109.2	6.7
1992-93	3,96,373	24,443	3,64,016	108.9	6.7
1993-94	4,41,692	54,612	4,31,084	102.5	12.7
1994-95	5,15,143	79,032	5,27,596	97.6	15.0
1995-96	6,02,427	82,141	5,99,191	100.5	13.7
1996-97	6,64,927	1,05,496	6,96,012	95.5	15.2
1997-98	7,63,907	1,38,095	8,21,332	93.0	16.8
1998-99	8,77,515	1,76,778	9,72,204	90.3	18.2
1980s (Avg.)				**116.8**	**3.7**
1990s (Avg.)				**101.7**	**12.1**

Table MON.D: Major Sources of Reserve Money

(Amount in Rupees crore)

Last Friday/last reporting Friday/ end-March	Net RBI Credit to Central Government	Net Foreign Exchange Assets of the RBI	Reserve Money (M_0)	Col. 2 as % of Col.4	Col.3 as % of Col.4	RBI's NFA / Currency in Circulation
1	2	3	4	5	6	7
1980-81	15,278	4,775	19,452	78.5	24.5	33.4
1981-82	18,486	2,706	20,998	88.0	12.9	17.6
1982-83	21,853	1,729	23,110	94.6	7.5	9.8
1983-84	25,802	1,624	28,994	89.0	5.6	7.9
1984-85	31,857	2,899	35,216	90.5	8.2	12.1
1985-86	38,047	3,741	38,165	99.7	9.8	14.1
1986-87	45,138	4,621	44,808	100.7	10.3	15.4
1987-88	51,697	5,416	53,489	96.6	10.1	15.4
1988-89	58,200	6,201	62,958	92.4	9.8	15.5
1989-90	72,013	6,068	77,591	92.8	7.8	12.6
1990-91	86,758	7,983	87,779	98.8	9.1	14.4
1991-92	92,266	18,838	99,505	92.7	18.9	29.6
1992-93	96,523	22,647	1,10,779	87.1	20.4	31.8
1993-94	96,783	51,422	1,38,672	69.8	37.1	60.2
1994-95	98,913	74,720	1,69,283	58.4	44.1	71.4
1995-96	1,18,768	74,092	1,94,457	61.1	38.1	60.4
1996-97	1,20,702	94,817	1,99,985	60.4	47.4	69.1
1997-98	1,33,617	1,15,890	2,26,402	59.0	51.2	76.7
1998-99	1,45,416	1,37,954	2,59,371	56.1	53.2	78.5
1980s (Average)				**92.3**	**10.7**	**15.4**
1990s (Average)				**71.5**	**35.5**	**54.7**

Memo Items: Growth Rates	1980s	1990s
1. Centre's Monetised Deficit	20.0	8.3
2. RBI's Domestic Credit	19.3	8.7
3. RBI's NFA	6.4	47.6

MON.D). This shift has been due to an outcome of a sharp deceleration in the net Reserve Bank credit to the Centre from an annual average of 20 per cent during the 'eighties to 8.3 per cent during the 'nineties and a sharper acceleration in the Reserve Bank's NFA from an annual average of 6.4 per cent to 47.6 per cent during the same period (Table MON.B and Table MON.D).

The sharp fall in the share of net RBI credit to the Centre since 1993-94 could be explained by the reforms in the government securities market. Simultaneously, other banks' investments in government securities rose sharply during the 'nineties due to the introduction of prudential capital adequacy norms in the context of on-going banking sector reforms and in the wake of the introduction of market related rates of interest on government securities.

The changing composition of reserve money as well as broad money during the two decades, as outlined above, has significant implications for the changing role of monetary process in India. In other words, the compositional changes in these major variables have brought about changes in the nature of transmission mechanism of monetary policy. It may be indicated that, with the increased capital inflows in the wake of opening up of the economy, major shocks to reserve money emanate from external factors rather than from domestic endogenous factors [as was the case in the earlier years (pre-nineties)].

The structural transformation in the monetary process can also be analysed through an examination of certain key monetary ratios (Table MON.E). The monetary deepening (M_3/GDP) ratio (which also represents the demand constraint on monetary expansion) increased from 41 per cent in 1980-81 to 54.7 per cent in 1998-99, with the annual average ratio increasing from 45.0 per cent during the 'eighties to 51.0 per cent during the 'nineties due to the rise in the ratio of aggregate deposits to GDP. However, the currency component as a proportion of GDP declined marginally from an annual average of 9.7 per cent to 9.6 per cent while the M_1/GDP ratio increased from 16.9 per cent to 17.6 per cent over the two periods; the increase in the latter ratio reflects the agents' increasing preference for demand deposits *vis-a-vis* currency in the 'nineties.

Alternatively, the structural transformation in the monetary process could also be discerned from the changing behaviour of the velocity of circulation of monetary aggregates (Table MON.F, Graph MON.1). While there has been a secular decline in the velocity of broad money throughout the period, the velocity of narrow money however, displayed a mixed behaviour - increasing during the 'eighties (from its level in the 'seventies) and declining in the the 'nineties[1].

The average currency-deposit (C/D) ratio registered a secular decline, from 67.7 per cent in 1970-71 to 32.3 per cent in 1980-81 and further to 21.7 per cent in 1998-99. The steep decline in the ratio not only connotes a perceptible change in the agents' preference pattern for deposits *vis-a-vis* currency but also reflects the sharp shifts in institutional factors (such as spread of banking habits and improved payments systems). The declining trend in the C/D ratio essentially reflects improved banking facilities. This indicates a definite trend in favour of deposits as compared with that of currency over the two periods which, *inter alia,* reflects the increasing level of the economy's ability in absorbing financial innovations (Table MON.G). The slackening in the expansion of bank branches during the 'nineties in sharp contrast

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1. Bordo and Jonung (1987)'s cross-country study suggests that the long-run velocity depict a U-shaped pattern. During the first phase, both V_1 and V_3 exhibit a decline reflecting monetisation of the economy. During the second phase, while V_3 still continues to decline, V_1 starts rising because of the completion of the process of monetisation and the increased opportunity cost of holding currency with financial market deregulation. The continued decline in V_3 is explained by lack of alternative financial assets so that term deposits with banks continue to remain an attractive financial asset. During the third phase, both V_1 and V_3 increase.

   This classification would put India in the second phase during 1980s and at par with middle-income countries. However, the decline in both V_3 and V_1, during 1990s is at odds with country experiences cited in Bordo *et al.* Hence, the answer may have to be seen in the recent behaviour in the higher saving to GDP ratio and the capital inflows following liberalisation which have both increased the share of monetary assets relative to GDP.

   For details see *Bordo, M.D. and Jonung, L.* (1987): Cambridge University Press, New York.

Table MON.E: Indicators of Monetary Deepening (Per cent of GDP)

End-March	Broad Money (M_3)	Narrow Money (M_1)	Currency with public	Aggregate Deposits	Reserve Money	Net bank Credit to Government	Bank Credit to Commercial Sector
1	2	3	4	5	6	7	8
1981	41.0	17.2	9.9	30.8	14.3	18.9	26.9
1982	39.3	15.6	9.1	30.1	13.1	19.2	27.2
1983	41.1	16.0	9.4	31.6	13.0	19.8	28.7
1984	41.7	16.1	9.4	32.1	14.0	19.6	29.3
1985	44.5	17.3	9.8	34.4	15.2	21.8	30.7
1986	45.5	16.8	9.6	35.9	14.6	22.2	31.6
1987	48.3	17.6	9.7	38.6	15.3	24.6	32.3
1988	49.3	17.6	10.1	39.1	16.1	25.3	32.3
1989	48.9	16.9	9.7	39.0	15.9	24.4	32.3
1990	50.5	17.7	10.1	40.3	17.0	25.6	33.2
1991	49.6	17.3	9.9	39.6	16.4	26.2	32.1
1992	51.5	18.6	9.9	41.4	16.2	25.7	30.5
1993	51.8	17.7	9.7	41.9	15.8	25.1	31.3
1994	49.2	17.2	9.4	39.5	15.8	23.3	27.1
1995	50.8	18.5	9.7	40.8	16.3	21.4	28.2
1996	49.2	17.6	9.7	39.2	16.0	21.2	28.3
1997	49.4	17.1	9.4	39.8	14.2	20.5	26.7
1998P	52.5	17.1	9.3	43.0	14.5	21.1	27.7
1999P	54.7	17.4	9.5	45.0	14.6	21.8	27.6
1980s (Avg.)	**45.0**	**16.9**	**9.7**	**35.2**	**14.9**	**22.1**	**30.5**
1990s (Avg.)	**51.0**	**17.6**	**9.6**	**41.1**	**15.5**	**22.9**	**28.8**

Note: Ratios pertaining to end-March 1994 onwards are in relation to GDP at current market prices with revised base (1993-94).

Table MON.F: Velocity of M_3 and M_1

	1970s		1980s		1990s	
	V_3	V_1	V_3	V_1	V_3	V_1
1	2	3	4	5	6	7
Mean	3.52	6.12	2.41	6.45	2.14	6.18
Standard Deviation	0.51	0.28	0.21	0.22	0.08	0.19
Coefficient of Variation (%)	14.47	4.57	8.71	3.41	3.73	3.07

Note: V_3 and V_1 are the income velocity of broad and narrow money, respectively.

to the rapid branch expansion witnessed in the 'eighties could have resulted in a slower decline in the currency-deposit ratio in this period as compared with that of the 'eighties.

The changing dynamics of the monetary process in the Indian context is also reflected in the behavioural changes that have been occuring over the years in the money multipliers computed on the basis of both broad money (M_3/RM) and narrow money (M_1/RM) definitions (Table MON.H). The data on broad money multiplier for the period 1980-81 to 1998-99 shows that it varied in the range of 2.96-3.83 with a mean value of 3.20. Theoretical arguments suggest that the value of the broad money multiplier varies inversely with respect to both the currency-deposit ratio and the reserve-deposit ratio. Given the secular decline in the currency-deposit ratio, the

Table MON.G: Average Monetary Ratios

(Per cent)

Year	Currency/ Aggregate Deposits	Time Deposits/ Demand Deposits	Demand Deposits/ Aggregate Deposits	Time Deposits/ Aggregate Deposits	Banks' Reserves/ Aggregate Deposits	M_3/ RM	M_1/ RM	Currency/ Demand Deposits
1	2	3	4	5	6	7	8	9
1980-81	32.3	363.3	21.6	78.4	12.1	2.96	1.21	149.4
1981-82	30.4	362.6	21.6	78.4	12.3	3.04	1.22	140.5
1982-83	29.4	385.8	20.6	79.4	11.6	3.15	1.22	143.0
1983-84	28.9	407.7	19.7	80.3	11.1	3.21	1.21	146.7
1984-85	29.0	412.4	19.5	80.5	11.8	3.14	1.19	148.7
1985-86	27.6	421.4	19.2	80.8	11.6	3.25	1.19	143.7
1986-87	26.0	425.8	19.0	81.0	12.9	3.23	1.16	136.8
1987-88	25.8	447.9	18.3	81.7	14.9	3.08	1.08	141.1
1988-89	24.9	458.2	17.9	82.1	15.5	3.08	1.06	139.1
1989-90	24.8	446.1	18.3	81.7	15.5	3.08	1.07	135.4
1990-91	25.1	445.6	18.3	81.7	14.8	3.11	1.09	136.7
1991-92	24.6	418.4	19.3	80.7	15.1	3.11	1.10	127.4
1992-93	23.2	435.5	18.6	80.5	14.1	3.20	1.11	125.1
1993-94	23.6	463.6	17.6	81.4	14.1	3.19	1.09	134.4
1994-95	23.9	422.6	19.0	80.1	14.8	3.12	1.10	126.3
1995-96	25.8	442.5	18.5	81.5	13.9	3.10	1.11	139.9
1996-97	24.9	469.6	17.6	82.4	11.3	3.39	1.17	141.6
1997-98	23.5	492.8	16.9	83.1	10.4	3.60	1.19	139.4
1998-99	21.7	529.2	15.9	84.1	9.8	3.83	1.19	136.2
1980s (Avg.)	**27.9**	**413.1**	**19.6**	**80.4**	**12.9**	**3.12**	**1.16**	**142.4**
1990s (Avg.)	**24.0**	**457.7**	**18.0**	**81.7**	**13.2**	**3.29**	**1.13**	**134.1**

Note: Cols. 7 and 8 are absolute values.

Table MON.H: Money Multipliers (Monthly Averages)

	1980s		1990s	
	M_3/RM	M_1/RM	M_3/RM	M_1/RM
1	2	3	4	5
Maximum	3.25	1.22	3.83	1.19
Minimum	2.96	1.06	3.10	1.09
Mean	3.12	1.16	3.29	1.13
Standard Deviation	0.09	0.06	0.25	0.04
Coefficient of Variation (%)	2.88	5.17	7.59	3.53

multiplier has exhibited an upward trend over time in line with theoretical expectations; the latter could be seen from the fact that the mean value of the multiplier increased from 3.12 in the 'eighties to 3.29 in the 'nineties. The higher level of the M_3 multiplier during the 'nineties is also attributed to a decline in the reserve-deposit ratio. Thus, there has been a shift in the relative importance of the proximate determinants of the money multiplier process over the two periods. It may also be indicated that the volatility of the multiplier, measured by its standard deviation, had reduced during the' eighties (as compared with the 'seventies). In the 'nineties however, the volatility has increased - a large part of the increased volatility in the money multiplier during the 'nineties being policy-induced (in the wake of progressive and significant CRR cuts undertaken by the Reserve Bank as a part of the on-going financial sector reforms). The M_3 multiplier has recorded a greater degree of volatility *vis-a-vis* the narrow money multiplier. It is important to note that the relative stability in the narrow money multiplier has been facilitated by the off-setting movements in the currency-demand deposit ratio and the reserve-deposit ratio in the 'eighties whereas the sharp reduction in the reserve-deposit ratio in the 'nineties has

contributed to a marginal increase in the volatility of the narrow money multiplier.

As a corollary to the financial liberalisation measures, the switch over from direct instruments to indirect instruments of monetary control gained considerable impetus in the 'nineties, and gave a distinctness to monetary policy pursuit. Though the instruments available in the armoury of the Reserve Bank have remained by and large unchanged, their relative use, the efficacy and the frequency of use underwent significant changes, particularly during the 'nineties.

The switch-over in policy instruments was mainly effected through – *(i)* the reduction in the reserve requirements for banks, *(ii)* limiting of automatic monetisation of the fiscal deficit by replacing *ad hoc* Treasury Bills with Ways and Means Advances at market related interest rates from April 1, 1997, *(iii)* development of money market and securities market by way of introduction of new instruments, auction system for government securities (including repos/ reverse repos) and instituting a network of primary and satellite dealers with a view to enabling the emergence of open market operations as the principal instrument of liquidity management, *(iv)* liberalisation of interest rates and rationalisation of concessional credit and refinance facilities, *(v)* revitalisation of the Bank Rate as a signalling instrument of the stance of monetary policy, and *(vi)* putting in place prudential accounting norms and a more effective supervisory system.

The increasing openness of the economy and a market-determined exchange rate system since 1993 together with the development of financial markets and the services sector imply that the focus of policy should increasingly be to ensure orderly movements in the exchange rate and interest rates. There is growing evidence of strengthening of the interest rate channel of the monetary transmission which would have imparted an element of endogeneity to the money supply process. As mentioned earlier, the income velocity of broad money and broad money multiplier, which are the two critical parameters in the monetary targeting framework, have displayed considerable year-to-year fluctuations. In the changed circumstances, although the Reserve Bank has been utilising broad money targets in the conduct of monetary policy, the focus of short-term monetary management in recent times has been guided by a multiple indicator approach which includes not merely interest rates and exchange rates, but also a host of economic variables *viz.*, credit, money supply, trade, fiscal situation, *etc.*

Macroeconomics of Credit

One of the issues that was the centre of attention has been the movement in bank credit as a channel of monetary policy transmission. It is important to note that India, like a number of developed and developing economies during the past decade, has seen marked cycles in credit markets. During the period of the early 'seventies to mid-eighties, many developed countries experienced rapid growth in credit (accompanied by a boom in asset markets), strong aggregate demand and inflationary pressure. These conditions were sharply reversed around the turn of the decade as the growth in credit slowed down, asset prices tumbled and economic activity stagnated.

The renewed interest in the macroeconomic role of bank credit in recent years seems to have stemmed from a number of institutional, empirical and theoretical developments [2]. First, the financial innovations and deregulation which caused unpredictable shifts in the monetary aggregates led to downgrading/abandonment of monetary targets in a number of developed economies, thereby shifting the monetary policy focus from controlling supply of credit towards gaining increasing maneuverability over demand for credit through the interest rate mechanism. Secondly, there has been an increasing evidence to the effect that changes in the availability of credit are associated with changes in the level of economic activity. This would imply that monetary policy cannot rely solely on the interest rate mechanism in influencing

2. Alexander, W.E. and Caramazza, F. (1994): Money Versus Credit: The Role of Banks in Transmission Process, in *Frameworks for Monetary Stability*, Balino, T.J.T. and Cottarelli, C., (eds.) IMF.

economic activity, particularly in the presence of significant credit market imperfections that prevent effectiveness of interest rate as an equilibrating mechanism. Thirdly, the advances in the theory of imperfect information applied to financial markets have revealed the importance of potential adverse consequences of asymmetric information between borrowers and lenders for ensuring stability of the financial system.

Central to the importance of credit in economic growth is the demand for credit. The genesis of credit demand emanating from the private sector is that production costs are regularly incurred and paid before any sales revenue is received. In an uncertain and dynamic environment, the firm will not always be able to foresee correctly the working capital requirement because of unexpected changes in its cost structure as well as in the revenue generation. In general, the firm will try to smoothen the twin impact of costs and revenue shocks through borrowing. The ability of firms in acquiring the assured amount of credit will then determine its current period productive behaviour.

A peculiar characteristic of firms in developing countries is their high reliance on debt finance and external sources of funds (borrowings, trade credit etc.). The emphasis on credit rather than equity arises for various reasons. The cost of equity in developing economies is higher than the cost of debt owing to the existence of high risk premium and artificial repression of interest rates. The other plausible reasons for the heavy reliance on debt in the developing country scenario include the fragility of equity markets, the lack of suitable accounting practices, the absence of adequate corporate transparency and large transfers of funds among the closely held companies. Given the high demand for bank credit and lack of substitutes for external finance, firms in developing economies are highly sensitive to changes in the cost and flow of credit.

In so far as credit supply is concerned, commercial banks, given their role of primacy in the regulated financial sector, dominate the credit market as purveyers of credit. The quantity of loans created by the banking system is generally a function of both willingness and ability of banks to lend. In an economy with ceilings on lending rates, banks face a higher credit demand than they can effectively supply. The banks may also face large information costs in assessing the credit worthiness of potential borrowers and in distinguishing between different types of customers on the basis of their risk characteristics. This provides a plausible explanation for the general behaviour of the developing economies towards placing greater reliance on the credit rationing mechanism in the presence of interest rate controls. In a non-repressed system, the borrower classification along the lines of risk characteristics could entail riskier borrowers being charged higher interest rates to account for default probabilities. This creates the problem of adverse selection. But to the extent that riskier projects bring lower returns to banks, banks out of profit maximisation consideration have to minimise the risk of their portfolio by providing maximum loan to projects carrying minimum risk.

An important factor influencing the supply of credit is the amount of reserves available from the central bank to the banking system. A large pre-emption of central bank money by the government may constrain reserve supply to the banking system, affecting their capacity for credit creation. Moreover, credit expansion could also be an endogenous process by which it is the demand for credit that drives the banking system's demand for reserves and hence the quantum of credit creation in the economy.

The Financial System and Credit Growth in India

An important aspect of the recent transformation of the Indian economy has been the changing structure of the financial system and its role in promoting investment and growth. The banking system in India functioning within the ambit of the monetary and credit policy of the Reserve Bank plays a critical role in the production process by providing credit inputs in line with the sectoral requirements of the economy. But, how effectively this role is performed by the banking system depends on

a host of factors, including the development of financial markets, the health of the banking system, the regulatory regime facing the financial system and the conduct of monetary policy.

The Indian credit market during the period preceding the 'nineties functioned within a relatively regulated framework. The controls covered ceilings on interest rates, quantitative restrictions on credit flows and a high level of preemption of resources for the priority and the government sectors. These factors restricted credit flows to the private sector and gave rise to credit rationing conditions in the economy. While the quantitative credit restrictions created a large gap between the demand for and supply of bank credit, interest rate controls led to sub-optimal use of credit and low levels of investment and growth. The role of monetary policy in regulating the volume and cost of credit was affected by the high levels of fiscal deficit, absorption of a large proportion of credit expansion of the banking system by the government sector, and lack of a well developed government securities market.

The financial sector reforms pursued since 1992 have led to substantial deregulation of the banking sector, growth of various segments of the financial markets and increased importance of monetary policy in influencing credit flows in the economy. Following this, the total non-food credit of scheduled commercial banks grew at an average rate of 19.0 per cent during the three year period from 1994-95 to 1996-97. However, since 1997-98, the non-food credit growth has declined to significantly lower rates. In this context, the trend in the non-food credit growth in recent years has raised a number of interesting issues such as the factors that influence supply of and demand for bank credit in India, the changing financial intermediation process in which banks may be losing their prime position to the term lending institutions and the capital market, informal credit rationing resorted to by banks to improve the quality of their portfolio and the role of monetary policy in promoting credit availability and growth in the economy.

Trends during the 'Eighties

In the 'eighties the bank credit growth in the economy was mostly driven by trends in the government deficit and the monetary policy stance of keeping the rate of inflation under check. Net bank credit to the government (on monthly average basis) expanded at rate of 20.4 per cent as against 15.0 per cent in the 'seventies. Bank credit to the commercial sector, on the other hand, decelerated to 17.2 per cent from 18.9 per cent during the same period (Table MON.I).

Monetary policy came under the influence of the growing fiscal deficit of the government and its increasing monetisation. This has had a two-fold impact on the bank credit to the commercial sector. First, it has created the need for sterilisation of primary liquidity released by way of net RBI credit to the government through the use of policy instruments like CRR. Reserve money (on monthly average basis) grew at an average rate of 16.5 per cent in the 'eighties, primarily driven by the growth of net RBI credit to the government at the rate of 21.9 per cent. As a proportion to changes in reserve money, the variation in the net RBI credit to government was over 90 per cent during the 'eighties. In contrast, the incremental RBI credit to the commercial sector (mostly refinance against long-term finance) was small during the 'eighties and varied within the range of (-)Rs.119 crore in 1982-83 to Rs.1,734 crore in 1988-89. Refinance to banks also exhibited a similar trend with the incremental gross claims of the RBI on banks remaining within the range of (-) Rs.712 crore to Rs.2,638 crore during the 'eighties.

Secondly, the growing financing requirement of the government resulted in the crowding out of bank credit to the commercial sector. The growth in banking sector's net credit to the government increased from 15.0 per cent in the 'seventies to 20.4 per cent in the 'eighties whereas the growth in bank credit to commercial sector declined from 18.9 per cent to 17.2 per cent during the same period.

The sectoral deployment of non-food credit

Table MON.1: Average Growth Rates of Major Monetary and Banking Aggregates (Average of Months)

(Per cent)

	1970s	1980s	1990-91 to 1991-92	1992-93 to 1998-99	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Net Domestic Credit (1+2)	17.2	18.5	15.7	13.8	19.0	12.9	13.1	13.0	11.4	16.9	13.8	12.1	16.1
1. Net Bank Credit to the Government	15.0	20.4	19.1	13.2	19.8	18.3	9.6	15.4	9.5	12.3	14.9	12.5	18.1
i) Net RBI Credit to the Government	12.2	21.9	18.7	6.7	19.6	17.8	2.1	8.4	-10.6	18.7	11.4	-2.1	18.7
ii) Other Banks' credit to the Government	21.0	18.6	19.7	21.4	20.1	19.2	22.1	24.9	34.6	7.2	18.0	25.2	17.9
2. Bank Credit to Commercial Sector	18.9	17.2	13.1	14.4	18.3	8.6	16.2	11.0	13.1	20.9	13.0	11.8	14.6
i) RBI Credit to the Commercial Sector	36.9	13.8	9.4	6.4	11.8	7.1	11.3	0.1	1.7	1.3	-3.3	20.6	13.5
ii) Other Bank credit to the Commercial Sector	18.5	17.4	13.3	14.6	18.6	8.7	16.3	11.4	13.4	21.4	13.3	11.7	14.6
a) Food Credit of Scheduled Commercial Banks	42.2	-0.2	97.9	20.8	172.4	23.4	9.1	93.3	26.2	4.5	-25.8	9.4	26.2
b) Non-food Credit of Scheduled Commercial Banks	17.6	18.0	12.0	15.9	13.3	10.7	17.7	9.3	14.1	26.1	16.9	12.4	14.4
Memo Items :													
Reserve Money	14.5	16.5	16.5	14.1	15.8	17.3	14.8	16.2	22.4	16.5	6.4	10.3	12.2
Aggregate Deposits	20.4	18.1	16.9	17.8	16.3	17.6	19.2	15.9	19.6	12.8	17.4	18.6	21.3
Broad Money (M_3)	17.5	17.2	16.9	17.4	16.7	17.1	17.8	15.9	19.8	15.7	16.2	17.0	19.3

revealed the impact of a gradual increase in prescribed lending to priority sector. The share of priority sectors in total non-food credit rose from 36.9 per cent in 1980-81 to the peak of 43.6 per cent in 1986-87, and declined thereafter to 37.8 per cent in 1990-91. Within the priority sector, the shares of agriculture and small scale industries were 17.1 per cent and 15.2 per cent, respectively, during the 'eighties. While the share of non-priority sectors (excluding export credit) in the total non-food credit declined (with the share of medium and large industries declining from 43.2 per cent in 1980-81 to 39.2 per cent in 1990-91 and that of wholesale trade recording a corresponding fall from 8.7 per cent to 5.2 per cent), the share of the export credit increased from 7.1 per cent in 1980-81 to 8.1 per cent in 1990-91 (Table MON.J).

The broad objective of the credit policy during the 'eighties had been to meet the genuine credit needs for productive purposes and to assist in the fuller utilisation of the available capacities without stoking inflationary expectations. The credit policy played an important role in the credit allocation process by stipulating sectoral limits for credit deployment.

The provision of food credit was considered important and constituted the first charge on 'bank credit' indicating the planners' emphasis on agriculture in general, and food in particular during the 'eighties, as the overall demand for credit did not seem to be lacking. The Reserve Bank also provided refinance against food credit to enable banks to meet the food procurement credit requirements without any resources constraint. The banks were advised to conserve their resources for meeting the expected spurt in food credit, and to provide non-food credit within the Reserve Bank stipulated ceiling. Thus, credit planning involved estimation of food and non-food credit supply of banks and also projection of the sectoral pattern of credit deployment. The quantitative targets implied a reduced role of the interest rate as the equilibrium mechanism between demand and supply. The interest rate

Table MON.J: Sectoral Deployment of Non-food Gross Bank Credit

(Per cent to total)

Year	Priority Sector	*of which*		Industry (Medium and Large)	Wholesale Trade (other than food procurement)	Others	*Memo Item* Export Credit
		Agriculture	Small Scale Industries				
1	2	3	4	5	6	7	8
1980-81	36.9	15.6	14.0	43.2	8.7	11.2	7.1
1981-82	39.5	17.1	14.4	41.3	8.1	11.1	6.6
1982-83	39.1	16.7	14.2	42.1	7.5	11.3	5.5
1983-84	40.9	16.9	15.0	40.2	6.4	12.5	5.6
1984-85	43.5	18.1	15.6	37.7	6.3	12.5	5.5
1985-86	43.4	18.2	15.7	37.1	6.2	13.3	4.8
1986-87	43.6	18.4	15.8	37.2	5.4	13.9	5.5
1987-88	42.7	17.6	15.9	37.0	5.3	15.1	5.8
1988-89	40.3	16.4	15.5	37.9	5.6	16.2	7.2
1989-90	40.1	16.4	15.4	38.0	5.4	16.4	8.2
1990-91	37.8	14.8	15.1	39.2	5.2	17.8	8.1
1991-92	37.4	15.0	15.0	38.8	5.1	18.7	8.5
1992-93	35.5	14.2	14.3	41.8	5.0	17.8	10.9
1993-94	36.9	14.5	15.5	39.6	5.0	18.4	11.7
1994-95	34.7	13.0	15.0	40.4	5.3	19.6	13.6
1995-96	33.0	12.2	14.4	41.9	5.4	19.7	13.3
1996-97	33.8	12.5	14.3	40.8	4.9	20.5	11.9
1997-98	34.6	12.1	15.1	40.8	4.6	20.0	11.8
1998-99	35.2	12.2	14.9	40.1	4.3	20.3	11.0

was, however, used as an instrument of changing the cost of credit in the economy and as a means of subsidising certain preferential sectors of the economy. While the policy of setting a ceiling on interest rate for bank credit was actively used to restrict the cost of credit in the economy, its latter substitution by a minimum lending rate in 1988-89 provided flexibility to banks in fixing the interest rates on credit to different categories of borrowers, without adversely affecting their bottom line. The setting up of an interest rate ceiling in situations of the demand exceeding the targeted supply necessitated rationing of credit.

The seasonal pattern of lending reflecting the high importance of agro-based industries *e.g.*, sugar, cotton, fertilisers, *etc.*, was another feature of non-food credit expansion. The Reserve Bank's policy stance was oriented towards ensuring that banks meet genuine credit requirements of industries which lead the recovery during the busy season, while pursuing restraint during the slack season when industrial activity decelerates[3]. With a view to facilitating the flow of adequate credit to seasonal industries and other vital sectors, the Reserve Bank provided discretionary and stand-by refinance facilities, the latter against the collateral of government and trustee securities. These were modulated frequently to address the evolving seasonal credit needs. The refinance facilities were sectoral in nature with the ultimate objective of stimulating growth in certain crucial sectors like food and export credit.

The administered interest rate structure was the central feature of the Indian monetary and credit system during the 'eighties. The rationale behind administered rate structure was to enable certain preferred or priority sectors to obtain funds at concessional rates of interest.

3. It may be indicated that with the pattern of industrial output having changed substantially during the 'nineties, the seasonality in non-food credit does not seem to be attributable any longer to the extension of credit to seasonally active industries, but to factors like interest application and year-end window dressing.

This brought about an element of cross-subsidisation, resulting in higher lending rates for the non-concessional commercial sector. The cost of funds, *i.e.*, deposit rates also had to be maintained at a low level. The system of administered interest rate structure became complex over the period as the number of sectors and segments to which concessional credit was to be provided proliferated (Box MON.1).

As a follow-up of the recommendations of the Chakravarty Committee Report (1985), deposit rates were made relatively attractive, thereby eliminating the tendency towards financial repression associated with near zero real deposit rates. The interest rate structure on the assets side continued to remain complicated with about 50 lending categories and a large number of stipulated interest rates depending on the loan size, usage and type of borrowers. In the subsequent period (up to October 1994), the only major progress in the interest rate structure was the simplification of the administered rate structure following the reduction in the number of interest rate slabs to two (one fixed at 12.0 per cent, and the other a minimum lending rate of 15 per cent applied to large loans) by the end of 1993.

Another important feature of the credit market in the pre-nineties period was the regulation relating to the concentration of the bank credit to large number of borrowers as a part of the policy to prevent private monopolies. The credit authorisation scheme (CAS) introduced in 1965, grew into a comprehensive system to monitor credit approval and utilisation by a large number of borrowers for enforcing financial discipline among the credit users. Over the years, the CAS evolved into a system of lending aimed at ensuring optimal efficiency in the use of bank credit for production purposes. Nevertheless, the system proved inadequate as it had given rise to problems in the monitoring of credit thereby causing delays in the sanctioning of bank credit. With the strengthening of the credit appraisal systems in banks, the CAS lost its relevance through the 'eighties, eventually leading to its abolition in 1988 (Box MON.2).

The following features are discernible from the trends in the bank credit growth during the 'eighties and the policy conditions prevailing then. First, given the restrictions relating to bank lending to various sectors and the high pent up demand for credit, the potential market clearing level of credit remained higher than supply at the regulated interest rate. Secondly, a distinct feature of the trends in bank credit during the 'eighties was a large concentration of credit in the government sector. Thirdly, the priority sector lending norms were progressively strengthened during the 'eighties, alongwith the increased incidence of sector specific refinance and concessional interest rate facilities, which further reduced the role of banks in the credit allocation process. Fourthly, the operational flexibility of the banks in managing their credit portfolio and lending activities was affected by micro-level norms and regulations such as prescribing maximum permissible levels of finance to various industries and regulations in the form of selective credit controls. Fifthly, a significant part of the bank credit to commercial sector was provided in the form of loans and advances, particularly cash credit, which put the onus of cash management with the banks. The lack of securitised lending activities not only

Box MON.1: Micro-Management of Interest Rate in the 'Eighties

The complexities of interest rate prescription rose through 1970s and early 1980s. For example, in 1983 (April) public procurement and distribution agencies alone had a four-tier interest rate structure - one for foodgrains (12.0 per cent), two for sale of certain non-foodgrains on non-commercial basis (15.0 per cent and 16.5 per cent) and one for sale of non-food grains on commercial basis (18.0 per cent). There were two categories of interest rates on commodities coming within the purview of selective credit control, six categories of interest rates for pre-shipment credit, five categories for post-shipment credit, one for duty draw-back scheme, six categories for agriculture, four categories for loans to small scale industry, two categories for loans to state level corporations engaged in assisting weaker sections and cottage industries. Besides, there were other categories of advances such as differential rates of interest (DRI) advances, retail trade advances (3 categories), educational advances, priority sector advances not otherwise specified and finally all other advances. In so far as term loans were concerned, there were interest rate categories for the small scale industries (SSI), agriculture, housing and road transport operators.

Box MON.2: Credit Delivery System

During the period preceding bank nationalisation, large business houses used to dominate the Indian banking scene with the objective of subserving their needs. One of the objectives of bank nationalisation was, therefore, to prevent private monopolies and concentration of economic power. The Credit Authorisation Scheme (CAS) was introduced in 1965, with the objective of preventing a few large borrowers from appropriating a sizeable part of the scarce resources of the banking system. Despite these efforts, the dominance of large borrowers in bank credit continued and led to the constitution in the mid- 'seventies of the Study Group to frame guidelines for Follow-up of Bank Credit (Tandon Committee 1975). The Committee found the cash credit system to be the bane of bank lending since it provided undue advantage to the borrowers and rendered the management of assets and liabilities by banks difficult. It also formulated norms for funding assets by banks. In 1979, the Working Group to Review the System of Cash Credit (Chore Committee, 1979) emphasised the need to ensure better supervision and control of borrowers. The Committee to Review the Working of the Credit Authorisation Scheme (Marathe Committee, 1983) and the Committee to Review the Working of the Monetary System (Chakravarty Committee 1985) also looked into the various problems associated with the CAS. The Chakravarty Committee noted that the system did not provide for variations in inventory levels and that it could not prevent utilisation of credit facilities over and above the level justified on the basis of cash flow analysis.

The CAS, conceived against the background of preventing the preemption of scarce credit resources, grew into a more comprehensive system to ensure that the additional bank credit was in conformity with approved purposes and priorities, to enforce financial discipline on large borrowers, to pool information by banks regarding borrowers, and to improve the techniques of credit appraisal by banks. The concepts of inventory norms, methods of lending, quarterly information system, bill culture, and fast track facility, thus came to be associated with the scheme. The scheme was later limited to monitoring of fund-based limits of Rs.50 crore or more allowed by banks.

The credit appraisal techniques of banks underwent significant changes in the 'eighties. Banks trained a large body of personnel in the intricacies of working capital management, operating cycles of borrowers, inventory norms, methods of lending and follow up of bank credit. The switch over from the ceiling to the floor rate in 1988 necessitated further development of the credit appraisal system on the part of the banks. Notwithstanding the differences in relative competence, by the turn of the 'nineties banks, by and large, have adopted credit appraisal systems.

Reforms towards improving the credit delivery system was intensified beginning with the 'nineties. Following the recommendations of the Committee to Examine the Adequacy of Institutional Credit to the Small Scale Industries Sector (Chairman : Shri P.R. Nayak), the Reserve Bank introduced a special package of measures in April 1993 which simplified the process of loan delivery system for the SSIs. During 1992-93, banks were given considerable operational flexibility through relaxation of lending norms and lending arrangements. The provisions relating to consortia arrangements were simplified and streamlined. Since April 1997, it is not necessary for banks to form a consortium even if the credit limit of the borrower exceeded Rs.50 crore. Banks were granted considerable operational autonomy in spheres like fixation of inventory and receivables levels, and sanction of ad hoc credit limits. The scope for financing term loans was widened considerably. In 1993-94, individual banks were allowed to sanction term finance up to Rs.50 crore for a project. The ceiling was abolished for individual banks while for the banking system as a whole the ceiling was raised from Rs.200 crore to Rs.500 crore in October 1994. Banks were also permitted to participate in infrastructure development.

With the onset of financial sector reforms, the Reserve Bank relaxed the norms relating to maximum permissible bank finance (MPBF) in 1993-94. The measures that were announced enhanced the borrowers' eligibility for MPBF which alleviated the liquidity problems faced by the borrowers. However, in view of the problems associated with the cash credit system where the onus of cash management is borne entirely by the banks, and with a view to bringing about discipline in the utilisation of bank credit by large borrowers so as to gain better control over the credit flow, a 'loan system' for delivery of bank credit was introduced in April 1995. The cash credit component for borrowers with MPBF of Rs.20 crore or above was restricted to 75 per cent of MPBF. The balance 25 per cent was to be sanctioned in the form of short-term loans. The cash credit component was reduced to 60 per cent in October 1995, 40 per cent in April 1996, and further to 20 per cent in April 1997. The cash credit component for borrowers with MPBF of Rs.10-20 crore was fixed at 25 per cent in April 1997. Finally, a uniform limit of cash credit component (20 per cent) was prescribed for borrowers in these categories in October 1997. The minimum period of the loan component which was initially fixed by the Reserve Bank was left to be decided by the concerned bank so as to provide greater flexibility to borrowers and banks. Bank boards were also allowed to identify businesses where loan system creates difficulties for borrowers. Instructions relating to MPBF were withdrawn in April 1997 as banks were given greater freedom to assess the working capital requirements by evolving their own methods.

In recent years, the Reserve Bank has announced several steps to facilitate the flow of credit to the commercial sector, particularly for exports, information technology, infrastructure, agriculture, small scale industries, *etc.*

affected the development of credit market but also led to asymmetries in the credit information system at the individual bank level. This gave rise to some sort of a moral hazard problem restricting the information flow across the banking system.

Trends during the 'Nineties

Major financial sector reforms were undertaken in the 'nineties with a view to fostering competitive efficiency in the banking sector. One of the major objectives of the banking sector reforms has been to eliminate

financial repression, which has been inherent in the administered interest rate structure. The Narasimham Committee recommended that the 'real interest rates should be positive and that concessional interest rates should not be the vehicle for subvention'. In acceptance of the recommendation, interest rate reforms were undertaken in money, credit and government security markets. Beginning from 1992-93, interest rate in the government securities market was progressively deregulated, with the introduction of an auction system. The structure of interest rates for the commercial banks was altered to a more simplified one. As a step towards the progressive rationalisation of the banks' lending rate structure, the six categories of lending rates were reduced to four in April 1992 and three in April 1993. Effective October 18, 1994, interest rates on loans above Rs.2 lakh were freed and banks were permitted to determine their prime lending rates. As a signalling instrument, the Bank Rate was reactivated in April 1997 with deposit rates (upto one year maturity) initially linked to it. With the inflation rate under control, monetary policy was directed towards reducing the minimum lending rate to 17.0 per cent by the end of 1992-93 and to 14.0 per cent in 1993-94. Since April 1998, banks were given the freedom to determine the interest rates on loans up to Rs.2 lakh subject to small borrowers being charged at rates not exceeding the PLR. With the deregulation of the banking sector, interest rates have been emerging as major instruments of resource allocation.

Apart from market-related pricing, credit market reforms involved new instruments of credit, changes in the credit delivery system and integration of functional roles of the diverse players such as banks, financial institutions and non-bank financial companies. The gradual introduction of a loan system in the place of a cash credit system has facilitated banks in planning their cash flows better, and in reducing the costs of uncertainty. Concurrent introduction of securitised lending has helped to impart a degree of competitive efficiency to the credit markets in particular and the process of resource mobilisation in general. Similarly, the 'nineties have seen greater competition between the various categories within the financial sector, such as banks, financial institutions and non-banking financial companies (NBFCs). There has been a progressive convergence of roles of the banking and non-banking sectors. During the 'nineties, there has been a sharp increase in the credit allocation to the private sector from non-bank financial sector, *viz.*, development financial institutions and non-banking financial companies. The restrictions on project financing by banks have been increasingly liberalised to enable banks to extend term loans. As at end-March 1999, the share of term loans as percentage of total loans disbursed by banks stood at 34.9 per cent as compared with a share of 26.1 per cent as at end-March 1995.

The gradual liberalisation of the capital account of balance of payments provided an opportunity to the corporates in raising external resources in the form of global depository receipts (GDRs), FCCBs, Euro-issues, *etc.* Consequently, corporates' span of financial instruments for raising funds from domestic and external sources has considerably enlarged (Table MON.O). However, the small scale and the medium scale industries have continued to depend largely on bank credit apart from their own sources of finance.

The liberalisation process has been well supported by the introduction of prudential norms in order to foster the soundness of the banking system. Further, a gradual scaling down of pre-emptions in the form of reserve requirements and SLR prescriptions have enabled banks to manage their assets flows in a more market oriented fashion. The average CRR which was at a peak of 15 per cent during July 1989 - April 1993 was progressively reduced to 9.0 per cent by November 1999. The incremental CRR of 10 per cent was abolished in April 1992. The SLR which was at a peak of 38.5 per cent during September 1990 to December 1992, was progressively reduced to 31.5 per cent in October 1994 and finally to the statutory minimum of 25 per cent in October 1997. In recent years, banks have been holding SLR securities beyond the statutory minimum. It is pertinent to note that even in 1995-96, when the incremental non-food credit deposit ratio had increased to an unprecedented level of 95.7 per cent, banks were holding excess SLR securities of Rs.25,000 crore as at end-March 1996. As credit off-take decelerated since 1996-97, excess SLR securities steadily rose to

Rs.56,000 crore as at end-March 1999 and further to Rs.60,000 crore by July 1999 at which level they almost equalled the net market borrowing of the Central Government budgeted for 1999-2000.

In recent years, the category of priority sector has also been enlarged to include sunrise industries, venture capital, and by broadening the existing categories, making it easier for banks to meet the targets. The priority sector credit as a percentage of non-food gross bank credit, which exceeded 40 per cent during 1983-84 to 1989-90 after steadily declining to 33 per cent in 1995-96, rose to 35.2 per cent in 1998-99. The minimum margin and credit ceiling on certain sensitive agricultural commodities were modulated depending on price and output situations. Since October 1996, the minimum margin and credit ceiling have been abolished except on sugar. Some of the credit restrictions have been gradually removed in the 'nineties in regard to purchases of consumer durables, loans to individuals against shares and debentures/ bonds, real estate loans and other non-priority sector personal loans.

Monetary and Credit Trends

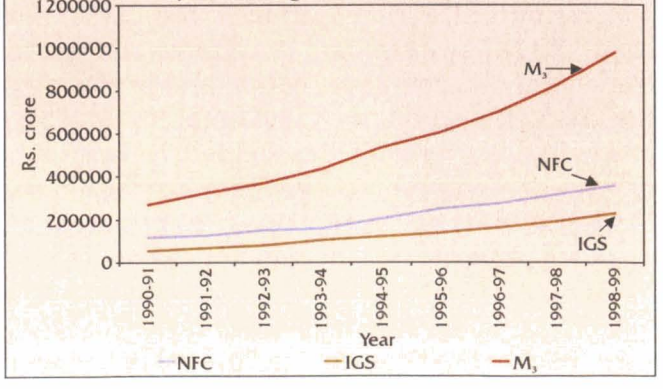
The monetary and credit developments in the 'nineties reflected the twin challenges of inflation management and the provision of adequate credit for financing economic growth. Following the opening up of the economy and the introduction of a market-determined exchange rate regime, volatility in capital inflows in particular, called for a carefully-crafted monetary strategy. The principal monetary policy objective was to restrain the M_3 growth rate to about 15-16 per cent, which was deemed to be in line with the inflation rate of about 5-6 per cent and GDP growth rate of about 6-7 per cent. The average monetary growth rate sharply rose to 19.8 per cent in 1994-95 in the wake of increased capital inflows. As a result, the inflation rate rose to 10.9 per cent. The liquidity position being comfortable as a result of capital inflows, commercial credit expanded by 13.4 per cent in 1994-95 and 21.4 per cent in 1995-96 (on monthly average basis). The Reserve Bank undertook monetary tightening measures in order to prevent excess money supply from spilling over to inflation, and also to pre-empt a situation of excess credit supply. It did so by raising the CRR in three stages in 1994-95 and combining it with large order of open market sale of government securities. These measures while accommodating the growth of RBI's net foreign assets, contributed to reduction in the growth of net domestic assets. As a result, the average M_3 growth rate was contained at 15.7 per cent in 1995-96, pulling down the average inflation rate to 7.7 per cent. With the average M_3 growth rate displaying a long-term average rate of growth of about 17.0 per cent since 1996-97 and the inflation rate declining to single digit levels, the Reserve Bank placed emphasis on the growth objective. The CRR was brought down by as much as 4.0 percentage points, releasing lendable resources of about Rs.17,850 crore in 1996-97. Graph MON.1 shows the movement in non-food credit and investment in government securities *vis-à-vis* the movement in liquidity conditions as represented by broad money over the nineties.

The growth in non-food credit extended by scheduled commercial banks has declined from 18.0 per cent during the 'eighties to 15.0 per cent during the 'nineties. This order of decline potentially reflects two factors: (i) the switch in the asset portfolio of banks to relatively risk-free assets like government securities in the wake of introduction of stringent prudential and asset classification norms, and (ii) availablity of alternative instruments/avenues for raising resources by corporates.

Non-Food Credit *vis-a-vis* Investments in Government Securities

In sharp contrast to the non-food credit trend, investments in governments securities

Graph MON.I: Broad Money (M_3), Non-food Credit (NFC) and Investments in Government Securities (IGS)
(Outstanding as on end-March)



accelerated from 19.4 per cent during the 'eighties to 20.4 per cent during the 'nineties, the rate of increase being even sharper on a monthly average basis from 18.7 per cent to 20.5 per cent per annum.

Table MON.K: Scheduled Commercial Banks' Portfolio Allocation of Lendable Resources

(Per cent of Aggregate Deposits)

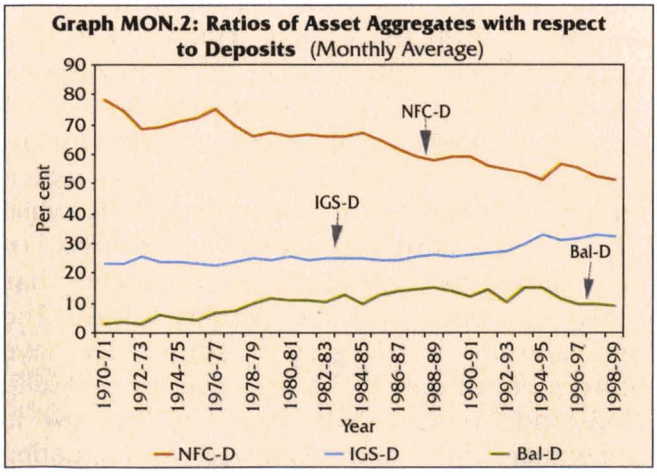
Year	Balances with the Reserve Bank (Bal-D)		Non-food Credit (NFC-D)		Investments in Government Securities (IGS-D)	
	March	Average	March	Average	March	Average
1	2	3	4	5	6	7
1980s	12.6	12.5	60.3	58.6	24.2	25.3
1990s	12.1	13.0	52.8	51.3	29.8	30.4

A profile of the asset holdings of the banks in relation to deposits shows clearly the tendency of a shift in the banks' asset portfolio in favour of risk-free investments (Table MON.K and Graph MON.2). Thus, while the ratio of non-food credit to deposits (NFC-D) declined sharply by 7.3 percentage points during the 'nineties to 51.3 per cent, investments in government securities as a proportion of deposits (IGS-D) rose by 5.1 percentage points (on an average basis) to 30.4 per cent. In recent years, NFC-D ratio has declined sharply by 4.3 percentage points from 53.6 per cent as at end of March 1997 to 49.3 per cent as at end of March 1999. However, this decline has been somewhat mitigated by a sharp increase in banks' non-SLR investments in money and capital market instruments issued by corporates which, as a proportion of aggregate deposits, increased from 3.7 per cent as at end-March 1997 to 6.7 per cent as at end-March 1999. Consequently, the ratio of total flow of funds to the commercial sector to aggregate deposits recorded a decline from 57.2 per cent as at end-March 1997 to 56.0 per cent as at end-March 1999.

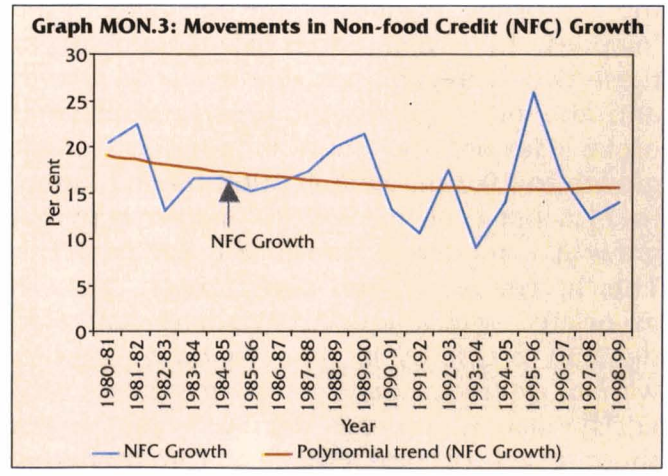
Despite the progressive reduction of the SLR during the 'nineties from 38.5 per cent (in 1992) to 25 per cent (in October 1997), the IGS-D ratio increased from 25.3 per cent during the 'eighties to 30.4 per cent during the 'nineties (Table MON.K). The active preference of the banks for investment in government securities was prompted, on the one hand, by the introduction of prudential BIS norms as regards capital adequacy, asset classification and income recognition which imparted an element of discipline in extending credit and on the other, by the auctions of government dated securities at market related rates. The introduction of auctions and the existence of zero credit risk made these securities sufficiently attractive for banks to hold beyond the minimum SLR requirements, particularly at times when demand for credit from corporates was slack.

Non-food credit moved in a pro-cyclical fashion with industrial output and interest rates in the the 'nineties. The movements in non-food credit followed a downward trend over the period (Graph MON.3). During the first two years of the 'nineties, non-food credit growth slowed down to 13.3 per cent and 10.7 per cent, respectively, from 21.6 per cent in 1989-90. The credit growth picked up at a higher rate of 14.1 per cent in 1994-95 and 26.1 per cent in 1995-96, but decelerated subsequently to 16.9 per cent, 12.4 per cent and 14.4 per cent in 1996-97, 1997-98 and 1998-99, respectively.

Graph MON.2: Ratios of Asset Aggregates with respect to Deposits (Monthly Average)



Graph MON.3: Movements in Non-food Credit (NFC) Growth



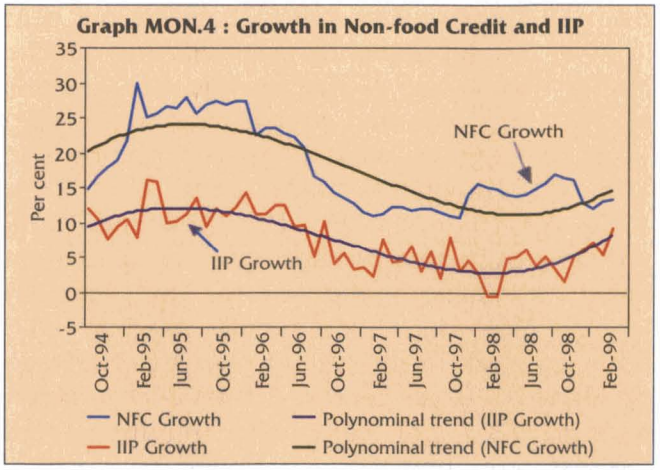
The Changing Dimensions of Credit Market in India

With the progressive liberalisation of financial system, the demand for and supply of bank credit in the economy have come to be influenced by the growing integration of financial markets and the changing (relative) roles of capital and credit markets in attracting household savings and in meeting the demand for funds from the industrial sector. Besides, the structural reforms in the banking industry have influenced the evolving relationship between limiting credit risk and the supply of credit. As a result, the behavioural patterns in credit have undergone changes over the years. There are at least three phases in the credit growth since the 'eighties. During the first phase from 1981-82 to 1987-88, non-food credit and industrial production index grew almost in tandem. A sharp decline in the non-food credit growth from 22.6 per cent in 1981-82 to 13.2 per cent in 1982-83 was accompanied by a deceleration in the industrial growth from 9.3 per cent to 3.2 per cent. The slowdown in credit and industrial growth in 1982-83 largely reflected the monetary tightening measures initiated in the wake of the IMF stabilisation programme. Thereafter, both the industrial growth and non-food credit growth recorded an upturn. While the industrial growth recorded a substantial growth in the range of 6.7-9.2 per cent annually during 1983-84 to 1987-88, non-food credit growth recorded a moderate upturn and was in the range of 15.2-17.5 per cent. This period was also characterised by relative price stability with inflation in the range of 4.4-8.2 per cent.

During the second phase starting towards the end of the 'eighties till the beginning of the 'nineties, the synchronous co-movements of these two aggregates *viz.,* the industrial growth and the non-food credit growth somewhat broke. Despite the spurt in non-food credit growth to 20.2 per cent in 1988-89 and further to 21.6 per cent in 1989-90, industrial output grew at a moderate rate of 8.6-8.7 per cent. The increase in non-food credit growth associated with a liquidity overhang generated demand pressures in the economy. Together with an external shock emanating from the Gulf crisis, inflation rate rose sharply during the first three years of the 'nineties. The monetary tightening measures that followed with the stabilisation programme in 1991-92 resulted in a sharp decline in growth of non-food credit off-take to 10.7 per cent in 1991-92. The slow growth in the credit off-take basically reflected the lower demand for credit from industry as the industrial output recorded a sharp deceleration to 0.6 per cent in 1991-92.

The third phase broadly covers the period after 1993-94. The process of industrial recovery started in 1993-94 and industrial growth reached a peak of 12.7 per cent in 1995-96. The process was facilitated by a sharp increase in non-food credit, which peaked at 26.1 per cent during 1995-96. Inflation also recorded a declining trend during this period as both demand and supply side factors were placed favourably. Thereafter, both non-food credit growth and industrial growth have shown a decline. The turning point of the industrial growth started in July 1996 as the year-on-year growth rate witnessed a sharp fall to 9.5 per cent from 12.5 per cent recorded in June 1996. The deceleration in the growth of non-food credit started around September 1996 when the annualised growth rate declined to 16.5 per cent from 20.6 per cent in the previous month. In other words, while the non-food credit growth and the industrial growth moved in the same direction, the decline in the former succeeded that of the latter. While the industrial growth slowed down to 5.6 per cent, 6.6 per cent and 4.0 per cent in 1996-97, 1997-98 and 1998-99, the average growth of non-food credit contracted to 16.9 per cent, 12.4 per cent and 14.4 per cent in these years.

Graph MON.4 provides monthly trends in IIP growth and non-food credit growth from October 1994 to August 1999. Both the variables exhibit strong order of co-movement - a common uptrend between December 1994 to March 1996 followed by a downward movement since April 1996. In more recent months, starting with November 1998 while IIP growth showed some evidence of correction, the non-food credit growth has shown an uptrend since January 1999. The deceleration in IIP growth seems to have bottomed out during the first quarter of 1999. Non-food credit growth touched the low in December 1997 and displayed a fluctuating



trend up to January 1999 before showing recovery since February, 1999. The polynomial trends in non-food credit growth and IIP growth reveal that the slopes of the curves have steepened since the first quarter of 1999, indicating a favourable turning point in both the variables in so far as the future prospect is concerned.

The data on pattern of credit outstanding in various sectors are given in Table MON.L. The share of the industry in the total outstanding credit has remained stagnant between 1980 and 1998, despite sharp fluctuation in the industrial growth. While the share of agriculture has fallen from 15.9 per cent as at end March 1990 to 10.7 per cent as at end March 1998, the share of personal loans and professional services has grown from 9.4 per cent to 14.0 per cent between 1990 and 1998. While the sectoral distribution of GDP in recent years reveals a decline in the relative shares of industrial and agricultural sectors, the share of bank credit to industry has remained largely unaltered.

Table MON.L: Distribution of Outstanding Credit of Scheduled Commercial Banks according to Occupation

(In per cent)

		Dec. 1972	Dec. 1980	Mar. 1990	Mar. 1993	Mar. 1998
	1	2	3	4	5	6
1.	Agriculture	6.5	15.7	15.9	13.6	10.7
2.	Industry	62.0	48.8	48.7	48.6	48.8
3.	Transport Operations	1.6	4.6	3.2	2.3	2.0
4.	Personal Loans and professional Services	5.0	2.2	9.4	11.0	14.0
5.	Trade	14.9	19.7	13.9	15.3	13.9
6.	Financial Institutions	..	3.4	2.1	2.4	3.7
7.	Miscellaneous	10.0	5.6	6.8	6.8	6.9
8.	Total	100.0	100.0	100.0	100.0	100.0
Memo:						
Total Bank Credit (Rupees crore)		**5,553**	**23,674**	**1,04,312**	**1,62,457**	**3,29,944**

Credit and output are generally expected to follow a lead-lag relationship particularly in developing economies with thin capital market and low share of securitised debt in the financing of corporate investment. Given the relatively high dependence of industry on bank credit, a faster rate of increase in credit off-take from the banking system provides a leading indicator of inventory accumulation and industrial growth. Credit may also lag production if credit sanctions and their utilisation follow a pro-cyclical pattern, with higher expected growth leading to high demand for and supply of bank credit in the economy. The dynamic correlation between the quarterly industrial growth and the non-food credit growth for the Indian economy for the period 1995-96 to 1998-99 indicate this two-way relationship. The contemporaneous correlation between the quarterly non-food credit growth and the quarterly growth in IIP is high at 0.83, but declines successively with the increase in lag in non-food credit growth. For example, the correlation coefficient between the current period IIP growth and four quarter lag non-food credit growth declines to 0.20 from the one quarter lag of 0.71 giving evidence of credit being a poor leading indicator of industrial growth. On the other hand, the correlation coefficient between the current period non-food credit growth and one quarter lag industrial growth rises to 0.89 from 0.83 in the contemporaneous relationship. Although the correlation declines with the increase in lags of industrial growth, it remains significantly high in the successive lags for second, third and fourth lags (0.87, 0.74 and 0.5) of IIP growth. From this preliminary evidence, it seems that industrial growth leads credit growth better than the other way round.

While the correlation between IIP and credit growth indicates the degree of association between these two variables, it does not provide evidence on the direction of causation between

them. On the basis of an unrestricted bivariate VAR exercise (with intercept and trend), it is found that IIP and non-food credit are cointegrated (both being I(1) at the appropriate lag chosen by information criteria), suggesting that in the long-run both these variables move in equilibrium.[4] The Granger causality of both the variables, however, indicates a bi-directional causation between IIP and non-food credit.[5] As is expected, these evidence point to the two-way causation of IIP and credit. The demand for credit is influenced by the industrial performance, which exerts an independent impact on the credit off-take from the banking system. The supply of credit should rise commensurately if this demand has to be satiated by the banking system to support industrial growth.

Interest Rate and Non-food Credit

Interest rate exerts a significant impact on the non-food credit by directly affecting the cost of credit and hence credit off-take and indirectly, by influencing the aggregate demand level in the economy and the growth of credit. Interest rate has, therefore, successfully emerged as a major monetary policy instrument in recent period in promoting credit and industrial growth, after its gradual deregulation since 1992-93.

During the period 1975-76 to 1994-95 when the administered interest rate system was in operation, the lending rate of the banking system evolved in three phases. During 1975-76 to 1980-81, the Reserve Bank prescribed both minimum lending rate (13.5 per cent) as well as the ceiling rate (19.5 per cent). During the second phase, 1981-82 to 1987-88, the Reserve Bank fixed only the ceiling rate, which was progressively reduced in three steps from 19.5 per cent up to 1982-83 to 16.5 per cent in 1987-88 (Table MON.M). The decline, though initially lagged the steep fall in inflation (as measured by WPI on a weekly average basis) from 18.3 per cent in 1980-81 to 9.3 per cent in 1981-82, subsequently exceeded the decline in the inflation rate. Consequently, the peak real interest rate recorded a declining trend from 14.6 per cent in 1982-83 to 8.3 per cent in 1987-88. During the third stage, *i.e.,* from 1988-89 to 1994-95, the Reserve Bank switched over from prescribing a ceiling interest rate to a minimum lending rate. The minimum lending rate which was initially fixed at 16.0 per cent, was raised sharply by 3 percentage points to 19.0 per cent in 1991-92 as inflation rose to 13.7 per cent. The minimum real interest rate, however, continued to decline, reaching 5.3 per cent in 1991-92. As inflation decelerated by 5.3 percentage points in the subsequent two years to 8.4 per cent in 1993-94, the minimum lending rate was also lowered by 4.0-5.0 percentage points to 14.0-15.0 per cent when the non-food credit off-take exhibited a sharp deceleration.

The lending rate was deregulated for loans above Rs.2 lakh, effective October 18, 1994. The movements in the prime lending rates (PLRs) of five major public sector banks since

Table MON.M: Non-food Credit Growth and Interest Rates

(in per cent)

Year	SBI Advance Rate	Ceiling Rate	Minimum Rate	Non-food Credit Growth
1	2	3	4	5
1980-81	16.50	19.40-19.50	13.50	20.6
1981-82	16.50	19.50	—	22.6
1982-83	16.50	19.50	—	13.2
1983-84	16.50	18.00	—	16.7
1984-85	16.50	18.00	—	16.7
1985-86	16.50	17.50	—	15.2
1986-87	16.50	17.50	—	16.0
1987-88	16.50	16.50	—	17.5
1988-89	16.50	—	16.00	20.2
1989-90	16.50	—	16.00	21.6
1990-91	16.50	—	16.00	13.3
1991-92	16.50	—	19.00	10.7
1992-93	19.00	—	17.00	17.7
1993-94	19.00	—	14.00-1500	9.3
1994-95	15.00	—	15.00*	14.1
1995-96	16.50	—	16.50*	26.1
1996-97	14.50	—	14.50*	16.9
1997-98	14.00	—	14.00*	12.4
1998-99	12.00	—	12.0*	14.4

* Prime lending rate for five major public sector banks.

4. The cointegration result between these two variables for the sample period April 1981 to March 1999, suggests that one per cent increase in IIP leads to 0.71 per cent increase in non-food credit.

5. The null hypothesis of the non-causality of IIP in the VAR is rejected with a significant chi-square value of 83.3 (p value of 0.0). Similarly, the null hypothesis of non-causality of non-food credit is also rejected with a significant chi-square value of 35.4 (p value of 0.0).

then show two phases; first a rise up to June 1996 followed by a decline subsequently. This movement broadly coincided with the trends in industrial growth and monetary policy announcements. The PLRs which were at 15 per cent as at end March 1995 increased to 16.5 per cent during January 1996 to June 1996. This phase marked a sharp rise in the annual growth in industrial output with the consequent increase in the demand for non-food credit. Consequently, the annual increase in non-food credit off-take which was at 14.9 per cent in October 1994 increased sharply to 26-27 per cent during June 1995 to February 1996. As the economy decelerated after recording three successive years of above 7 per cent growth during 1994-95 to 1996-97, the supply constrained situation gave way to a demand-constrained condition and non-food credit off-take decelerated to a range of 11-16 per cent since February 1997. In order to promote industrial growth, and as a part of structural reform of the banking system, the Reserve Bank effected CRR cuts by about 4 percentage points between 1995-96 and 1998-99 and activated the Bank Rate as a signaling device to indicate the interest rate condition in the economy. The Bank Rate was lowered to 8.0 per cent by March 1999 from 12.0 per cent in March 1997. This prompted the banks to reduce PLRs to 12-14 per cent during June 1997 to August 1999.

A crucial difference in the interest rate behaviour between the period upto early 'nineties and thereafter seems to be that while in the former period interest rate adjustments lagged inflation rate movements, in the latter period, interest rates followed the demand and supply positions in the non-food credit market and the prevalent monetary policy stance. Although lending rates in recent years have fallen substantially, they tended to be sticky downwards. Several factors explain the stickiness of interest rates. First, interest rate flexibility is guided not only by the present liquidity conditions but also by the cost of funds borrowed in the past, especially since the bank deposit rates are fixed for the term of the deposit. Moreover, the deposit rates offered by banks have to be kept at a level comparable to returns available in other competitive investments. The interest rates on contractual savings like Provident Fund (12.0 per cent) and National Savings Scheme (11.0 per cent for 4-year deposits) after taking into account the tax provisions are substantially higher than the long-term deposit rates of banks (10-12 per cent). Secondly, for public sector banks, the average cost of funds tends to be about 8.0 per cent. The non-interest operating expenses combined with high NPAs placed pressure on the required spread over cost of funds leading to higher interest rates. The level of pre-emptions *via* reserve requirements remains relatively high imparting an upward bias to the average cost of funds. Thirdly, the interest rates offered must be viewed in the context of the investment alternatives available to banks. The persistent and large volume of Government borrowing provides a high benchmark to lending rates in the Indian economy. Fourthly, the structural reforms in the banking sector have made banks more conscious of risks. With the debt-equity ratio showing an upward trend in recent years, partly as a result of the industrial slowdown and depressed capital market conditions, banks are being conservative in their advances, and prefer higher mark-ups in order to compensate for their credit risks. Fifthly, some degree of downward stickiness of interest rates may have arisen from credit market imperfections which lead to banks and borrowers being conscious of their respective cliental value to each other through long-term contractual arrangements. A reduction in the lending rate may not be as flexible, if the insurance for continued flow of credit is available from the bank to the borrower, given the inter-temporal uncertainty in bank finance.

Despite these constraints, the PLRs of banks have shown steady declines from 16.5 per cent in 1995-96 to amonge of 12 to 14 per cent in 1998-99, driven by monetary policy initiatives to bring down the interest rates in the economy and the sluggish growth in demand for credit. The decline in PLR has closely followed the yield conditions in the

government securities market, given the opportunity cost as between both the assets in the banks' portfolio. Graph MON.5 shows the trends in the weighted average yield of government securities and the PLR of banking system in the more recent period. The difference between the two rates has come down successively since 1995-96. The differential of PLR from the weighted average interest rate on government securities which stayed at 2.75 percentage points in 1995-96 fell to 0.14 percentage point in 1998-99. Given the near uniformity between the government borrowing rate and the lending rate charged by banks to their best borrowers, further declines in the PLR would crucially depend on reduction in the yield rate on government securities.

The importance of interest rate for credit allocation in the economy also depends on whether the price mechanism is the dominant channel for clearing credit market. If the credit market is relatively more imperfect and marked by quantity adjustments, the link between interest rate and credit is expected to be weak. Under such circumstances, credit availability conditions may have special importance for the transmission of monetary policy. The Reserve Bank therefore has been emphasising on both volume of credit flow and the interest rate conditions in its monetary policy.

Bank Credit and Financial Disintermediation

In the regulated environment of the 'eighties, bank deposits formed the most important saving instrument for household savings. The absence of a well-developed capital market restricted the scope of the private sector to raise resources from alternative sources other than bank credit. Controls on interest rate and quantitative restrictions on credit market adversely affected saving and volume of financial transaction in the economy, giving rise to disintermediation in the organised financial system and growth of parallel market for credit. In the 'nineties with the gradual deregulation of interest rate controls and quantitative credit restrictions, bank deposits and credit showed improvements in the initial years of the decade. This was, however, followed by slowdown in the latter years. The aggregate deposits of the scheduled commercial banks, on a point-to-point basis, increased by 17.3 per cent in 1993-94 and 22.8 per cent in 1994-95. The growth rate in aggregate deposits fell to 12.1 per cent in 1995-96, before recovering to 16.5 per cent and 19.7 per cent in the subsequent two years, respectively. In 1998-99, deposit growth excluding the proceeds of the Resurgent India Bonds, declined to 16.3 per cent. Table MON.N provides the percentage share of banks, non-bank companies (NBCs), new capital issues and mutual funds in the total resource mobilisation for the period 1980-81 to 1996-97. The share

Graph Mon.5: Non-food Credit Offtake (NFC), Bank Lending Rate (R) and Government Securities Rate (G-Sec)

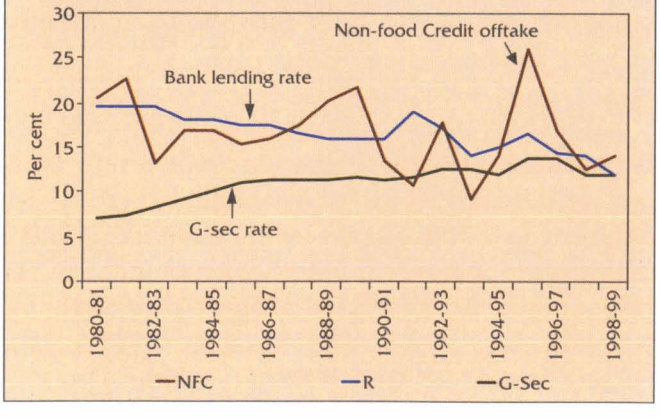


Table MON.N: Relative Contribution of Scheduled Commercial Banks, Non-Banking Companies (NBCs), New Capital Issues and Mutual Funds in Resource Mobilisation

(in per cent)

Year	Banks@	NBCs	New Capital Issues	Mutual Funds
1	2	3	4	5
1980-81	89.7	9.9	0.3	0.1
1981-82	87.9	11.0	0.7	0.3
1982-83	83.9	15.0	0.8	0.3
1983-84	83.5	15.3	0.7	0.5
1984-85	80.4	18.0	0.8	0.8
1985-86	81.0	17.1	1.1	0.8
1986-87	80.7	16.8	1.5	1.0
1987-88	80.8	16.6	1.0	1.6
1988-89	80.1	16.4	1.1	2.4
1989-90	77.4	16.7	2.7	3.1
1990-91	77.7	17.8	1.4	3.0
1991-92	77.3	17.2	1.8	3.8
1992-93	60.2	33.2	3.7	2.9
1993-94	59.9	35.3	2.6	2.1
1994-95	58.4	36.9	3.0	1.7
1995-96	59.5	39.6	1.8	-0.8
1996-97	58.6	40.4	1.2	-0.2

@ Aggregate Deposits.

of bank deposits in total resource mobilisation has shown a secular decline over the years. The share of bank deposits has fallen from close to 90 per cent in 1980-81 to 77.3 per cent in 1991-92 and further from 60.2 per cent in 1992-93 to 58.6 per cent in 1996-97. On the other hand, shares of NBFCs, new capital issues and mutual funds have increased significantly during this period.

The process of gradual decline in banking sector's dominance in resource mobilisation has also been combined with declining share of bank credit in the total flow of resources to the commercial sector. Table MON.O provides data on total flow of non-food resources to commercial sector by way of bank credit, credit from financial institutions, capital issues, flow of global depository receipts and issues of commercial papers for the period 1996-97 to 1998-99. The contribution of non-food credit of scheduled commercial banks to total resources declined to 27.4 per cent in 1996-97 from 41.4 per cent in 1995-96. The share improved to 33.3 per cent in 1998-99 mainly due to negative contribution of capital issues to total resource flows on account of depressed capital market activity. The process of disintermediation of banking system may get momentum with the steady growth in capital market and further liberalisation of external capital inflow, improving the direct access of the corporate sector to domestic and foreign saving. Responding to this development, banks have started making greater use of market related instruments in providing credit to the industry. It is important to note that total resources lent by banks to commercial sector have been much higher than the conventional non-food bank credit in the form of loans, cash credit and bills. While the conventional non-food credit of the scheduled commercial banks amounted to Rs.40,789 crore and Rs.40,428 crore in 1997-98 and 1998-99, respectively taking into account the banks' investment in commercial papers, bonds and debentures issued by non-government enterprises and equity issued by public sector undertaking and private corporate sector, total resource flow from scheduled commercial banks rose to Rs.53,842 crore and Rs.57,100 crore, respectively, in 1997-98 and 1998-99, (Table MON.O). There has been a significant transformation in the means through which banks release resources to the commercial

Table MON.O: Total Flow of Non-Food Resources to Commercial Sector

(Rupees crore)

Item	1996-97	1997-98P	1998-99P
1	2	3	4
I. Scheduled Commercial Banks (I.1+I.2)	**30,951**	**53,842**	**57,100**
I.1. Non-food credit	26,581	40,789	40,428
I.2. Other Investments (2.1+2.2+2.3)	4,370	13,053	16,672
2.1.Commercial Paper	617	1,363	1,910
2.2.Bonds/Debentures/Preference Shares Issued by	3,685	11,350	13,831
2.2.1 Public Sector Undertakings	3,348	4,159	5,763
2.2.2 Private Corporate Sector	337	7,191	8,068
2.3 Equity Shares issued by PSUs and Private Corporate Sector	67	340	931
II. Other Banks	**8,544**	**8,817**	**7,790**
III. From Other Sources (III.1+III.2+III.3+III.4+III.5)	**57,486**	**54,501**	**56,407**
III.1 Bills rediscounted with financial institutions	655	-743	187
III.2Capital Issues @ (2.1+2.2)	14,124	-1,223	-2,890
2.1 Non-Government Public Companies	10,080	-4,248	-3,672
2.1.1 Debentures and Preference Shares	3,968	-5,215	-5,617
2.1.2 Equity shares	6,112	967	1,946
2.2 Public Sector Undertakings and Government Companies	4,044	3,025	782
III.3Global Depository Receipts (GDRs) and Foreign Currency Convertible Bonds (FCCBs) Deposits	3,275	4,378	2,105
III.4Issue of Commercial Paper (CP) #	-47	-509	1,360
III.5Borrowings from Financial Institutions ##	39,479	52,597	55,645
Total Flow of Non-food Resources (I+II+III)	**96,981**	**1,17,160**	**1,21,296**
Memo Items			
1. Loans to Corporates against shares	—	15	20
2. Private Placements	15,066	30,099	49,664

P Provisional.
@ Adjusted for banks' investments in shares and debentures.
# Excluding CPs issued to banks.
Excludes bills rediscounted with FIs.

sector. The conventional measure of non-food credit is not only losing importance as a measure of bank credit to commercial sector, but also becoming less important as a source of mobilisation of resources by the corporate sector for financing investment (Box MON.3).

The decline in the relative importance of banking sector in resource mobilisation and flow of bank credit to commercial sector needs to be viewed in the context of the financial sector reform which has imparted a great degree of competition in the various segments of financial markets and the changes in the financial market structure. The recent financial liberalisation and development of different segments of financial markets have ushered in a variety of financial instruments for mobilisation of savings of the household. These instruments compete with bank deposits in the household portfolio, depending on their relative returns and risk characteristics. An increase in share of these instruments in total resource mobilisation is expected to improve the role of interest rate leading to better allocative efficiency of the economy. This has also implications for monetary policy in so far as interest rate is emerging as an important transmission channel of policy in the economy. Moreover, the growing importance of capital market and external equity sources in funding of corporate investment has implications for the leveraging ratio of the corporate sector. A relative heavy dependence on high cost bank credit for financing investment increases the debt/equity ratio of the corporates affecting their cash flows and future value which has implications for their ability to finance future investment.

A rising component of equity finance

Box MON.3: Changing Forms of Bank Credit

The conventional credit from the banking system to the commercial sector comprises banks' advances in the form of loans and advances, cash credit, overdrafts, inland and foreign bills purchased and discounted (constituting conventional credit) as well as banks' investments in instruments issued by the non-government non-bank domestic sector. Banks invest in securities issued by the non-bank non-government sector, approved for SLR purposes under Section 24 of the Banking Regulation Act. However, with deregulation, there has been a shift in the banks' asset portfolio mix, with a sharp increase in the share of investments in money market instruments such as commercial paper as well as capital market instruments such as shares and debentures issued by the commercial sector. Banks' investments in such non-SLR securities need to be factored into conventional credit aggregates to arrive at a measure of the total flow of resources from banks to the commercial sector.

Scheduled commercial banks were allowed to subscribe to shares and debentures of corporates (including PSUs) up to 5.0 per cent of their incremental deposits of the previous year with a sub-ceiling of 1.5 per cent for corporate shares in October 1993. Investments in PSU bonds were excluded from the 5.0 per cent ceiling in January 1994. Further, they were allowed to purchase shares and debentures in the secondary market within the existing 5.0 per cent ceiling in October 1996. Preference shares/debentures/ bonds of private sector bodies were excluded from the 5.0 per cent limit in the monetary and credit policy for the first half of 1997-98. At present, the only restriction on banks' investments in non-SLR securities is the cap of 5.0 per cent of their incremental deposits in the previous year on investments in ordinary shares of corporates.

Scheduled commercial banks' incremental investments in market instruments issued by the corporate sector substantially expanded by Rs.16,672 crore in 1998-99 and Rs.13,053 crore in 1997-98 as compared with Rs.4,370 crore in 1996-97, driven by a sharp increase in banks' investments in the private debt market. In addition, scheduled commercial banks' incremental investments in instruments issued by financial institutions and mutual funds amounted to Rs.8,966 crore in 1998-99 and Rs.5,248 crore in 1997-98. The bulk of the increase came in the form of corporate bonds and debentures which had been excluded from the 5.0 per cent ceiling in April 1997. Banks typically acquired their non-SLR investments, especially corporate bonds and debentures *via* private placements, with most of the securities, especially corporate bonds and debentures belonging to the unquoted variety.

The increase in the share of scheduled commercial banks' incremental investments in capital and money market instruments in incremental credit may be ascribed to sluggishness in credit demand on the demand side and corporate preference for marketable debt rather than credit on the supply side. Banks' investments in loans, cash credit and non-SLR securities reflect both portfolio optimisation as well as extension of relationship banking. Banks may also prefer non-SLR investments to SLR investments which offer higher returns even after accounting for credit risks. Such securitised investments also provide an alternative avenue of resource deployment by banks in the context of reducing non-performing assets on loans accounts. Finally, such investments often entail lower transactions costs.

Taking cognizance of growing non-SLR investment of banks the Report of the Working Group on Money Supply: Analytics and Methodology of Compilation (Chairman: Dr. Y.V. Reddy, 1998) has recommended inclusion of such investments in bank credit to commercial sector.

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relative to bank credit, on the other hand could be preferable for improving the future net worth of companies. Another important structural factor having implications for growth of non-food credit of the banking system is the asymmetric adjustment of the lending rate relative to the rigid deposit rate which could be adversely affecting the demand for bank credit particularly in the context of significant market uncertainty.

Bank Behaviour and Credit Growth

An important structural reason associated with bank credit growth in India has been the adoption of international prudential standards and their implications for the lending behaviour of banks particularly during the transition. Credit markets in developing economies are characterised by asymmetric information between the borrowers and lenders. This gives rise to typical problems of adverse selection. Interest rate deregulation may encourage banks to lend to risky areas by charging higher interest rates, and in the process reducing the expected return from projects - a familiar problem associated with adverse selection. This could result in credit rationing and reduction in credit supply by the banking system.

In India the problem of adverse selection has been largely contained by regulating the spread that can be charged by banks over their PLRs. Presently such spread has been prescribed as not to exceed 3.5 to 4.0 percentage points above PLR. The problems associated with adverse selection remained a concern in India in the initial years of reforms, when interest rate increased to high levels. While less than 2 per cent of bank advances were in the interest rate range of 18 per cent or above prior to 1993, this proportion increased to 31.8 per cent by March 1993. This had prompted the Reserve Bank to caution the banks regarding the adverse consequences of extremely high interest rates, apart from putting in place a limit on the spread over PLR. In the latter years, the proportion of bank advances in the interest rate range of 18 per cent and above declined gradually, reaching 28.5 per cent by March 1998.

The reduction in the lending rates in the recent years and deceleration in credit growth has shifted the focus from adverse selection to credit supply constraints arising from the cautious lending behaviour by banks. The credit risk perceptions of banks have been influenced by the gradual strengthening of the prudential standards. The risk environment of banks has also undergone a significant change due to factors such as the uncertainty in the real economy, volatility in the interest rate and exchange rate, the adverse effects of contagion spreading from international financial markets, and the growing link between the credit risk and market risk. Another source of risk has been the high backlog of non-performing assets (NPAs) of the public sector banks. The quantum of gross NPAs of public sector banks increased from Rs.39,253 crore as at end-March 1993 to Rs.51,710 crore as at end- March 1999, putting the credit risk management at the forefront of controlling and managing risk in the banking system.

A high share of NPAs in total advances could have affected the bank lending behaviour by encouraging prudent lending and improvement in the loan screening mechanism, and by increasing the collateral standards for bank borrowers. A further factor could be the higher ratio of NPAs in priority sector, combined with the prescribed lending to this sector. The percentage of gross NPAs in priority sector in total priority sector advances has been in the range of 23 to 27 per cent during 1996 and 1998, compared to that of 12 to 14 per cent for non-priority sector. A higher NPA ratio in priority sector, could be translating to stiffer credit appraisal norms in the non-priority sector, particularly for firms which are on the margin of being selected as prospective bank borrowers, as banks try to match a relatively poor asset quality standard in the priority sector against a better asset quality standard in the non-priority sector. This could have a bearing on extension of new advances in the non-priority sector.

Price Situation

The long-run price behaviour of an economy reflects the underlying macro-economic conditions mirrored in the aggregate demand and supply balance. In India, the long-term inflation rate as measured by the variation in the Wholesale Price Index (WPI) on an average basis remained in the range of 8 to 9 per cent (during the period 1970-71 to 1998-99) and the median inflation rate stood at 7.5 per cent for the 'eighties and 8.0 per cent during the 'nineties. The mean inflation rate stayed at 8.0 per cent during the 'eighties against 8.8 per cent during 1990-91 to 1998-99.

Notwithstanding the long-term trend, the inflation rate has exhibited significant year-to-year deviation mainly due to transitory shocks, which have played an important role in the determination of inflation. During most of the 'eighties, inflation rate measured on the basis of average of weeks remained below double digit, although the year-to-year inflation variation was noticeably large between 4.9 per cent in 1982-83 and 18.2 per cent in 1980-81. Two episodes of drought were experienced during this period, *viz.*, in 1982-83 and 1987-88 and this was in addition to the lingered impact of the second oil price shock during 1979-81. Excluding the two drought years and the impact of the oil shock, average inflation rate in the 'eighties worked out lower at 6.9 per cent.

The nature of the inflation process during this period was marked with high component of administered prices in the WPI basket, especially fuel, power, light and lubricants and some of the core manufactured products and food items; the year-to-year variation in supply of essential food commodities; the monetary condition largely influenced by the fiscal deficit of the government; the changes in prices of the importables, especially oil; and the mark-up conditions in the manufacturing sector. The combination of these factors, which were at time mutually reinforcing in nature, gave rise to a relatively high rate of growth in prices of primary articles (7.8 per cent), fuel group (9.2 per cent) and manufactured products (7.9 per cent) (Table MON.P).

Table MON.P: Wholesale Price Index – Major Groups: Percentage Variations – Annual
(Base : 1981-82=100)

Year	(Average of Weeks Basis)			
	A.C.	P.A.	F.P.L.&L.	M.P.
1	2	3	4	5
1980-81	18.2	15.1	25.3	19.4
1981-82	9.3	11.3	20.6	5.2
1982-83	4.9	6.7	6.5	3.5
1983-84	7.5	10.8	5.6	6.1
1984-85	6.5	6.2	4.3	7.0
1985-86	4.4	0.2	10.7	6.0
1986-87	5.8	9.1	6.8	3.8
1987-88	8.1	11.3	3.4	7.2
1988-89	7.5	4.9	5.5	9.4
1989-90	7.5	2.2	3.6	11.3
1990-91	10.3	13.0	12.3	8.4
1991-92	13.7	18.1	13.2	11.3
1992-93	10.1	7.4	14.1	10.9
1993-94	8.4	6.9	15.5	7.8
1994-95	10.9	12.9	6.9	10.5
1995-96	7.7	7.3	1.8	9.2
1996-97	6.4	8.0	13.6	4.0
1997-98	4.8	3.4	12.7	4.1
1998-99	6.9	11.7	4.3	4.5
1999-2000 (Up to Nov.)	3.0	3.4	6.6	1.9
1998-99 (Up to Nov.)	7.7	13.0	6.1	4.8
Avg.1980-81 to 1989-90	8.0	7.8	9.2	7.9
Avg.1990-91 to 1999-2000	8.2	9.2	10.1	7.3

Note: Components may not add up to the total due to rounding off.
A.C. : All Commodities
P.A. : Primary Articles
F.P.L.&L.: Fuel, Power, Light and Lubricants
M.P. : Manufactured Products
Source: Office of the Economic Adviser, Ministry of Industry, Government of India.

During 1990-91 and 1991-92, the general price level came under severe pressure following the balance of payments crisis which was a culmination of macroeconomic imbalance of the previous decade. The tempo of the increase in prices, built up in 1989-90, escalated progressively, especially following the Gulf crisis, and crossed the double digit mark on a point-to-point basis reaching 12.1 per cent by the end of the financial year. Though the pressure on the price level largely came from primary articles, both food and non-food, the 'fuel, power, light and lubricants' group also imparted considerable pressure to the general price level. The generalised inflationary pressure was seen in a number of factors – both domestic and external, most importantly, a high rate of growth in M_3 arising from persistent fiscal deficits and its monetisation in the past few years. Other important factors were: supply-demand imbalances in essential commodities like pulses, oilseeds and edible oils; constraints in augmenting the availability of commodities in short supply through imports due to the severe foreign exchange shortage; large increases in prices of industrial products like mineral oils and electricity and also in the procurement prices of major crops; increases in railway freights, excise duties and other levies; cascading effects of the fuel price hike and curtailment of energy quota leading to supply bottlenecks in the wake of the Gulf crisis; rising import costs etc. On an average basis inflation rate stayed at a high level of 10.3 per cent and 13.7 per cent during the crisis period of 1990-91 and 1991-92. Commodity-wise data on price trends showed that the price of rice rose sharply by 13.4 per cent in 1990-91 as against 1.6 per cent in 1989-90 and that of wheat by 48.9 per cent in contrast to a decline of 16.6 per cent in the previous year. Following a comprehensive stabilisation programme, the inflation rate though started to decline, remained high at 10.1 per cent in 1992-93 and 8.4 per cent in 1993-94. Pressures on prices, however, re-emerged in 1994-95 with the relatively faster rate of growth of M_3, following steady capital flows from abroad. The inflation rate consequently increased to 10.9 per cent in 1994-95.

The period from 1995-96 presents a characteristically different price environment in the Indian economy. Not only the inflation has shown a significant deceleration, but also the trend has been maintained for the past five years, with the exception in 1998-99. The rate of inflation declined to 7.7 per cent in 1995-96, to 6.4 per cent in 1996-97, and further to 4.8 per cent in 1997-98. In 1998-99, the inflation rate came under pressure arising from a negative supply shock emanating from shortage of a few food articles and food products, which though reversed in 1999-2000. The inflation rate, which had increased to 6.9 per cent in 1998-99 declined through 1999-2000, reaching 3.0 per cent by end-November 1999.

The recent downward trend in the inflation rate reflects a number of structural and policy factors which have undergone a change following economic and financial liberalisation. The period has also coincided with a global trend of low inflation. While the agricultural shocks still play a relatively large role in the inflation environment, the high level of cushion provided by a record level of buffer stock of food grains and wide reach of the public distribution programme have worked to minimise the impact of such adverse supply shocks on the food prices and the general rate of inflation. Reflecting this, the primary articles inflation has remained subdued since 1995-96, with the exception of 1998-99. On an average basis the inflation rate in primary articles has declined to 6.8 per cent during 1995-96 to 1999-2000 (upto November) from 9.1 per cent during 1980-81 to 1994-95.

In so far as the manufacturing prices are concerned the inflation rate in this group has come under the twin influence of competition and deregulation of price control in several core sectors. There has been evidence to suggest that some of the manufacturing segments have recorded high productivity growth in the post-1991 period[6]. The manufacturing sector has been also going through a period of restructuring and experiencing increased degree of price competition. This seems to be pushing the mark-up rate down, especially in the industries which are in the import competing sectors. Another important factor in the price setting process in manufacturing relates to the sharp fall in world manufacturing prices of the order of 3.9 per cent in 1998 as compared with 8.2 per cent in

6. See Box II.2 of the Reserve Bank of India *Annual Report* 1998-99.

1997, coupled with the significant reduction in import duties. These factors have increasingly contributed to the lowering of the manufacturing inflation. The average rate of increase in prices of manufacturing products thus declined to 4.7 per cent during 1995-96 to 1999-2000 (up to November) from 8.5 per cent during 1980-81 to 1994-95. The fuel prices still remain under the administered prices regime. The inflation rate in this group has typically followed the revision of administered prices from time to time. It stayed relatively low at 7.8 per cent during the period 1995-96 to 1999-2000 (up to November) compared to 10.3 per cent during 1980-81 to 1994-95. The weighted contribution of major commodity groups to the inflation rate shows an increase in the contribution of fuel sector and primary articles to the overall inflation rate in the recent period (Table MON.Q).

Another important aspect of the inflation trend in the 'nineties has been the increase in the divergence of inflation as measured by the consumer price index for industrial workers (CPI-IW) from that measured by the wholesale price index. The consumer price inflation increased from 9.0 per cent during the 'eighties to 9.9 per cent during the 'nineties so far. The average differential of the consumer inflation and the wholesale price inflation has increased from 1.1

Table MON.Q: Annual Variations in Wholesale Price Index - Weighted Contributions of Major Groups

(Base : 1981-82=100)

(Per cent)

Year	(Average Basis)			
	A.C.	P.A.	F.P.L.&L.	M.P.
Weight->	100.000	32.295	10.663	57.042
1	2	3	4	5
1982-83	100.00	44.16	14.14	40.74
1983-84	100.00	47.01	8.10	45.49
1984-85	100.00	32.30	7.01	60.17
1985-86	100.00	1.22	25.15	75.34
1986-87	100.00	50.43	12.85	36.73
1987-88	100.00	46.35	4.64	49.12
1988-89	100.00	22.54	7.87	69.30
1989-90	100.00	9.97	5.01	84.82
1990-91	100.00	40.43	12.04	47.65
1991-92	100.00	43.10	9.86	46.82
1992-93	100.00	25.03	14.34	60.59
1993-94	100.00	27.53	19.71	52.56
1994-95	100.00	38.80	7.14	54.29
1995-96	100.00	31.84	2.53	66.50
1996-97	100.00	41.91	22.06	35.20
1997-98	100.00	23.74	29.09	47.60
1998-99	100.00	56.34	7.33	36.19
1999-2000 (Up to Nov.)	100.00	40.37	25.63	34.55
1998-99 (Up to Nov.)	100.00	55.84	9.30	34.77

Note: Components may not add up to the total due to rounding off.

A.C. : All Commodities

P.A. : Primary Articles

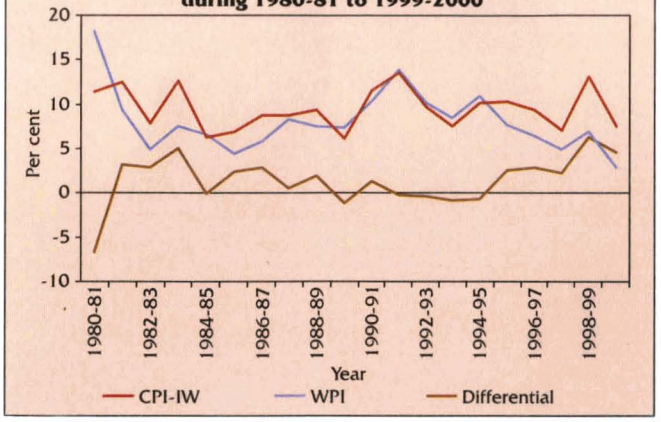
F.P.L.&L. : Fuel, Power, Light ant Lubricants

M.P. : Manufactured Products

Source: Office of the Economic Adviser, Ministry of Industry, Government of India.

percentage points in the 'eighties to 1.7 percentage points in the 'nineties (Table MON.R). Besides, the year-to-year differentials have been quite high, particularly since 1995-96 (Graph MON.6).

Graph MON.6: WPI & CPI-IW Variations and the Differential during 1980-81 to 1999-2000



A primary reason for wide differential between WPI and CPI-IW is the differences in the coverage, weighting diagram and methodology of both the indices. As per the current weighting design, the food group has 27.5 per cent weight in the WPI as against 57.0 per cent in the CPI-IW. Thus, food and non-food price inflation gets reflected in different degrees in the two indices. The episodes of substantial price increases in food items in the 'nineties has been the main contributing factor to this divergence. For instance in 1998-99, there was a sharp divergence between the two indices during October to December exceeding 10.0 percentage points. Further, the tendency of the retail inflation being higher than the headline inflation, particularly for food items, contributed to this divergence. Spurt in prices like housing, medical care and personal care and effects in the recent period which are not included in WPI basket also led to higher retail inflation[7]. This divergence has, however, fallen in 1999-2000 so far.

Table MON.R: Differential in Annual Variations in CPI-IW and WPI

Year	Percentage change		
	CPI-IW	WPI	Differential
1	2	3	4=2-3
1980-81	11.4	18.2	-6.8
1981-82	12.5	9.3	3.2
1982-83	7.8	4.9	2.9
1983-84	12.6	7.5	5.0
1984-85	6.3	6.5	-0.2
1985-86	6.8	4.4	2.4
1986-87	8.7	5.8	2.9
1987-88	8.8	8.1	0.7
1988-89	9.4	7.5	1.9
1989-90	6.1	7.5	-1.4
1990-91	11.6	10.3	1.3
1991-92	13.5	13.7	-0.3
1992-93	9.6	10.1	-0.5
1993-94	7.5	8.4	-0.9
1994-95	10.1	10.9	-0.8
1995-96	10.2	7.7	2.5
1996-97	9.3	6.4	2.9
1997-98	7.0	4.8	2.2
1998-99	13.1	6.9	6.2
1999-2000 (Upto Oct.)	7.5	2.9	4.6
1998-99 (Upto Oct.)	11.2	7.6	3.6

7. See section III (para 3.58, pp 80-81) of the Reserve Bank of India *Annual Report* 1998-99.

COMMERCIAL BANKING SECTOR



CHAPTER VII

COMMERCIAL BANKING SECTOR

The policy measures relating to banking and financial sector reforms undertaken since 1992 have led to a significant transformation in the style of functioning of the banking sector. The banking sector has been impacted both directly (on account of its coming under the ambit of the reform measures) and indirectly (on account of the changes in the economic environment within which it operates). While the banking sector has had to adapt to the changing demands of the new liberalised environment, it has also been given sufficient operational freedom to react to the changes in the most efficient manner, subject to certain prudential measures. The balance sheet of the banking sector is one of the earliest indicators of changes in the functioning of individual banks. More specifically, the asset portfolio of commercial banks may reflect the changes in their manner of functioning and criteria for operation.

The importance of the asset portfolio of commercial banks derives from the overwhelming share of banks in total assets of the financial system in many countries and the consequent effect that the portfolio behaviour of banks has on real economic activity. On the part of the banks, effective portfolio management may be taken to refer to its best determination of assets to attain the optimum combination of liquidity, safety and profitability. However, there exists a trade-off between liquidity and solvency, on the one hand, and earning income, on the other which would determine the deployment of funds by banks. Therefore, bank-specific and economy-specific considerations together would dictate the preferred asset composition of banks. An overview of the structure of the banking sector across certain selected countries is presented in Appendix Table BK.1.

With the greater operational freedom provided to banks in India, especially since 1992, banks are expected to adjust their asset portfolio-mix, so as to ensure higher levels of profitability. However, given the different structural characteristics in terms of staffing pattern, extensive branch network, etc., of the various bank-groups, their strategy profiles are expected to be different, not only at a point of time, but also over a period of time. It should then be possible to infer certain broad trends that emerge from the analysis of bank-groups in terms of their asset management behaviour.

In the light of the preceding discussion, the framework of the present chapter provides a theoretical overview of the portfolio behaviour of banks, a brief account of the policy environment in the banking sector during the post-nationalisation period [which serves as a useful starting point for analysing the differential asset portfolio behaviour of scheduled commercial banks (SCBs)] and finally analyses the shifts in the asset portfolio across the relevant period of SCBs as well as bank groups.

Portfolio Behaviour of Commercial Banks: A Theoretical Overview

Of the theories that seek to explain the portfolio behaviour of commercial banks, three are important on account of their frequency of occurrence and general acceptability, *viz.*, *(i)* the accommodation principle, *(ii)* the profit maximising principle, and *(iii)* the stock adjustment principle.

The accommodation principle is related to an early concept of the social role of banking within an economy. The commercial loan theory, one of the earlier variants of this school, suggested that banks should accommodate the legitimate credit demands of commerce, industry and agriculture.

The second principle of profit maximising is a special case of the neo-classical marginal principle. The marginal principle contends that banks select their asset portfolio by undertaking a cost-benefit analysis so as to maximise the

return, net of cost, from the entire portfolio. The optimum holding of any asset is attained when the marginal return on the same equals the marginal cost. The totality of interest income plus other income and returns from investments constitute the returns. On the components of the cost side, opinions have been varied. One approach has been to consider the cost of funds i.e., the interest paid out by the bank to its depositors. Another approach seeks to separate the assets side from the liabilities side. The cost component in this case would consist of a quantification of the risk associated with the portfolio.

The risk-return approach has assumed a lot of importance in recent years as it attempts to incorporate into the decision-making process the uncertainty that is inherently associated with transactions that extend over a period of time. This is especially the case with transactions in which the outcome of a decision that must be taken in the current period is not known for certain and will become clear only at a later date. The standard approach in such a case has been to maximise the expected utility (or expected profit, as the case may be) associated with the portfolio, subject to a budget constraint. The uncertainty element in this approach is handled by establishing a certainty equivalent using a probability distribution. Asset choice modeling of this type usually takes two forms. One group of theorists view banks as possessing some degree of monopoly control over the loan price. The banks then determine their interest rates and credit volume in view of the demand curve that they face. The other group assumes that the asset market is perfectly competitive and the banks as price takers then decide on the quantities of various loans.

A third principle determining the portfolio behaviour of commercial banks is the stock adjustment principle. This principle suggests that banks have a desired level of each balance sheet item (both on the asset and the liability sides) and they adjust the stocks of each of the variables so as to close the gap between the actual and the desired levels. The desired level of each item is considered as autonomous to the decision-making process.

Empirical work has revealed that the composition of the earning asset portfolio is not independent of the size of the non-earning asset portfolio. This may be because the reserves of banks, which constitute the main portion of the non-earning asset portfolio, are an important instrument of risk management. Moreover, the composition of the asset portfolio is closely related to the composition of the liabilities portfolio.

Policy Environment in India: An Overview

The adoption of a policy of social control over banks in 1967 and the nationalisation of 14 major scheduled commercial banks in 1969 proved to be two major turning points in the history of commercial banking in India. In July 1969, 14 major commercial banks in the private sector, each having deposit of Rs.50 crore and above, were nationalised. Subsequently, in 1980, 6 more banks with deposit liability of not less than Rs.200 crore were nationalised[1]. The nationalisation of banks in 1969 did not really represent a radical shift in policy but was, in fact, a formalisation and continuation of the practice of close regulation and monitoring of the banking sector as stipulated in the Banking Companies Regulation Act (1949).

At the time of nationalisation of 14 major scheduled commercial banks, the focus was on social banking, a kind of an extension of the accommodation principle. The ostensible objective of nationalisation was the need for the Government to "control the heights of the economy and to meet progressively, and serve better, the needs of development of the economy in conformity with national policy and objectives"[2]. Consequently, branch expansion to make banking facilities available in remote

1. This group of 20 banks, in which the Government of India is a majority shareholder, are referred to as nationalised banks. With the merger of two nationalised banks in 1993, their number stands at 19. The State Bank Group includes the State Bank of India and its seven associate banks. The 19 nationalised banks and the 8 banks in the State Bank group are collectively referred to as public sector banks (PSBs). Coupled with the private sector banks, foreign banks and the Regional Rural Banks, the totality of all these banks are referred to as Scheduled Commercial Banks (SCBs).

2. Reserve Bank of India: Functions and Working, pp. 6.

areas received a great deal of attention. The Reserve Bank appointed a Committee of Bankers to evolve a program for expansion of the banking sector into the under-banked areas of the country. On the recommendations of the Committee, the Lead Bank Scheme was introduced. All through the 'seventies, targets were set for commercial banks to open up branches in rural and semi-urban areas. In many of the years, the banks reached the targets and in some, even surpassed them. Meanwhile, in 1975 the Working Group on Rural Banks (Chairman: Shri M. Narasimham) recommended the setting up of Regional Rural Banks as part of a multi-agency approach to rural credit. By 1978, the focus shifted from branch expansion to consolidation. 1978 was a year of review of past performance and policy. During this year, the Committee on the Functioning of Public Sector Banks, the Review Committee on Regional Rural Banks and the Working Group to Study Problems arising out of Multi-Agency Approach in Agricultural Financing, all submitted their reports. A comprehensive branch licensing policy was formulated taking into account the recommendations of these committees.

Under the regime of social banking, the banking sector performed a dual role. On the one hand, by virtue of its geographical spread, it mobilised a vast amount of saving, and made it available to those sectors of the economy which were deemed the most important. On the other hand, it served to implement the monetary policy goals of the Government sought to be addressed through prescribed reserve requirements.

The Cash Reserve Ratio (CRR) was initially intended as an instrument to contain liquidity growth in an exigency, while Statutory Liquidity Ratio (SLR) was tailored to impose financial discipline on banks and provide some protection to depositors. However, over a period of time, these regulations were often pitched high, to subserve policy objectives. This was particularly so after the oil price shock of 1973, and in the process, credit expansion of banks was severely constrained. The CRR and SLR requirements, which were 7 per cent and 32 per cent, in September and December 1973, respectively, were gradually raised over a period of time. In October 1985, the CRR and SLR stood at 9 per cent[3] and 37 per cent, respectively. At the onset of the reforms process in 1991, the statutory pre-emptions under CRR and SLR, on an incremental basis, reached a level of 63.5 per cent; on the balance of 36.5 per cent, there were pre-emptions under the priority sector of 40 per cent, export credit and food credit and other formal and informal pre-emptions. Table BK.A provides a summary of the changes in CRR and SLR requirements at selected points of time from 1970 to 1999.

Table BK.A: CRR and SLR on selected dates as a percentage of Domestic Net Demand and Time Liabilities

(Per cent)

As on	Cash Reserve Ratio	Statutory Liquidity Ratio
1	2	3
August 28, 1970	3.0	28.0
October 27,1975	4.0	33.0
October 31, 1980	6.0 and 10 per-cent of increase in NDTL as on January 14, 1977	34.0
October 26, 1985	9.0 and 10 per-cent of increase in NDTL over level as on November 11, 1983	37.0
September 22, 1990	15.0	38.5
November 11, 1995	14.5	31.5 per cent of NDTL as on September 30, 1994 and 25 per cent on increase thereafter
October 30, 1997	9.75	25.0
March 28, 1998	10.25	25.0
November 20, 1999	9.0	25.0

The nature of pre-emptions coupled with administered rates of interest on both sides of the balance sheet, represented what has come to be referred as 'financial repression'. Markets were heavily segmented and underdeveloped; secondary markets inhibited competitive pricing of assets (Rangarajan, 1994[4]); the presence of non-price allocation mechanisms led to

3. The 9 per cent CRR was on outstanding net demand and time liabilities (NDTL). There was also a 10 per cent CRR on incremental NDTL over the level as on November 11, 1983.

4. Indian Financial System: The Emerging Horizon, *Reserve Bank of India Bulletin, pp. 41-51.*

inefficiency in credit use; and restrictions on banks' uses of funds affected bank profitability; restrictions on entry rules and the dominance of PSBs constrained the free play of market forces in the banking sector.

The 'eighties were a period of gradual transition. The Chakravarty Committee Report which was submitted in 1985 suggested that Government borrowing should move progressively towards market determined rates of interest. Subsequently, the Vaghul Committee, set up to examine the functioning of money markets recommended a phased de-control and development of money markets and the gradual integration of these markets with other short-term markets. However, on the policy front, the practices of the previous decade continued with the banking sector acting as a supporting system.

Policy environment in the 'nineties has been dominated by two primary concerns. In the first half of the decade, the focus was almost entirely on liberalisation of the banking sector, as also the rest of the economy. The second half of the decade has witnessed increasing concerns about market risks faced by banks and the required prudential measures for prevention of bank failures. The shift in the policy regime that occurred in 1992 marked another watershed in the history of the banking sector in India, though, it was a precipitation of trends that were beginning to manifest themselves from the early 1980s. The focus in this phase of reforms was on deregulation and liberalisation of the banking sector which was guided primarily by the recommendations of the Committee on Financial System (Chairman: Shri M. Narasimham) (1991) which related, among other things, to reduction in the statutory pre-emption levels, dismantling the complex administered interest rate structure, laying down of capital adequacy requirements, introduction of prudential norms relating to income recognition, asset classification and provisioning and liberalisation of entry norms for domestic and foreign banks. The measures aimed at deregulation can be broadly categorised under three heads: lowering of statutory pre-emptions, deregulation of interest rates and greater operational autonomy. As discussed before, at the time of the crisis of 1991, CRR and SLR together pre-empted as much as 63.5 per cent of bank resources. This together with compulsory priority sector lending left very little resources at the disposal of banks for earning profits. Between April 1993 and January 1997, the CRR was reduced in phases from 15 per cent to 10 per cent. After maintaining it between 10 and 11 per cent, the Mid-term Review of Monetary and Credit Policy for the year 1999-2000 has effected a cut in the CRR to 9 per cent. The incremental 10 per cent CRR was withdrawn in 1992. Statutory liquidity ratio was reduced in stages from 38.5 per cent to 25 per cent on incremental net demand and time liabilities. This brought down the statutory pre-emption of bank resources from 63.5 per cent to 34 per cent releasing about 20 per cent of the resources for deployment at the bank's discretion. The pre-liberalisation regime prescribed a detailed regimen of interest rates on term deposits of varied maturities and various categories of loans. There has been a shift in favour of allowing banks to decide the interest rates for the loans they make, subject to certain limitations.

The second half of the present decade saw an increased awareness on part of policymakers of the dangers associated with inadequate regulation and supervision of banks. Incidents like those of the Barings Bank and the bank failures during the South-East Asian crisis justified these fears. Hence, there has been a greater concern with prudential norms for banks and risk management. Marking the second phase of reforms in the foreground of the recent banking crisis in South-East Asia is the Committee on Banking Sector Reforms (the second Narasimham Committee) which submitted its report in April 1998. It stressed on prudential measures like the increase in the Capital to Risk-weighted Assets Ratio (CRAR) to 10 per cent within a stipulated time period, the introduction of market risk on Government securities, the stricter Non-Performing Assets (NPAs) norms and provisioning requirements, and the introduction of asset-liability management guidelines and of risk management guidelines. The focus consequently has shifted to enhancement of levels of transparency and standards of disclosure in respect of financial information provided by the banking sector. In particular, as a move towards international best practices, the range and extent of disclosures

has been gradually increased over the last couple of years so as to provide a clearer picture of balance sheets to informed readers. Accordingly, from the year ending March 31, 2000, banks operating in India have been directed to disclose in their published accounts information relating to maturity pattern of loans and advances, investment securities, deposits and borrowings, foreign currency assets and liabilities, movements in NPAs and provisions and lending to sensitive sectors as defined by the Reserve Bank from time to time. Such transparency of operations may be expected to minimise informational asymmetry between the regulator and the regulated and facilitate effective monitoring of banks.

Asset Portfolio of Scheduled Commercial Banks – Trends and Pattern

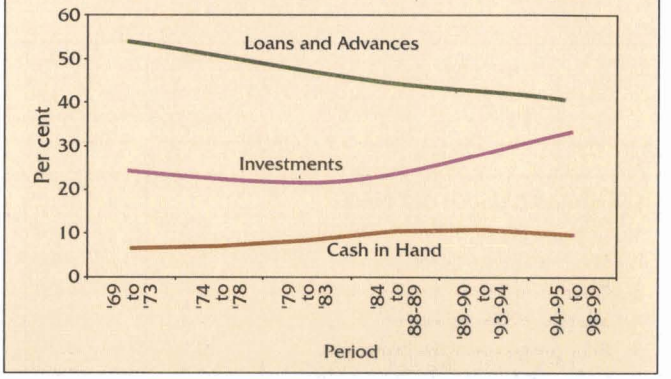
In this section, the changes in the asset portfolio of commercial banks are examined from two different angles. In the first sub-section, the allocation of bank assets among different instruments is analysed. In the second sub-section, the allocation of bank funds to various sectors within the economy is examined.

Portfolio Allocation of Funds – An Instrument-wise Analysis

The instrument-wise allocation of bank credit for the period spanning 1969 to 1998-99 reveals a number of trends. First, the five year average share of liquid assets (comprising cash in hand, balances with the Reserve Bank and balances with other banks) of commercial banks in their total assets has increased over the period 1970 to 1999. Moreover, most bank-groups have registered moderate to significant increases in liquid assets (Table BK.B). The increase in liquid assets upto the late 'eighties broadly corresponds to the increasing CRR and SLR requirements during that period. However, the continuation of the trend into 1990s is possibly on account of the increased risk perception on the part of banks and the consequent efforts on their part to maintain enough liquidity in the asset portfolio (Graph BK.1).

The second notable fact relates to the

Graph BK.1: Cash in Hand, Loans and Advances and Investments of Scheduled Commercial Banks as a Proportion of Total Assets (Five Yearly Averages)



average share of investments (comprising investments in Government and other approved securities as well as in shares, bonds and debentures and others) in the asset portfolio. This ratio fluctuated in the range of 21 to 24 per cent during the entire period from 1970 to 1989. In the period from 1989-90 to 1993-94, the figure rose by 5 percentage points to 28.4 per cent. In the next period, it rose further by another 5 percentage points to 33.6 per cent. The shares and debentures component of investment displayed an analogous trend.

The average share of Government and other approved securities in total assets, however, declined gradually over the period from 1969 (23.1 per cent) to 1983 (20.8 per cent). Thereafter, the share started increasing and the increase continued right upto the end of the present decade when this average stood at 26.8 per cent (1994-95 to 1998-99). A break-up of total investments into its components for the relevant period reveals another interesting trend (Table BK.C). The figures reveal that from 1970 to the mid-1980s, the share of Government securities in total investment was on the decline, while the share of other approved securities (trustee securities) were on the rise (Table BK.C). The share of Government securities in total investment decreased from 75.7 per cent in 1970 to 60.9 per cent in 1985, while the share of other trustee securities increased from 20.0 per cent in 1970 to 36.8 per cent in 1985. This implies that over that period not only was the share of Government and other approved securities in total assets falling, but there was also taking

Table BK.B: Instrument-wise Asset Portfolio of Scheduled Commercial Banks in India (Five-yearly Averages)

(Per cent)

Item	1969 to 1973	1974 to 1978	1979 to 1983	1984 to 1988-89	1989-90 to 1993-94	1994-95 to 1998-99	1969 to 1990-91	1991-92 to 1998-99
1	2	3	4	5	6	7	8	9
Scheduled Commercial Banks								
1. Cash in Hand & Bal. with RBI	6.59	7.12	8.44	10.49	10.91	9.79	10.05	9.93
2. Balances with other banks	2.22	3.10	4.00	4.09	3.51	8.39	3.33	6.67
3. Govt. & other approved securities	23.14	21.63	20.80	22.22	25.37	26.83	21.60	27.01
4. Shares, B&D, others	1.11	0.80	0.66	1.21	3.04	6.80	1.56	5.34
5. Bills purchased/discounted	9.83	8.86	6.78	4.90	4.98	4.54	5.50	4.72
6. Cash credit, etc. & Term loans	44.24	42.08	40.68	39.56	38.24	35.83	39.78	36.37
Public Sector Banks								
1. Cash in Hand & Bal. with RBI	6.59	6.85	8.37	10.66	10.92	10.05	10.15	10.20
2. Balances with other banks	2.03	3.06	3.78	3.65	2.72	6.71	2.99	5.83
3. Govt. & other approved securities	23.48	21.97	21.22	22.92	26.05	28.24	22.04	28.35
4. Shares, B&D, others	1.21	0.80	0.66	1.19	2.55	5.65	1.56	4.82
5. Bills purchased/discounted	9.63	8.56	6.75	4.69	4.68	4.13	5.22	4.36
6. Cash credit, etc. & Term loans	44.64	42.93	41.00	39.88	39.11	35.68	40.31	36.49
Private Sector Banks								
1. Cash in Hand & Bal. with RBI	9.20	10.84	12.96	13.96	21.78	10.01	13.21	10.68
2. Balances with other banks	5.05	3.98	5.05	2.93	3.97	6.95	3.46	6.24
3. Govt. & other approved securities	21.45	19.24	19.77	23.67	26.46	22.66	22.53	23.28
4. Shares, B&D, others	0.51	0.99	0.82	1.07	2.31	10.11	0.99	8.24
5. Bills purchased/discounted	7.10	10.21	6.09	5.44	6.94	9.01	6.44	8.77
6. Cash credit, etc. & Term loans	42.31	37.68	38.39	37.58	38.55	35.48	37.61	35.66
Foreign Banks								
1. Cash in Hand & Bal. with RBI	4.39	4.60	4.95	6.18	14.97	7.58	6.13	8.26
2. Balances with other banks	1.71	1.50	1.88	3.79	5.71	9.99	4.66	7.91
3. Govt. & other approved securities	21.27	21.44	17.56	16.01	21.76	21.41	16.49	22.05
4. Shares, B&D, others	0.64	0.40	0.82	2.21	10.95	8.47	2.43	8.95
5. Bills purchased/discounted	14.10	11.38	9.92	10.92	9.13	5.02	11.17	5.75
6. Cash credit, etc. & Term loans	42.05	36.44	30.55	26.44	25.50	38.43	27.21	35.78

Notes: 1. B&D: Bonds and Debentures, Bal. : Balance, Govt. : Government.
2. Figures are computed as a percentage to Total Assets.
3. Figures upto 1987 are as at end-December and from 1989 onwards are as at end-March.

Source: Statistical Tables relating to Banks in India, various issues, Reserve Bank of India.

place a shift of investment away from Government securities to other approved securities. In 1990, the share of Government securities in total investment rose to 63.4 per cent. This share has further increased to reach 70.1 per cent in 1997 (Graph BK.2). Meanwhile, the share of other approved securities fell to 31.9 per cent in 1990 and further to 12.9 per cent in 1997.

The share of loans and advances (given by the sum of bills purchased/discounted and cash credit, etc.) in total assets has shown a consistent decline over the period under consideration. The ratio fell from 54.1 per cent in 1969 to 1973 to 44.5 per cent in 1984 to 1988-89 and further to 40.4 per cent in 1994-95 to 1998-99.

Graph BK.2: Investments of Scheduled Commercial Banks in Government of India Securities: March 1970 to March 1997 (As a percentage of Total Investment)

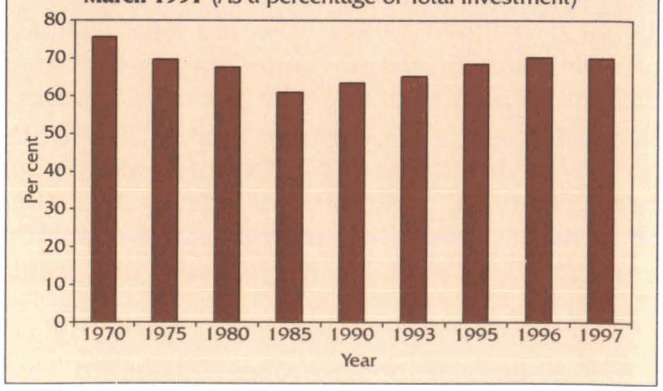


Table BK.C: Investment Pattern of Scheduled Commercial Banks in India

(Amount in Rs. crore)

Year (end March)	Investments by Offices in India											Invest-ments by Foreign Offices of Indian banks	Total
	Government Securities				Other domestic securities, bonds, shares, etc.					Foreign Securities	Total		
	Central	State	Others	Total	Other Trustee Securities	Fixed Deposits	Shares & Debentures	Other	Total				
1	2	3	4	5 (2+3+4)	6	7	8	9	10 (6+7+8+9)	11	12 (5+10+11)	13	14 (12+13)
1970	808.2	392.8	0.3	1,201.3	318.0	0.4	43.7	2.3	364.4	2.8	1,568.5	18.1	1,586.6
	(50.9)	(24.8)	(0.0)	(75.7)	(20.0)	(0.0)	(2.8)	(0.1)	(23.0)	(0.2)	(98.9)	(1.1)	(100.0)
1975	1,889.1	922.0	0.9	2,812.0	1,102.5	4.3	79.7	13.1	1,199.6	2.3	4,013.8	27.1	4,040.9
	(46.7)	(22.8)	(0.0)	(69.6)	(27.3)	(0.1)	(2.0)	(0.3)	(29.7)	(0.1)	(99.3)	(0.7)	(100.0)
1980	5,836.6	1,525.0	0.3	7,361.9	3,191.5	41.3	113.5	95.6	3,441.9	5.4	10,809.2	74.8	10,884.0
	(53.6)	(14.0)	(0.0)	(67.6)	(29.3)	(0.4)	(1.0)	(0.9)	(31.6)	(0.0)	(99.3)	(0.7)	(100.0)
1985	11,825.9	3,834.7	0.2	15,660.9	9,463.5	14.1	174.8	80.1	9,732.5	19.8	25,413.1	290.0	25,703.1
	(46.0)	(14.9)	(0.0)	(60.9)	(36.8)	(0.1)	(0.7)	(0.3)	(37.9)	(0.1)	(98.9)	(1.1)	(100.0)
1990	33,568.4	10,347.2	26.6	43,942.2	2,208.3	69.6	1,697.0	681.0	24,530.8	57.0	68,529.9	791.6	69,321.5
	(48.4)	(14.9)	(0.0)	(63.4)	(31.9)	(0.1)	(2.4)	(1.0)	(35.4)	(0.1)	(98.9)	(1.1)	(100.0)
1993	61,523.4	17,179.0	61.8	78,764.1	29,992.4	76.6	9,228.5	1,598.6	40,896.0	82.0	1,19,742.2	1,080.0	1,20,822.2
	(50.9)	(14.2)	(0.1)	(65.2)	(24.8)	(0.1)	(7.6)	(1.3)	(33.8)	(0.1)	(99.1)	(0.9)	(100.0)
1995	97,868.4	22,796.8	195.3	1,20,860.4	31,329.9	310.5	17,677.9	3,883.9	53,202.3	83.4	1,74,146.1	2,185.1	1,76,331.2
	(55.5)	(12.9)	(0.1)	(68.5)	(17.8)	(0.2)	(10.0)	(2.2)	(30.2)	(0.0)	(98.8)	(1.2)	(100.0)
1996	1,10,075.3	25,661.5	243.6	1,35,980.3	31,266.7	378.2	19,973.1	2,491.3	54,109.3	143.7	1,90,233.3	2,936.5	1,93,169.8
	(57.0)	(13.3)	(0.1)	(70.4)	(16.2)	(0.2)	(10.3)	(1.3)	(28.0)	(0.1)	(98.5)	(1.5)	(100.0)
1997	1,38,273.7	28,891.9	329.7	1,67,495.3	30,918.0	1,376.9	27,366.8	4,972.5	64,634.1	840.5	2,32,969.9	5,809.1	2,38,779.0
	(57.9)	(12.1)	(0.1)	(70.1)	(12.9)	(0.6)	(11.5)	(2.1)	(27.1)	(0.4)	(97.6)	(2.4)	(100.0)

Note : 1. Figures in bracket indicate percentage to the total.
2. Amounts till 1985 are as at end-December and from 1990 onwards are as at end-March.
3. Constituent items may not add up to the totals due to rounding off.

Source : Statistical Tables relating to Banks in India, various issues, Reserve Bank of India.

Table BK.D gives the outstanding credit of scheduled commercial banks according to the type of account. It reveals that the share of cash credit in total loans has decreased over the years from 50.4 per cent in 1972 to 37.2 per cent in 1985 and further to 29.5 per cent in 1998. The Chakravarty Committee had noted that cash credits are inefficient in that once sanctioned, the funds are locked up even if the credit is not fully availed of. To that extent, the decline in the share of cash credit may be perceived as a healthy trend. The share of demand loans has shown a decline from 6.6 per cent in 1972 to 4.9 per cent in 1980 and further to 3.6 per cent in 1990, whereafter it rose sharply to 8.0 per cent in 1996 and 14.4 per cent in 1998. Term loans in the same period have shown a fairly consistent increase from 11.9 per cent of total loans in 1972 to 30.1 per cent in 1985 to 32.5 per cent in 1998. The share of inland bills purchased/discounted in total loans has also shown a decline from 12.5 per cent in 1972 to 4.5 per cent in 1998.

The falling share of loans and advances in conjunction with an increasing share of investments in total assets in 'nineties, indicates that commercial banks are showing a progressively increasing preference for the uncertain rates of return from investments which are deemed safer than loans which in turn offer certain rates of return. The post-1990s shift away from loans towards investments and especially the increase in the share of Government securities in total assets in the 'nineties when SLR requirements have been decreasing may appear somewhat paradoxical. SLR increased throughout 'seventies and 'eighties till it reached its peak in September 1990 at 38.5 per cent. With the onset of the reform process in 1991, the minimum SLR requirement began to be lowered till it reached the level of 25 per cent, where it has remained since October 1997. The reversals in loan and investment trends reflects an interesting phenomenon discernible in the 'nineties, which deserves a closer look.

Table BK.D : Distribution of Outstanding Credit of Scheduled Commercial Banks (According to Type of Account)

(Amount in Rs. crore)

Year	Cash Credit	Over drafts	Demand Loans	Term Loans	Packing Credit	Export Bills Purchased/ Discounted/ Advanced against	Inland Bills Purchased/ Discounted	Advances against Import Bills	Unclassified/ Others	Total*
1	2	3	4	5	6	7	8	9	10	11
1972	2,545	480	331	601	210	212	632	30	11	5,051
	(50.4)	(9.5)	(6.6)	(11.9)	(4.1)	(4.2)	(12.5)	(0.6)	(0.2)	(100.0)
1975	4,232	718	530	1,307	377	342	1,459	64	0	9,030
	(46.9)	(8.0)	(5.9)	(14.5)	(4.2)	(3.8)	(16.2)	(0.7)	(0.0)	(100.0)
1980	8,578	1,345	981	4,492	754	796	3,057	217	0	20,221
	(42.4)	(6.7)	(4.9)	(22.2)	(3.7)	(3.9)	(15.1)	(1.1)	(0.0)	(100.0)
1985	15,253	3,255	1,673	12,323	1,201	827	6,137	267	56	40,992
	(37.2)	(7.9)	(4.1)	(30.1)	(2.9)	(2.0)	(15.0)	(0.7)	(0.1)	(100.0)
1990	29,054	5,878	2,913	24,643	3,973	2,966	8,280	1,319	1,138	80,165
	(36.2)	(7.3)	(3.6)	(30.7)	(5.0)	(3.7)	(10.3)	(1.6)	(1.4)	(100.0)
1996	78,052	16,132	17,483	65,872	15,248	11,813	11,104	1,697	1,039	2,18,439
	(35.7)	(7.4)	(8.0)	(30.2)	(7.0)	(5.4)	(5.1)	(0.8)	(0.5)	(100.0)
1997	77,174	18,877	30,488	77,041	16,382	13,090	11,571	1,419	885	2,46,927
	(31.3)	(7.6)	(12.3)	(31.2)	(6.6)	(5.3)	(4.7)	(0.6)	(0.4)	(100.0)
1998	85,151	21,160	41,692	93,957	17,209	13,830	12,983	1,905	962	2,88,849
	(29.5)	(7.3)	(14.4)	(32.5)	(6.0)	(4.8)	(4.5)	(0.7)	(0.3)	(100.0)

Notes: 1. * Relates to accounts with credit limit over Rs.10,000/-. The figures from 1985 relate to accounts with credit limit over Rs.25,000/-.

2. The amounts are as at end-December from 1972 to 1985 and as at end-March from 1990 onwards.

3. Figures in brackets indicate percentages to the total.

4. Constituent items may not add up to the totals due to rounding off.

Source: Basic Statistical Returns, various issues, Reserve Bank of India.

The Problem of Non-Performing Assets

The problem of non-performing assets which remained a cause for concern for long, attracted considerable concerns during 'nineties. The decade of 'nineties has been characterised by rapid and occasionally unsettling changes in the national as well as the world economy. The crisis in 1991 and the consequent structural reforms that involved large scale deregulation and introduction of free competition in many sectors generated a sense of insecurity among economic agents. In the banking sector, this insecurity reflected in a shift of funds away from *(i)* illiquid assets to liquid ones, even if they offered lower rates of return, *(ii)* loans which promised a fixed rate of return but had credit risks, to investments which had a market risk but no credit risk, and *(iii)* the private sector to the Government sector, which was deemed safer. The safety motive that propelled banks towards the Government sector was further strengthened with the prudential norms having been implemented consequent to the Narasimham Committee's recommendations. The Narasimham Committee for the first time defined in a formal way the concept of non-performing assets. Table BK.E gives the share of NPAs of Public Sector Banks in their total assets for the period 1993 to 1999.

The data reveal two facts: first, that gross NPAs as a share of total assets have declined from 11.8 per cent in 1992-93 to 6.7 per cent in 1998-99, and secondly, the share of gross NPAs in gross advances has declined from 23.2 per cent in 1992-93 to 15.9 per cent in 1998-99.

The Narasimham Committee also recommended the introduction of capital adequacy requirements based on risk weighted assets. In that framework, loans and advances (other than those guaranteed by the Government) carried a risk weight of 100 per cent, while investments in Government and other approved securities carried zero risk

Table BK.E: Gross and Net NPAs of Public Sector Banks: 1992-93 to 1998-99

(Amount in Rs. crore)

End-March	Gross NPAs	Per cent to Gross Advances	Gross NPAs/ Total Assets	Net NPAs	Per cent to Net Advances	Net NPAs as Per cent to Total Assets
1	2	3	4	5	6	7
1993	39,253	23.2	11.75	..	..	..
1994	41,041	24.8	10.83	..	..	..
1995	38,385	19.5	8.73	17,567	10.7	4.00
1996	41,661	18.0	8.24	18,297	8.9	3.62
1997	43,577	17.8	7.83	20,285	9.2	3.65
1998	45,653	16.0	7.03	21,232	8.2	3.27
1999	51,710	15.9	6.71	24,211	8.1	3.14

Note: .. Not Available.

Source: Report on Trend and Progress of Banking in India, various issues, Reserve Bank of India.

weight. This might have prompted the shift of bank funds towards Government securities, which were deemed risk-free.

Sector-wise Portfolio of Bank Funds

The following analysis is carried out on two fronts. In the first part, analysis is based on the flow of funds framework and the sectors are classified under *(i)* Banking, *(ii)* other financial institutions (OFIs), *(iii)* private corporate business, *(iv)* Government, *(v)* households, and *(vi)* rest of the world (ROW). The second part focuses on the real sector in terms of the type of activity or output. The data considered in this part relate to credit component of the total funds deployed.

Allocation of Bank Funds – A Flow of Funds Based Analysis

Table BK.F gives the allocation of commercial banks' uses of funds for the period 1970-71 to 1993-94 to the six major sectors of the economy in terms of ownership. Of the six sectors, the focus is mainly on two, the Government sector and the private corporate sector, although bank credit to the household sector, which includes unincorporated entities, should also be reckoned from the point of view of knowing the effect of credit on the volume and pattern of productive activity in the real sector. The data are in terms of five yearly

Table BK.F: Sector-wise Allocation of Commercial Banks' Uses of Funds

(Amount in Rs.crore)

	Uses	1970-71 to 1974-75		1975-76 to 1979-80		1980-81 to 1984-85		1985-86 to 1989-90		1990-91 to 1993-94	
		Amount	Per cent	Amount	Per cent	Amount	Per cent	Amount	Per cent	Amount	Per cent
	1	2	3	4	5	6	7	8	9	10	11
1.	**Cash and balances with RBI**	**158**	**10**	**654**	**14**	**1,445**	**14**	**3,736**	**16**	**3,949**	**12**
2.	**Investments**	**463**	**29**	**1,340**	**28**	**2,880**	**28**	**8,040**	**35**	**13,440**	**42**
	Banking	16	1	-1	–	11	–	4	–	-6	–
	Other Financial Institutions	24	1	212	4	842	8	1,284	6	211	1
	Private Corporate Business	7	–	4	–	14	–	137	1	521	2
	Government	414	26	1,109	23	2,010	19	6,608	28	12,713	39
	Rest of the World	2	–	16	–	3	–	6	–	1	–
3.	**Bank Credit**	**947**	**59**	**2,629**	**56**	**5,752**	**55**	**10,804**	**46**	**13,729**	**42**
	Banking	-3	–	8	–	-5	–	3	–	7	–
	Other Financial Institutions	-1	–	6	–	-15	–	11	–	18	–
	Private Corporate Business	408	25	736	16	1,560	15	3,883	17	4,708	14
	Government	249	15	609	13	1,373	13	200	1	3,241	10
	Household	293	18	1,270	27	2,840	27	6,706	29	5,755	18
	Rest of the World	–	–	–	–	-2	–	–	–	–	–
4.	**Others**	**51**	**2**	**103**	**2**	**309**	**3**	**679**	**3**	**1,494**	**4**
	Total	**1,618**	**100**	**4,726**	**100**	**10,386**	**100**	**23,260**	**100**	**32,612**	**100**
	Combined share of Credit and Investment Allocations										
	Government		**41**		**36**		**33**		**29**		**49**
	Private Corporate Business		**26**		**16**		**15**		**17**		**16**

Notes: 1. The figures in column 'Per cent' are expressed as Percentages of total Uses.
2. Percentages may not add up to total due to rounding off of figures.
3. Commercial Banks here comprise both scheduled and non-scheduled commercial banks.
4. Constituent items may not add up to the totals due to rounding off.
5. '–' Negligible.

Source: RBI Bulletin, various issues.

averages. An analysis in terms of the stock data would provide a clear picture of sector-wise allocation of funds. However, the stock data are not available and, therefore, the analysis is attempted in terms of flow data regarding the uses of funds. The flow figures may be distorting in view of yearly fluctuations, and, therefore, five yearly averages of the flow data are used so as to take care of the random fluctuations and allow the inference of certain facts which are indicative, if not conclusive.

The data reveal the following broad trends. In the period 1970-71 to 1974-75, the share of investment in total assets stood at 29 per cent of which the share of the Government sector in total flow of funds from the banking sector was at 26 per cent and that of private corporate sector was negligible. Over the years, the Government sector has continued to pre-empt a larger share of the investments of commercial banks. The share of banks' investment in the Government sector has, however, not remained constant throughout. It showed a decline from 1970-71 to 1984-85 when it stood at 19 per cent. Thereafter, the ratio has increased sharply to 28 per cent in the next period and 39 per cent in the period 1990-91 to 1993-94. Investment of commercial banks in private corporate business remained negligible upto the period 1980-81 to 1984-85. In the next two periods, investments in private corporate business increased somewhat to reach 2 per cent for the period 1990-91 to 1993-94.

The distribution of bank credit between the Government sector and private corporate business shows a more uniform pattern throughout the period under consideration. In the period 1970-71 to 1974-75, 59 per cent of the total flow of funds from the commercial banks was in the form of bank credit. In that period, the share of bank credit to private corporate business in total flows was 25 per cent and that of bank credit to the Government was 15 per cent. The share of bank credit to private corporate business showed a decline through the 'seventies and early 'eighties to 15 per cent. The ratio increased to 17 per cent in the period 1985-86 to 1989-90 and declined to 14 per cent in the next period. The share of bank credit to Government in total flows remained in the range of 13 to 15 per cent throughout the 'seventies and early 'eighties; it fell to 1 per cent in 1985-86 to 1989-90 and then increased to 10 per cent in the next period.

The above trends may be summed up in the share of bank funds going to the Government sector and private corporate business (Graph BK.3). The share of bank funds going to the Government sector decreased from 41 per cent during 1970-71 to 1974-75 to 29 per cent during 1985-86 to 1989-90, and then it increased by 20 percentage points to 49 per cent in the first few years of the 1990s. The reason for such a reversal in trend may be on account of the prudential lending by commercial banks under which the Government would be viewed as a relatively safe customer, both of loans and of investment. On the other hand, the share of bank funds going to private corporate business decreased from 26 per cent in the early 'seventies to around 16 per cent by the end 'seventies and has remained in the range of 15 to 17 per cent since then.

Allocation of Bank Funds – A Real Sector Analysis

Table BK.G gives sectoral deployment of gross bank credit for the real sector for selected years from 1972 to 1999. One important feature in regard to credit allocation since 1969 has been the improved sectoral spread of bank finance. At the beginning of 'seventies, medium and large industry claimed 68 per cent of bank credit. By March 1980, the proportion lent to them came down considerably, while the amounts advanced to agriculture, small-scale industry and others (designated as priority sector) constituted 31.7 per cent of total bank credit. The figure rose to 38.4 per cent in 1985 and further to 39.4 per cent in 1990, In the 'nineties, the share of priority sector credit fell to 34.4 per cent in 1994 and further to 31.6 per cent in 1996 whereafter it has shown some recovery.

Graph BK.3: Flow of Funds of Scheduled Commercial Banks to Government and Private Corporate Sectors
(As a percentage of Total Uses)

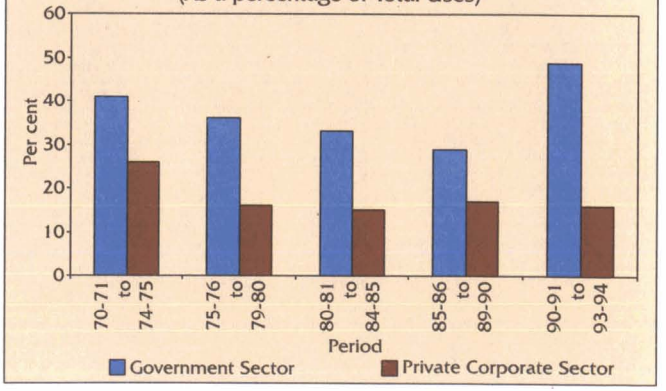


Table BK.G: Pattern of Sectoral Deployment of Gross Bank Credit

(Amount in Rs.crore)

Year	Food Credit	Non-Food Credit									Gross Bank Credit (2+11)
		Priority Sector				Other				Non-Food Gross Bank Credit (6+10)	
		Agric-ulture	Small Scale Industries	Others	Total (3+4+5)	Indus-tries	Whole-sale Trade	Other Sector	Total (7+8+9)		
1	2	3	4	5	6	7	8	9	10	11	12
1972	542 (9.9)	439 (8.0)	597 (10.9)	172 (3.1)	1,208 (22.0)	3,730* (68.1)			3,730 (68.1)	4,938 (90.1)	5,480 (100.0)
1975	564 (6.4)	785 (8.9)	1,043 (11.9)	322 (3.7)	2,150 (24.5)	6,072* (69.1)			6,072 (69.1)	8,222 (93.6)	8,786 (100.0)
1980	2,100 (9.9)	2,767 (13.0)	2,635 (12.4)	1,328 (6.3)	6,730 (31.7)	8,269 (38.9)	1,915 (9.0)	2,221 (10.5)	12,405 (58.4)	19,135 (90.1)	21,235 (100.0)
1985	5,665 (11.8)	7,660 (16.0)	6,612 (13.8)	4,137 (8.6)	18,409 (38.4)	15,939 (33.2)	2,649 (5.5)	5,294 (11.0)	23,882 (49.8)	42,291 (88.2)	47,956 (100.0)
1990	2,006 (2.0)	16,612 (16.2)	15,615 (15.2)	8,248 (8.0)	40,475 (39.4)	38,274 (37.2)	5,879 (5.7)	16,149 (15.7)	60,302 (58.7)	1,00,777 (98.0)	1,02,783 (100.0)
1994	10,907 (7.0)	21,208 (13.5)	22,620 (14.4)	10,047 (6.4)	53,875 (34.4)	57,872 (36.9)	7,334 (4.7)	26,848 (17.1)	92,054 (58.7)	1,45,929 (93.0)	1,56,836 (100.0)
1996	9,791 (4.2)	27,044 (11.7)	31,884 (13.8)	14,401 (6.2)	73,329 (31.6)	93,053 (40.1)	11,980 (5.2)	43,707 (18.9)	1,48,740 (64.2)	2,22,069 (95.8)	2,31,860 (100.0)
1998	12,485 (4.2)	34,869 (11.6)	43,508 (14.5)	21,130 (7.0)	99,507 (33.1)	1,17,530 (39.1)	13,217 (4.4)	57,544 (19.2)	1,88,291 (62.7)	2,87,798 (95.8)	3,00,283 (100.0)
1999	16,816 (4.9)	39,634 (11.6)	48,483 (14.2)	26,494 (7.7)	1,14,611 (33.5)	1,30,516 (38.2)	13,965 (4.1)	66,104 (19.3)	2,10,585 (61.6)	3,25,196 (95.1)	3,42,012 (100.0)

Notes: 1. * includes wholesale trade and other sectors. The figures for these items in colums (8) and (9) for the years 1972 and 1975 are not separately available.

2. Figures in brackets indicate percentages to the total.

3. Upto 1985, the amounts are as at end-December and from 1990 onwards these are as at end-March.

4. Constituent items may not add up to the totals due to rounding off.

Source: Report on Trend and Progress of Banking in India, various issues, Reserve Bank of India.

Corresponding to the rise in credit extended to agriculture, there occurred a concomitant decline in the relative share of credit made available to the medium and large industries, although in absolute terms, bank finance extended to these industries posted a significant increase from Rs. 3,730 crore in 1972 to Rs.38,274 crore in 1990 and has witnessed a secular increase thereafter, broadly in consonance with the concept of credit planning which has been in vogue since the end of the 'sixties.

Concluding Observations

The implications of the structural changes that have taken place on the asset side of the banks' balance sheet over the period 1970 to 1999 are several. One of them would relate to the need for banks to adopt risk management strategies and to reduce their non-performing assets. In order to improve their business, they would have to contend with a number of alternative institutions, and provide not only quality services by adopting newer technologies but also newer services. Banks will have to reap the economies of scale and scope in order to cut cost and raise their profitability. In this context, the issuance of risk management guidelines by the Reserve Bank in 1999 bears considerable significance. Financial stability considerations cannot be divorced from those of financial growth and diversification in the years to come.

APPENDIX TABLE BK.1: STRUCTURE OF BANKING SECTOR IN SELECTED COUNTRIES

Country	Number of large and medium domestic banks[1]	Concentration of the Banking Industry[2] (Per cent)	Share of Bank Assets in total financial sector assets[3] (Per cent)	Share of state owned banks[4] (Per cent)
1	2	3	4	5
Asia				
India	11	42	64	82
Indonesia	..	..	91	85*
Korea	14	50	38	28
Malaysia	15	40	78	7
Singapore	5	39	71	0
Thailand	9	62	77	29
Latin America				
Argentina	8	38	98	30
Brazil	22	52	80	47
Chile	7	47	62	13
Mexico	6	68	66	0
Memorandum				
Australia	7	69	49	0
Germany	87	17	77	47
Japan	116	22	48	15
United States	182	25	23	0

Notes: 1. Number of banks ranked in the world's top 1000.

2. Five largest banks' assets as a percentage to total assets.

3. Banks' assets as a percentage of assets of banks and non-bank financial institutions.

4. As a percentage of total bank assets.

*June 1999.

.. Not Available.

Source: Bank Restructuring in Practice, BIS Policy Papers No.6-August 1999.

FINANCIAL MARKETS



CHAPTER VIII

FINANCIAL MARKETS*

Financial markets perform an important function of mobilisation of savings and channellising them into the most productive uses. Well developed money and government securities markets help central banks to effectively conduct monetary policy with the use of market-based instruments. Well developed financial markets are also required for creating a balanced financial system in which both financial markets and financial institutions play important roles. This is underscored by the recent crises in East Asia, where lack of well developed money and capital markets was one of the major causes of crises. During times of financial stress, there is likely to be a large demand for liquidity, which only deep and liquid markets can provide. Besides, it is necessary to have well developed markets to derive appropriate reference rates for pricing financial assets.

In India, various financial market segments, such as, money market, foreign exchange market, government securities market and capital market, for long remained insufficiently developed as they suffered from some serious deficiencies - limited number of participants, tight regulations, limited instruments, segmentation of various markets, limited volumes, low and at times pre-determined coupon rates, lack of efficient market practices, including trading and settlement practices, and low investor base. The Indian capital and foreign exchange markets also remained, by and large, isolated from the international capital and foreign exchange markets.

While some reforms to develop the markets were initiated in the 'eighties, major initiatives were undertaken only from 1991-92 as part of financial sector reforms.

The focus of reforms in the financial markets has been on removing the structural weaknesses and developing the markets along sound lines. The main thrust of reforms in the money and foreign exchange markets has been on broadening and deepening these markets. The main objectives of reforms in the government securities market have been to smoothen the maturity structure of debt, raising of debt at close-to-market rates and improving the liquidity of government securities by developing an active secondary market. In the capital market, the focus of reforms has been on strengthening the disclosure standards, developing the market infrastructure and strengthening the risk management systems at stock exchanges to maintain integrity and safety of the market. Some of the common and crucial elements of structural reforms in various market segments have been the introduction of free pricing of financial assets (such as, interest rate on government securities, free pricing of capital issues, determination of exchange rate in the foreign exchange market), the enlargement of number of participants and the introduction of new instruments. As a result of various reform measures, the number of participants and instruments traded in various segments of financial markets have increased sharply resulting in broadening and deepening of markets. Various segments have also become better integrated. This, in turn, has resulted in an increase in the size of and turnover in different market segments.

The structural reforms in financial markets are expected to have favourable impact on the allocative efficiency of resources. An enabling environment has also been created by the Reserve Bank by gradually switching over to indirect instruments of monetary control, such as, the open market operations.

In the above backdrop, this chapter analyses the structural transformation of various financial markets with special focus on the post-1991 period. Structural transformation is explained in terms of developments, such as, the institutional arrangements and the practices that have been followed and the resultant impact on various variables (e.g., turnover) in each of the market segment. As developments

* **This chapter is based on information available up to October 1999 .**

in various market segments, especially the capital market, hold special significance for the private corporate sector, an attempt is also made to analyse the changes in the financing pattern of the private corporate sector with special focus on changes in the relative importance of capital market *vis-à-vis* financial institutions as sources of funding for the corporates.

Money Market

The Indian money market comprises various sub-markets, such as, call/notice money market, Treasury Bill market, repo market, CDs market, CP market and commercial bill market. Till the late 'eighties, the Indian money market was characterised by a limited number of participants, regulation of entry and limited availability of instruments. In India, the inter-bank call money market formed the core of the money market till the late 'eighties. The segmented and highly regulated money market lacked in depth. The instruments were limited to call (overnight) and short-notice (up to fourteen days) money, inter-bank deposits/loans and commercial bills. Although interest rates on money market instruments were tightly regulated, they were often breached, particularly during periods of tight liquidity. While certain measures were initiated in the late 'eighties to reform the money market in pursuance of the recommendations of the Committee to Review the Working of the Monetary System (Chakravarty Committee, 1985) and the Working Group (Vaghul Working Group, 1987), it was only after the initiation of financial sector reforms in the early 'nineties that sustained efforts were made for developing and deepening the money market.

Call Money

Till 1987, participation in the call money market, which is a major segment of the money market, was limited to banks and two financial institutions (FIs) - LIC and UTI, and entry of new players was strictly regulated. Call rates were freed from the ceiling rate, effective May 1, 1989. The Discount and Finance House of India (DFHI) started its operations in April 1988 in order to provide 'reasonable access to users of short-term money' by promoting secondary market in a range of money market instruments.

During the 'nineties, the following measures were initiated to broaden the call money market:

- Lending in the call money market through DFHI was made broad-based in April 1997 with non-bank entities given the facility to route call/notice money transactions through the Primary Dealers (PDs). This facility, however, is allowed up to end-June 2000. The minimum size per transaction, which was fixed at Rs.20 crore per transaction initially, was reduced in phases to Rs.3 crore by May 1998.
- All participants in the bills rediscounting market and mutual funds - both in the public and the private sectors - were allowed to operate only as lenders.
- Thirteen PDs were allowed to operate as both borrowers and lenders.
- Inter-bank liabilities were freed from reserve requirements in April 1997, which was expected to help generate a smooth yield curve and reduce volatility in the call rates, which, till then, depicted a cyclical pattern with troughs on the reporting Fridays.

Presently, many non-bank entities are allowed to operate in the call/notice/term money market as they do not have enough avenues to deploy their day-to-day surplus cash. With a view to enabling non-bank participants to deploy their short-term resources elsewhere, measures were initiated in April 1999 to develop and widen the repos market with proper regulatory safeguards, such as, delivery *versus* payment (DvP) and uniform accounting. Non-bank participants (UTI, LIC, IDBI, etc.) were also allowed to access short-term money market through repos, on par with banks and PDs, thereby facilitating their cash management. This would help non-bank participants to gradually move out of the call money market. It should then be possible to ultimately move towards a pure inter-bank call/notice/term money market, including PDs. Once there is a pure inter-bank money market, there would be no restriction on the maximum period for which repos can be undertaken.

The call money market in India is very active largely due to the incidence of high cash

reserve requirement on demand and time liabilities of commercial banks. The annual turnover in the call money market at Mumbai, between 1991-92 and 1996-97 remained more or less at the same level, but tended to increase in recent years. It was of the order of Rs.16,44,790 crore in 1991-92 and Rs.15,45,160 crore in 1996-97. However, in the more recent period, the average daily turnover increased from Rs.19,492 crore during the last reporting fortnight of 1996-97 to Rs.23,613 crore during the last reporting fortnight of 1997-98 (with a 1997-98 peak of Rs.25,476 crore during the fortnight ended August 29, 1997) and further to Rs.33,009 crore during the last fortnight of 1998-99, before declining to Rs.31,386 crore during the fortnight ended September 24, 1999.

The turnover and interest rates in the call money market generally reflected varying liquidity conditions. Interest rates displayed four distinct trends during the period July 1990-October 1999 depending on liquidity conditions. During July 1990-June 1992, tight liquidity conditions saw the DFHI's fortnightly average call money lending rates generally ruling in double digits. Easy liquidity conditions during July 1992-December 1994 brought the rates down barring September 1994. This was followed by a period of tight liquidity conditions during January 1995-June 1996 with fortnightly average call rates ruling in double digits for the larger part of the period. In particular, the daily average call rate ruled around 25 per cent during November 1995 largely mirroring the Reserve Bank's intervention in the foreign exchange market to stem the Rupee volatility. Owing to easy liquidity conditions in the subsequent period, the interest rates ruled, by and large, in single digit. However, in the wake of South-East Asian crises, the Reserve Bank undertook a series of monetary policy measures on January 16, 1998 to control liquidity and squelch the pressure on the foreign exchange market. As a result, DFHI's fortnightly average call rates reached abnormally high level of 50.0 per cent during the fortnight ended January 30, 1998.

Commercial Bills

The commercial bills market is an important segment of the money market in many industrial countries, but it did not develop in India due mainly to the cash credit system of credit delivery, where the onus of cash management rests with banks. Absence of an active secondary market further affected the market for bills finance.

With a view to developing the bills market, the interest rate ceiling of 12.5 per cent on rediscounting of commercial bills, along with the interest rate ceilings of 10.5-11.5 per cent on inter-bank term money and 12.5 per cent on inter-bank participation certificates were withdrawn, effective May 1, 1989. The success of the bills discounting scheme is contingent upon financial discipline on the part of the borrowers. In the absence of such restraints, the Reserve Bank, in July 1992, restricted the banks to finance bills to the extent of working capital needs based on credit norms. However, in order to encourage 'bills' culture, the Reserve Bank advised banks in October 1997 that at least 25 per cent of inland credit purchases of borrowers should be through bills.

Commercial Paper (CP)

In pursuance of the recommendations of the Vaghul Working Group, CP was introduced in India in January 1990 at freely determined discount to face value. Initially, CP was allowed to be issued by top-rated companies. The maturity period was stipulated from 91 days to 6 months and the minimum amount at Rs. 1 crore. The issue of CP was linked to the working capital credit limit of companies. However, over the years, the requirements for issue of CP were progressively relaxed. The minimum amount stands reduced to Rs.25 lakh and the maturity period is modified to 30 days-1 year. Although the withdrawal of stand-by facility in October 1994 and the introduction of the loan system for credit delivery in April 1995 adversely affected the growth of CP market, the delinking of CP from the cash credit component of maximum permissible bank finance (MPBF) in October 1997 and easy liquidity conditions in recent years have imparted a renewed thrust to the CP market. Since September 1996, PDs have also been permitted to issue CPs to access short-term funds. The extent of CP that can be issued by all eligible corporates was raised to 100 per cent of the working capital credit limit in November 1996.

Commercial paper, as a money market instrument, has proved to be popular in India, primarily during periods of downswing in credit growth, when corporates are able to access the CP market at rates lower than the PLRs of banks. The amount of commercial paper issued by corporates increased significantly from Rs.577 crore in March 1993 to reach a high of Rs.4,511 crore in August 1994 accompanied by a decline in the average discount rate from 15.9 per cent to 10.5 per cent during this period. With the firming up of call money rates, the average effective discount rate touched a peak of 20.2 per cent in April 1996 with concomitant decline in outstanding amount of CPs, which touched a historical low level of Rs.71 crore. The subsequent easing of liquidity conditions resulted in the renewed interest in commercial paper and the outstanding amount of CPs increased to Rs.5,249 crore in mid-January 1998 with the average effective discount rate declining to 10.7 per cent. Following the tightening of money market conditions, the outstanding amount of CPs declined to Rs.1,030 crore as on April 15, 1998 with the average effective discount rate increasing sharply to 14.1 per cent. The outstanding amount of CPs increased to Rs.6,524 crore as on November 30, 1999 with the average effective discount rate being at 11.4 per cent.

Certificates of Deposit (CDs)

In India, Certificates of Deposit (CDs) were introduced in June 1989. Initially, bank-wise limits on issue of CDs were placed as a certain percentage of the fortnightly average of outstanding aggregate deposits. Over the years, the bank-wise limits were raised before they were abolished altogether, effective October 16, 1993, when it became a truly market determined instrument. The minimum amount of each issue was lowered to Rs.5 lakh, while the minimum lock-in period for CDs was reduced from 30 days to 15 days in May 1998.

The secondary market for CDs has been slow to develop. With banks offering higher interest rates on CDs, investors find it profitable to hold CDs till maturity. Further, the recent reduced interest in CDs can be traced to interest rate deregulation in term deposits and reduction in the maturity period to 15 days, which has facilitated better management of liabilities by banks and reduced the need to issue CDs. The presence of stamp duty on CDs has also affected its growth.

The issue of certificates of deposit (CDs) by scheduled commercial banks during July 1990–September 1999 broadly reflected the liquidity trends of the economy. CDs are relatively high cost deposits and generally gain in importance during the upswing of credit cycle.

The outstanding amount of CDs expanded from Rs.2,000 crore in July 1990 to Rs.12,557 crore in July 1993. As liquidity conditions eased, the outstanding amount of CDs and the effective discount rate declined to Rs.5,218 crore and to 10.8 per cent, respectively, in July 1994. As the demand for bank credit accelerated, the outstanding amount of CDs increased steadily to scale a historical peak of Rs.21,503 crore in June 1996 and the average interest rate also increased to 15.5-17.0 per cent during January-June 1996. As liquidity conditions eased, the outstanding amount of CDs and the average interest rate declined to Rs.6,607 crore and to 8.5 per cent, respectively, in December 1997. However, in response to tight money market conditions and pick-up in non-food credit, banks resorted to high-cost CDs in the fourth quarter of 1997-98, reaching Rs.14,296 crore as on March 27, 1998. The outstanding amount of CDs declined thereafter, and stood at Rs.1,754 crore as on October 22, 1999.

Term Money

In order to develop the term money market, the following measures were initiated in the 'nineties –

(a) Select financial institutions (IDBI, ICICI, IFCI, IRBI, SIDBI, EXIM Bank and NABARD) were permitted in October 1993 to borrow from the term money market for 3-6 months maturity, within limits stipulated for each institution.

(b) Banks were exempted from the maintenance of CRR and SLR on liabilities to the banking system in April 1997,

subject to the condition that effective CRR and SLR on total demand and time liabilities would not be less than 3 per cent and 25 per cent, respectively.

(c) In April 1999, the Reserve Bank clarified that there was no restriction on the maximum period for which repos can be undertaken.

Money Market Mutual Funds

Scheduled commercial banks and public financial institutions were allowed to set up money market mutual funds (MMMFs) in April 1992, subject to certain conditions, which were relaxed subsequently between November 1995 and July 1996 to make the scheme more flexible and provide greater liquidity and depth. The Reserve Bank permitted MMMFs to invest in rated corporate bonds and debentures with a residual maturity of one year. The minimum lock-in period for units of MMMFs was reduced from 30 days to 15 days in May 1998. The Monetary Policy Statement for 1999-2000 also announced certain steps for the development of MMMFs. They were permitted to offer 'cheque writing facility' to provide more liquidity to unit holders, which would be in the nature of a tie-up arrangement with a bank. However, the response has been lukewarm, with only three funds currently operational. It was also announced that MMMFs would come under the purview of the SEBI Regulations and they would be allowed to be set up as a separate entity in the form of a 'Trust' only.

Reserve Bank's Repurchase Agreements (Repos)

The Reserve Bank introduced repo operations (selling government securities to repurchase later) on December 10, 1992 to influence short-term liquidity. Up to February 1995, the Reserve Bank usually engaged in 14-day repos, coinciding with the CRR maintenance period. However, since November 1996, the Reserve Bank has been conducting 3-4 day repos to absorb very short-term liquidity and to stabilise money market rates. The Reserve Bank switched over from auction-based repos to daily fixed-rate repos in November 1997 to provide signals to money market rates and impart stability to short-term interest rates by setting a floor to call rates.

Reserve Bank's Reverse Repos

The Reserve Bank provides liquidity support to PDs in the form of reverse repo facility, apart from providing advances. The Reserve Bank indirectly intervenes in the market through reverse repo operations to ease undue pressure on overnight call money rates.

Inter-bank Repos

While the Reserve Bank conducts its repo operations by means of government securities, it has also allowed repo transactions among banks and select entities in PSU bonds and private corporate debt securities, which has provided the much needed liquidity support to the debt market. To further develop and widen the repos market, in April 1999, the Reserve Bank introduced regulatory safeguards, such as, delivery *versus* payment (DvP). In July 1999, non-bank participants in the money market were allowed to access short-term liquidity through repos, on par with banks and PDs, thereby facilitating their cash management.

Other Developments

(i) With a view to further deepening the money market as also to enable banks, PDs and all-India financial institutions (AIFIs) to hedge interest rate risks and ensure orderly development of the derivatives market, the Reserve Bank issued guidelines on Interest Rate Swaps (IRS) and Forward Rate Agreements (FRAs) in July 1999. Participants undertaking FRAs/IRS were required to ensure that appropriate infrastructure, risk management and internal control systems, whereby a clear functional separation of trading, settlement, monitoring, control and accounting activities is provided, are in place before they undertake such activities. The notional principal amount of outstanding FRAs/IRS was about Rs.1,700 crore as at end-October 1999. The Mid-term Review of Monetary and Credit Policy for 1999-2000 announced the decision to permit mutual funds, in addition to corporates, to undertake FRAs/IRS with banks, PDs and

financial institutions for hedging their balance-sheet risks.

(ii) Scheduled commercial banks were permitted to offer 'cheque writing facility' to Gilt Funds and to those Liquid Income Schemes of mutual funds, which predominantly invest in money market instruments.

Foreign Exchange Market

A major factor underlying the development of the foreign exchange market till 1992 was the basket-linked exchange rate policy regime followed during the period 1975-92 that gave very limited freedom to market. The Reserve Bank performed a market-clearing role towards its obligation to buy and sell unlimited amounts of the intervention currency - the pound sterling- till March 1993 on a day-to-day basis. However, the post-1991 period saw a movement towards market-determined exchange rate regime following the recommendations of the High Level Committee on Balance of Payments (Chairman: Dr. C. Rangarajan, 1991). The exchange rate regime of India transited from the basket-linked managed float to a transitional phase of dual exchange rate between March 1992 and February 1993. This gave way to unification of exchange rates on March 1, 1993. The movement towards current account convertibility was made in August 1994, which provided an added fillip to the market development.

The development of the foreign exchange market was further facilitated by the Report of the Expert Group on Foreign Exchange Markets in India (Chairman: Shri O.P. Sodhani, 1995). The Group's recommendations aimed at integration of domestic foreign exchange market with foreign markets, more operational freedom to dealing banks and widening and deepening of the market. Similarly, corporates have been provided significant freedom in managing their foreign exchange exposure. They are permitted to hedge anticipated exposures though this facility has been temporarily suspended after the Asian crisis. Eligibility to the Exchange Earners' Foreign Currency (EEFC) account has been increased and the permissible end-use widened. Risk management strategies, like the freedom to cancel and rebook forward contracts, have been allowed for corporates, although, since the onset of the Asian crisis, the freedom to rebook cancelled contracts has been suspended while rollover has been permitted. Other risk management tools, such as, *cross-currency options* on a back-to-back basis, lower cost option strategies, like *range forwards* and *ratio range forwards* and others, and hedging of External Commercial Borrowing (ECB) exposures, have been allowed, subject to prudential requirements.

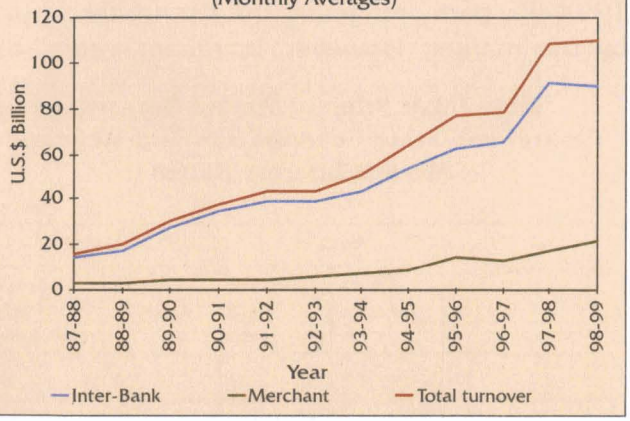
At the same time, internationally accepted documentation standards, comprehensive risk management guidelines for banks, Basle Committee norms for computing foreign exchange position limits and capital backing for open positions have been prescribed. The recommendation on publishing critical data on foreign exchange transactions has been implemented. In fact, the standards of disclosure by the Reserve Bank are considered to be very high now. All these measures have contributed to increase in the turnover of the market in the 'nineties.

Implementation of some of the recommendations of the Committee on Capital Account Convertibility (Chairman: Shri S.S. Tarapore, 1997) in regard to foreign exchange market has also aided in the deepening of the market. Some of the important recommendations implemented relate to foreign direct investment, portfolio investment, investment in joint ventures/wholly-owned subsidiaries abroad, project exports, opening of Indian corporate offices abroad, raising of EEFC entitlement, forfaiting, allowing acceptance credit for exports, allowing FIIs to take forward cover on a part of their exposures in debt and equity markets, etc.

The developments in the exchange rate regime, relaxation of exchange control and strong growth in the underlying current and capital account transactions led to a considerable improvement in the foreign exchange market turnover in recent years, particularly during the post-1991 period. The combined turnover of merchant and inter-bank transactions in the foreign exchange market

increased more than six-fold between the period, 1987-88–1998-99. The average monthly turnover increased from about US $ 17 billion in 1987-88 to US $ 50 billion in 1993-94 and further to US $ 110 billion in 1998-99 (Graph FM.1). The proportion of inter-bank turnover constituted the predominant part – more than four-fifth – of the combined turnover. The proportion of inter-bank turnover in the total increased from 82 per cent in 1987-88 to 91 per cent by 1991-92, but subsequently declined to 81 per cent by 1998-99, largely on account of strong growth in merchandise trade, services, private transfers in the current account and foreign investment – both direct and portfolio - in the capital account of balance of payments from 1993-94 onwards. For instance, total inflows and outflows in the balance of payments (both on current and capital accounts) almost doubled from US $ 100 billion in 1990-91 to US $ 182 billion in 1998-99. While current account transactions increased from US $ 62 billion to US $ 124 billion, capital account transactions increased from US $ 38 billion to US $ 69 billion in 1997-98, before declining to US $ 57 billion in 1998-99, reflecting outflows under portfolio investment in view of uncertain external environment.

Graph FM.1: Foreign Exchange Market Turnover
(Monthly Averages)



As regards the classification by way of spot and forward transactions, the available data for the recent period indicate that the merchant segment is dominated by spot transactions, while the inter-bank segment is dominated by forward transactions. During 1998-99, spot transactions accounted for about 46 per cent of the total merchant turnover, while forward transactions formed 41 per cent of the total inter-bank turnover.

Government Securities Market

In the pre-1991 period, the government securities market in India was underdeveloped, partly because of inefficient market practices and partly because of limited institutional infrastructure. In order to keep cost of government borrowings low, the coupon rates offered on government securities remained negative in real terms for several years till about the mid-eighties. The Reserve Bank had little control over some of the essential facets of debt management, such as, volume and maturity structure of securities to be marketed and the term structure of interest rates. During the 'eighties, the volume of both long-term and short-term debt expanded considerably, especially the latter, due to automatic accommodation through the mechanism of *ad hoc* Treasury Bills. The maturity structure of market loans remained highly skewed in favour of longer term of more than 15 years. Thus, the government securities market was constrained mainly by absence of definite limits on the automatic monetisation of the Central Government budget deficits and by relatively low coupon rates offered on government securities to investors, whose ability to shuffle investment portfolios was severely circumscribed.

Considering the significance of a vibrant government securities market for activating internal debt management policy and for more effective conduct of monetary policy, a number of measures have been announced since about the middle of 1991. The maximum coupon rate on Central Government loans was raised to near - market rates. A large number of instruments were introduced. Besides, government borrowing was made auction-based. The main reform measures introduced since 1992 are detailed below:

(i) The auction system for the sale of Government of India medium and long-term securities was introduced from June 3, 1992. Some innovative instruments, such as, conversion of auction Treasury Bills into term securities, Zero Coupon and Capital Indexed Bonds, Tap Stocks and partly paid stocks were introduced.

(ii) 364-day Treasury Bills auctions were introduced from April 28, 1992 and 91-

day Treasury Bills auctions from January 8, 1993. 14-day Treasury Bills were introduced on June 6, 1997, while 182-day Treasury Bills were reintroduced on May 26, 1999.

(iii) A scheme of 14-day Intermediate Treasury Bills was introduced effective April 1997 to enable State Governments, foreign central banks and other specified bodies with whom the Reserve Bank has an arrangement to invest their temporary surplus funds.

(iv) A system of Primary Dealers was established in March 1995 and the guidelines for Satellite Dealers were issued in December 1996.

(v) Market orientation to issues of government securities paved the way for the Reserve Bank to activate the open market operations as a tool of market intervention.

(vi) The practice of automatic monetisation of the Central Government budget deficit through *ad hoc* Treasury Bills was replaced with effect from April 1, 1997 by a new scheme of Ways and Means Advances (WMA).

(vii) Reserve Bank initiated steps for the introduction of a delivery *versus* payment (D*v*P) system for transactions in government securities initially in Mumbai. The D*v*P system ensures settlement by synchronising the transfer of securities with cash payment. This has reduced settlement risk in securities transactions and has also prevented diversion of funds.

(viii) The stipulation, whereby banks were allowed to hold 70 per cent of their investments in 'approved securities' in 'permanent' category (representing those securities which are intended to be held till maturity) as distinguished from the 'current' category (representing those securities which are intended to be traded on a day-to-day basis), which was introduced from the accounting year 1992-93, was gradually modified to increase the share of the current category to 70 per cent for the year ended March 1999. Further, with effect from the year ending March 31, 2000, banks would have to classify a minimum of 75 per cent of their securities as current investments.

(ix) The Reserve Bank started providing liquidity support to mutual funds dedicated exclusively to investments in government securities.

(x) FIIs with 100 per cent debt funds were permitted to invest in government securities and Treasury Bills. Other FIIs were also allowed to invest in debt market, including government securities, subject to the ceiling of 30 per cent.

(xi) The interest income on government securities was exempted from the provision of Tax Deduction at Source (TDS).

Primary Market in Government Securities

Since the switchover to the market mechanism for issuing securities, the primary issues of the Central Government have registered more than ten-fold increase to Rs.93,953 crore during 1998-99 from Rs.8,989 crore during 1990-91 (Table FM.A). However, with the emergence of an active government securities market, the Reserve Bank's absorption of primary issues came down drastically from 45.9 per cent in 1992-93 to 1.52 per cent in 1993-94 and to a very low of 0.74 per cent in 1994-95, partly reflecting the rise in absorption by the market. However, in recent years, the

Table FM.A: Primary Market Borrowings of Central and State Governments and Weighted Average Interest Rates

(Rs. crore)

Year (April-March)	Centre		States	
	Gross Amount	Interest Rate (Per cent)	Gross Amount	Interest Rate (Per cent)
1	2	3	4	5
1980-81	2,871	7.03	333	6.75
1985-86	5,764	11.08	1,414	9.75
1990-91	8,989	11.41	2,569	11.50
1991-92	8,919	11.78	3,364	11.82
1992-93	13,885	12.46	3,805	13.00
1993-94	50,388	12.63	4,145	13.50
1994-95	38,108	11.91	5,123	12.50
1995-96	40,509	13.75	6,274	14.00
1996-97	36,152	13.69	6,536	13.83
1997-98	59,637	12.01	7,749	12.82
1998-99	93,953	11.86	12,114	12.35

Source: Reserve Bank of India.

primary subscription of the Reserve Bank was high mainly for carrying out open market operations. Notwithstanding this, the monetary impact of the government borrowings was contained by offloading these securities in the market at appropriate points of time through open market operations.

The investor base for government securities has expanded during the period under view. Besides banks and insurance corporations, finance companies, corporates and financial institutions have also begun to invest in government securities. The maturity structure of debt has significantly shifted in favour of medium and short-term borrowings.

Secondary Market in Government Securities

The secondary market transactions in government securities (through SGL Accounts), which started in September 1994, have also witnessed sharp growth. The average annual growth in secondary market transactions was as high as 55 per cent for the period 1994-95 to 1998-99, reflecting the increasing depth attained by the government securities market (Table FM.B).

Capital Market

The Indian capital market, which has a long history spanning over 100 years, is currently passing through the most radical phase.

Table FM.B: Secondary Market Transactions in Government Securities

(Rs. crore)

Year (April-March)	Outright	Repos	Total
1	2	3	4
1994-95	21,306 (42.1)	29,263 (57.9)	50,569
1995-96	29,531 (23.2)	97,648 (76.8)	127,179
1996-97	93,921 (76.4)	29,021 (23.6)	122,942
1997-98	161,090 (86.8)	24,619 (13.2)	185,709
1998-99	187,531 (82.5)	39,697 (17.5)	227,228
1999-2000 (April-July)	132,441 (87.8)	18,342 (12.2)	150,783

Note: Figures in brackets are percentages to total transactions.
Source: Reserve Bank of India.

Although the Indian capital market witnessed some significant changes during the 'eighties, both the primary and the secondary segments continued to suffer from some serious deficiencies. Many unhealthy practices prevailed in the primary market to attract the retail investors. Another disturbing feature was the high cost of new issues. Although over the years, a number of agencies came into existence offering different types of services in connection with the new issues of capital, their activities were not overseen by any regulatory authority.

The problems were even more serious in the secondary market. The general functioning of stock exchanges was not satisfactory. The exchanges were governed by their internal bye-laws and managed by their Governing Bodies, which were dominated by elected member-brokers. Trading members were also not adequately capitalised. Insider trading was rampant and was one of the major causes of excessive speculative activity, leading to default by stock brokers, frequent payment crises and disruption of market activity. The stock exchanges followed inefficient and outdated trading systems. This, in turn, led to lack of transparency in trading operations, besides resulting in long and uncertain settlement cycles. The risk management system in the market was also not satisfactory. Though the margin system was operative, the margins were inadequate and the system of collection of margins was not enforced strictly. Post-trade settlement procedures also suffered from some serious drawbacks, such as, high share of bad deliveries, delayed settlements, sometimes clubbing of settlements, etc. The procedures relating to investor protection were also not satisfactory.

Some measures were initiated to reform the capital market in the 'eighties. However, major reforms, which have altered the face of the capital market, were initiated begining with the year 1992. In the primary market, all controls relating to pricing of equity issues and the time when they should be issued have been removed, while in the secondary market, the traditional open outcry system has been replaced with transparent screen-based computerised trading system. Physical securities are being increasingly dematerialised. The settlement period has been shortened to one week uniformly across all stock exchanges. The

domestic capital market is also increasingly integrating with the international capital markets. Some of the major developments/changes, which have radically transformed the structure of the Indian capital market since 1992, are set out below.

Policy Measures

Primary Capital Market

(i) The Securities and Exchange Board of India (SEBI), which was set up in early 1988 as a non-statutory body under an administrative arrangement, was given statutory powers in January 1992 through the enactment of the SEBI Act, 1992 for regulating the securities markets. The two objectives mandated in the SEBI Act are investor protection and orderly development of the capital market.

(ii) The Capital Issues (Control) Act, 1947 was repealed in May 1992, allowing issuers of securities to raise capital from the market without requiring any consent from any authority either for floating the issue or for pricing it. Restrictions on rights and bonus issues were also removed. Interest rate on debentures was also freed. However, the new issue of capital has been brought under SEBI's purview and issuers are required to meet the SEBI guidelines for Disclosure and Investor Protection, which have been strengthened from time to time to protect investor interest.

(iii) The infrastructure of the primary capital market has become fairly diversified over the years with the setting-up of large number of merchant bankers, investment and consultancy agencies, registrar to the issue, etc.

(iv) The primary capital market has also widened and deepened, with public sector banks, financial institutions and public sector enterprises in the infrastructure and power sectors increasingly raising resources from the market both by way of debt and equity.

(v) Although the process of institutionalisation of the market on the supply side started from 1987-88 when many mutual funds sponsored by banks and FIs were set up, it gained considerable momentum in the early 'nineties as many mutual funds were set up in the private sector. Of the 40 mutual funds registered with SEBI as at end-March 1999, as many as 31 mutual funds were set up in the private sector in the 'nineties.

Secondary Capital Market

(i) The open outcry trading system, which was prevalent a few years ago, has now been replaced by on-line screen-based electronic trading. In all, 23 stock exchanges have approximately 8,000 trading terminals spread all over the country.

(ii) Trading and settlement cycles have been shortened from 14 days to 7 days uniformly in all stock exchanges. All the stock exchanges in the country have established clearing houses.

(iii) With a view to maintaining integrity and ensuring safety of the market, various risk containment measures have been initiated/ strengthened, such as, mark-to-market margin system, intra-day trading limit, exposure limit and setting-up of trade guarantee fund. The clearing and settlement process in the Indian stock markets in the past lacked a system to reduce counter-party risk. For this purpose, SEBI has been emphasising the need for setting up Trade/Settlement Guarantee Fund to provide the necessary funds and ensure timely completion of settlements in case of failure of member brokers to fulfill their settlement obligations. So far, 10 stock exchanges have set up Trade/Settlement Guarantee Funds. The NSE has a separate clearing corporation, which acts as a counter-party to all trades executed in the capital market segment of the Exchange.

(iv) To enhance the level of investor protection, the process of dematerailisation of securities through depository system and their transfer through electronic book entry is being pursued vigorously.

(v) With a view to protecting investor interest, disclosure standards have been strengthened. Issuers of capital, apart from disclosing information on various aspects, such as, track record of profitability, risk factors, etc., at the time of issuing capital, are also required to make continuing disclosure under the listing agreement. All

listed companies are required to furnish to the stock exchanges and also publish unaudited financial results on a quarterly basis. Disclosure of material information, which would have a bearing on the performance/operations of a company, is also required to be made available to the public.

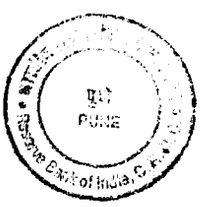
(vi) One of the significant steps towards integrating the Indian capital market with the international capital markets was the permission given to Foreign Institutional Investors (FIIs), such as, mutual funds, pension funds, country funds, etc. to operate in the Indian market. FIIs, which were initially allowed to invest only in the equity shares, were later allowed to invest in the debt market, including dated government securities and Treasury Bills.

Indian companies have also been allowed to raise capital from the international capital markets through issues of Global Depository Receipts (GDRs), American Depository Receipts (ADRs), Foreign Currency Convertible Bonds (FCCBs) and External Commercial Borrowings (ECBs).

(vii) Stock markets have also undergone some major structural reforms. The Boards of various stock exchanges have been made broad-based so that they represent different interests and not just the interests of their members. Brokers and sub-brokers have been brought under the regulatory purview of SEBI, and it has started undertaking inspection of the stock exchanges.

(viii) Companies have been allowed to buy-back their own shares for capital restructuring, subject to the condition that the buy-back does not exceed 25 per cent of the paid-up capital and free reserves of the company concerned.

(ix) Although the Indian capital market grew rapidly over the years, there was no regulation in the country to prevent insider-trading. Therefore, in 1992, SEBI formulated the Insider Trading Regulations prohibiting insider trading and making it a criminal offence punishable in accordance with the provisions under the SEBI Act, 1992. Regulations are also in place for takeover and substantial acquisition of shares to make the takeover process more transparent and to protect the interests of minority shareholders. Apart from stock exchanges, stock brokers and sub-brokers, various other intermediaries, such as, mutual funds, merchant bankers, portfolio managers, registrars to an issue and share transfer agents, underwriters, debenture trustees, bankers to an issue, custodian of securities, venture capital funds and issuers have also been brought under the regulatory purview of SEBI.



Trends in Capital Market

Primary Capital Market

New Issues Market – Prospectus and Rights Issues

The resource mobilisation from the primary capital market in the 'nineties witnessed two distinct phases, i.e., one from 1991-92 to 1994-95 and another from 1995-96 and onwards. The abolition of capital issues control and the introduction of free pricing of issues led to unprecedented upsurge of activity in the primary capital market as the corporates mobilised huge resources. During 1992-93, resource mobilisation by non-government public limited companies increased sharply by 219.8 per cent to Rs.19,803 crore from 1,040 issues as compared with Rs.6,193 crore from 514 issues in the previous year. Huge resources were also raised by way of new capital issues in the following two years, although in percentage terms, the growth was not so significant due mainly to a large base of 1992-93 (Table FM.C). It is significant to note that, to a large extent, the sharp increase in resource mobilisation was due to spurt in equity issues with 'premium'. There were 325 equity issues floated at 'premium' during 1992-93 as against 56 such issues in 1991-92. The total amount of premium in respect of such issues at Rs.5,154 crore constituted 51.8 per cent of the total amount mobilised by equity issues by non-government public limited companies during 1992-93 as against Rs.237 crore or 12.4 per cent in the previous year. The share of premium in the total equity issues declined to 43.2 per cent during 1993-94, but increased again to 48.4 per cent during 1994-95.

Another significant feature of the primary market activity after abolition of capital controls was that the corporates attempted to diversify the range of instruments. A wide variety of innovative/hybrid instruments were introduced to suit varied needs of investors and issuers/ borrowers. Some of the instruments, which became quite popular were secured premium notes (SPN) with detachable warrants, non-convertible debentures with detachable equity warrants, zero-interest equity shares with detachable equity warrants, fully convertible cumulative redeemable preference shares. Resources raised through the innovative instruments which were of the order of Rs.198 crore during 1991-92 increased sharply to Rs.4,703 crore and Rs.5,460 crore during 1993-94 and 1994-95, respectively, constituting 23.7 per cent and 28.2 per cent, respectively, of total resource mobilisation by non-government public limited companies. The share, however, declined somewhat during 1994-95.

The growth of the market from 1992-93 to 1994-95 and the freedom to price issues raised questions about the quality of the issues entering the market. Therefore, SEBI, without curbing the freedom of the issuers to enter the new issues market and to freely price their issues, strengthened the entry norms for public issues. Besides, disclosure standards in public issues were also raised for improving the levels of investor protection.

The primary capital market has witnessed distinctly depressed conditions since 1995-96. Resource mobilisation by non-government public limited companies declined consecutively for three years during the period from 1995-96 to 1997-98 at an average annual rate of 48.1 per cent. The resource mobilisation during 1997-98 was only of the order of Rs.3,138 crore. Although the resource mobilisation during 1998-99 increased sharply by 59.7 per cent, it was on a low base of 1997-98. The overall deceleration in resource mobilisation since 1995-96 could be attributed to factors operating both on the demand side and the supply side. The prolonged subdued conditions in the secondary market until recently affected the activity adversely in the primary market, especially because many investors, who had invested during the boom period after the introduction of free pricing, suffered heavy losses when the stock market declined. The prices of many issues floated at high premia declined upon listing. In fact, some of the companies, which floated public issues are not even traceable. This adversely affected the investors in terms of liquidity and confidence. Many of the investors consequently remained away from the market. While this affected the supply of funds, certain factors also affected the market on the demand side. Strict disclosure standards and entry point norms prescribed by SEBI made it difficult for most new companies without an established track record to access the capital market. While this helped improve the quality of paper coming into the market by checking the fly-by-night operators and served as an important measure of investor protection, it contributed to decline in the number of issues and the amount raised from the market. From the year 1996-97, the economy, in general, and the industrial sector, in particular, slowed down. These factors affected the demand for funds from the primary capital market, thus, affecting its growth.

However, even in the depressed conditions, some of the issues have been a great success with many times over-subscriptions. While the SEBI guidelines ensure that only quality issues enter the market, the investor has also become selective, reflecting the qualitative change in the functioning of the primary capital market. Thus, although the growth of the primary capital market in the 'nineties has been less impressive as compared with the 'eighties, the market has shown an enormous improvement in qualitative terms.

Private Placement Market

Stringent entry and disclosure norms for public issues coupled with low cost of issuance, ease of structuring instruments and saving of time lag in issuance has led to the rapid growth of the private placement market in recent years. Total resource mobilisation from the private placement market increased sharply from Rs.13,361 crore during 1995-96 to Rs.49,664 crore during 1998-99. The share of private placement issues in total resource mobilisation from the primary capital market (public issues and private placements) thus increased gradually

Table FM.C: Resource Mobilisation from the Primary Capital Market*

(Rs. crore)

Year (April-March)	Prospectus and Rights			Private Placement		PSU Bonds@	Total
	Non-Govt. Public Ltd. Cos.	Govt. Cos.	Banks & FIs in Public Sector	Public Sector	Private Sector		
1	2	3	4	5	6	7	8
1983-84	838	—	—	—	—	—	838
1984-85	1,056	—	—	—	—	—	1,056
1985-86	1,745	—	—	—	—	354	2,099
1986-87	2,581	—	—	—	—	1,674	4,255
1987-88	1,788	—	—	—	—	2,334	4,122
1988-89	3,225	—	—	—	—	2,868	6,093
1989-90	6,510	—	—	—	—	4,229	10,739
1990-91	4,312	—	—	—	—	5,663	9,975
1991-92	6,193	—	—	—	—	5,710	11,903
1992-93	19,803	430	356	—	—	1,062	21,651
1993-94	19,330	819	3,843	—	—	5,586	29,578
1994-95	26,417	888	425	—	—	3,070	30,800
1995-96	16,075	1,000	3,465	9,290	4,071	..	33,901
1996-97 P	10,410	650	4,352	12,573	2,493	50	30,528
1997-98 P	3,138	43	1,476	20,896	9,202	..	34,755
1998-99 P	5,013	..	4,352	32,681	16,983	..	59,029
1999-2000 P (April-October)	2,438	..	1,625	—	—	—	—

* Including both debt and equity.

.. Nil or negligible.

— Not available.

@ Data on PSU bonds in col.7 up to 1994-95 represent bonds floated through prospectus as also on private placement basis, while data from 1995-96 represent PSU bonds issued only on a prospectus basis. From 1995-96, privately placed PSU bonds are included in the private placement data for the public sector.

Source : Reserve Bank of India.

from 39.4 per cent in 1995-96 to 84.1 per cent during 1998-99 (Table FM.C).

Resource Mobilisation from International Capital Markets

During last few years, huge resources have also been raised from the international capital markets by way of GDRs/ADRs, foreign currency convertible bonds (FCCBs) and external commercial borrowings (ECBs). Resources raised by way of GDRs increased sharply from Rs.251 crore during 1992-93 (GDRs were first allowed to be issued during 1992-93) to Rs.4,324 crore during 1993-94 and further to Rs.5,027 crore during 1994-95 (Table FM.D). During these two years, resources raised by way of foreign currency convertible bonds amounted to Rs.3,130 crore and Rs.1,083 crore, respectively. Total resource mobilisation from the international capital markets (GDR, FCCB and ECB) increased sharply to Rs.9,359 crore during 1993-94 from (-)Rs.844 crore during 1992-93. Resource mobilisation from international capital markets, which declined during 1994-95 and 1995-96, picked up during 1996-97 and 1997-98, when resources mobilised went up by 163.2 per cent and 42.6 per cent, respectively, due mainly to sharp increase in both Euro-issues and ECBs. Resource mobilisation declined sharply by 70.5 per cent during 1998-99 due mainly to a sharp decline in ECBs. Notwithstanding the decline in resource mobilisation during 1998-99, the importance of international capital markets has certainly increased in the 'nineties *vis-à-vis* the 'eighties.

Table FM.D: Resource Mobilisation from International Capital Markets

(Rs. crore)

Year (April-March)	Euro-Issues			ECB	Total (Col.4+ Col.5)
	GDR@	FCCB (Col.2+ Col.3)	Total		
1	2	3	4	5	6
1990-91	..	..	..	4,034	4,034
1991-92	..	..	..	3,807	3,807
1992-93	251	..	251	-1,095	-844
1993-94	4,324	3,130	7,454	1,905	9,359
1994-95	5,027	1,083	6,110	3,238	9,348
1995-96	496	..	496	4,548	5,044
1996-97	1,625	1,651	3,275	10,003	13,278
1997-98	4,330	48	4,387	14,557	18,936
1998-99	2,105	..	2,105	3,485	5,589
1999-2000 P (April - September)	482	—	482	—	—

P Provisional.
.. Nil or negligible.
— Not available.
@ Also including ADR issues.

Note : Resource mobilisation by way of Euro-issues and FCCBs started during 1992-93 and 1993-94, respectively.

Source : Reserve Bank of India.

Table FM.E: Resource Mobilisation by Mutual Funds

(Rs. crore)

Year (April-March)	UTI*	Bank Spons-ored MFs	FI-Spons-ored MFs	Private MFs	Total (2+3+ 4+5)
1	2	3	4	5	6
1983-84	330	–	–	–	330
1984-85	756	–	–	–	756
1985-86	892	–	–	–	892
1986-87	1,261	–	–	–	1,261
1987-88	2,059	250	–	–	2,310
1988-89	3,855	320	–	–	4,175
1989-90	5,584	888	315	–	6,787
1990-91	4,553	2,352	604	–	7,508
1991-92	8,685	2,140	427	–	11,253
1992-93	11,057	1,204	760	–	13,021
1993-94	9,297	148	239	1,560	11,243
1994-95	8,611	765	576	1,322	11,275
1995-96	-6,314	113	235	133	-5,833
1996-97 P	-3,043	6	137	864	-2,037
1997-98 P	2,875	243	206	678	4,002
1998-99 P	170	253	576	2,090	3,090
Average annual growth rate					
Eighties					
(1983-84 to 1990-91)	59.7	123.4@	–	–	65.4
Nineties					
(1991-92 to 1998-99)	9.2	514.8	31.4	126.1	29.9

P Provisional.
– Not applicable.
@ Refers to the period from 1987-88 to 1990-91.
* For UTI, the figures are gross value (with premium) of net sales under all domestic Schemes. Data up to 1990-91 are on a July-June basis.

Source : UTI and respective Mutual Funds.

Mutual Funds

Resource mobilisation by mutual funds increased sharply in the 'eighties and during the first two years of the 'nineties. Resources mobilised during the period from 1981-82 to 1991-92 grew at an average annual rate of 71.0 per cent aided mainly by the buoyant secondary market, setting up of new mutual funds in the second-half of the 'eighties and tailor-made schemes introduced by them and the UTI. High/ assured rate of return offered by some mutual funds was another contributory factor. However, resource mobilisation by mutual funds in the 'nineties suffered a serious setback, although during this period many new mutual funds came into existence. Resources mobilised increased by 15.7 per cent during 1992-93 but declined sharply thereafter at an average annual rate of-(-)37.3 per cent between 1992-93 and 1995-96. Resource mobilisation during 1996-97 and 1997-98 and 1998-99 was only of the order of Rs.(-)2,037 crore, Rs.4,002 crore and Rs.3,090 crore, respectively (Table FM.E). While the decline in resource mobilisation by mutual funds in general could be ascribed to depressed stock market conditions, the decline during 1998-99 was due to redemption pressure faced by UTI in respect of the US-64 Scheme. It is significant to note that of the total resource mobilisation during 1998-99, nearly two thirds was accounted for by the private sector mutual funds unlike in the past, when public sector mutual funds dominated the industry.

Secondary Capital Market

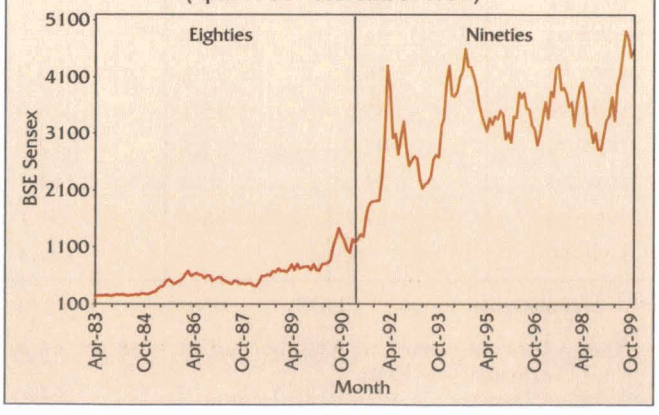
Trends in Share Prices

The stock market witnessed an unprecedented spurt in the activity in the first

year of economic reforms, i.e., 1991-92, when share prices as measured by the BSE Sensitive Index (Sensex) (Base: 1978-79 = 100) increased by 266.9 per cent on a point-to-point basis. However, share prices declined sharply by 46.8 per cent during 1992-93 as a fallout of the detection of irregularities in securities transactions (Appendix Table FM.1). Share prices firmed up again during 1993-94 and peaked in September 1994 when the Sensex reached its all-time intra-day high of 4643.31 on September 12, 1994. The rally was led mainly by the increased flow of foreign funds, increased investor interest and speculative trading. The secondary market, which peaked in September 1994, turned distinctly depressed as the BSE Sensex lost as many as 1382.30 points by March 31, 1995. After a brief recovery, it dropped to a three-year low of 2745.06 on December 4, 1996. The stock market generally remained depressed thereafter until the presentation of the Union Budget (1999-2000) on February 28, 1999. From then on, the stock markets began to look up again and the BSE Sensex reached an all-time intra-day high of 5150.99 on October 11, 1999 (Graph FM.2). Although the share prices declined sharply thereafter with the BSE Sensex losing as many as 804.7 points (15.9 per cent) between October 14, 1999 and November 1, 1999, the undertone continues to be firm.

The average annual capital appreciation in share prices as measured by the BSE Sensex worked out to 35.9 per cent in the 'nineties (1991-92 to 1998-99) in comparison with 28.4 per cent in the 'eighties (1983-84 to 1990-91). It is significant to note that the volatility in share prices as measured by the co-efficient of variation declined sharply to 23.4 per cent in the 'nineties in comparison with 45.9 per cent in the 'eighties.

Graph FM.2: BSE Sensitive Index - Month-end Values
(April 1983 - November 1999)



Trends in FII Investments

An important feature of the 'nineties has been the participation of FIIs in the stock markets and their growing influence on the market. FIIs commenced their operations in the Indian stock markets with a token investment of 0.6 crore in January 1993. However, since then, their investments have grown substantially. During the financial year 1993-94, net investments by FIIs were Rs.5,445 crore, which came down marginally to Rs.4,777 crore in 1994-95. During 1995-96 and 1996-97, net FII investments at Rs.6,735 crore and Rs.7,444 crore grew by 41.0 per cent and 10.5 per cent, respectively (Table FM.F).

Table FM.F : Net FII Investments

Year (April-March)	Net Investments (Rs. crore)	Percentage Variations over the previous year
1	2	3
1993-94	5,445	
1994-95	4,777	-12.3
1995-96	6,735	41.0
1996-97	7,444	10.5
1997-98	5,913	-20.6
1998-99	-807	-113.6
1999-2000P (April-October)	2,884	239.5

P Provisional.
Source : Reserve Bank of India.

Net monthly FII investments remained positive until November 1997, when they turned negative for the first time, the trend which continued till January 1998. Despite this, the overall investments during 1997-98 remained positive, although they declined in percentage terms (-20.6 per cent). Net investment by FIIs on a yearly basis turned negative at Rs.807 crore for the first time during 1998-99. However, the trend has been reversed in the current financial year with total net FII investments up to October 1999 working out to Rs.2,884 crore. The cumulative net FII investments as at end-October 1999 stood at Rs.32,155 crore (US$ 9432.35 million).

Stock Market Development

The number of listed companies at various stock exchanges has been showing a steady increase particularly from the early 'eighties. The number of companies listed at various stock exchanges grew at an average annual rate of 10.6 per cent from 3,883 as at end-December 1984 to 6,229 as at end-March 1991. However, in comparison with the 'eighties, the number of companies listed at various stock exchanges grew at a lower average rate of 6.1 per cent in the 'nineties (Appendix Table FM.2).

The growth in market capitalisation also slowed down during the 'nineties due mainly to slowdown in the number of companies listed. Market capitalisation of all listed stocks in stock exchanges, which was Rs.11,635 crore as at end-December 1983, increased sharply to Rs.1,10,279 crore by end-March 1991, increasing at an average annual rate of 38.5 per cent. The market capitalisation increased sharply by 221.1 per cent to Rs.3,54,106 crore during 1991-92, but declined by 35.4 per cent to Rs.2,28,780 crore by end-March 1993. It increased almost gradually thereafter to Rs.5,74,064 crore by end-March 1999. On an average, market capitalisation grew at an annual rate of 37.9 per cent in the 'nineties (1991-92 to 1998-99) as compared with 38.5 per cent in the 'eighties (1983-84 to 1990-91).

The stock market development is often usefully measured in terms of three ratios, *viz.*, the *market capitalisation ratio,* the *total value traded ratio,* and the *turnover ratio.*

The *market capitalisation ratio*, which is measured as market capitalisation divided by GDP, indicates the size of the market. Liquidity is measured by two ratios, *viz.*, *total value traded ratio* and *turnover ratio*. The *total value traded ratio* is measured as total value traded divided by GDP. The *total value traded ratio* complements the market capitalisation ratio in that the market capitalisation may be high without there being much trading. The *turnover ratio* is measured by the value of total shares traded divided by market capitalisation. Whereas the *traded value ratio* captures trading in relation to the size of the economy, the *turnover ratio* captures trading in relation to the size of the stock market.

The *market capitalisation ratio*, which was only 5.6 per cent during 1983, improved gradually to 20.6 per cent by 1990-91. The ratio spurted to 57.4 per cent in the following year due to sharp increase in share prices. However, this was an aberration and the ratio declined sharply to 32.4 per cent during 1992-93 due to sharp decline in share prices. The ratio increased to 47.0 per cent by 1995-96 but stood lower at 37.7 per cent during 1997-98. However, even at this level, the ratio was markedly higher as compared with the level prevailing before initiation of economic reforms.

The *traded value ratio*, which was 23.2 per cent during 1993-94, declined to 15.7 per cent during 1994-95, but increased sharply thereafter to 58.1 per cent by 1997-98. A sharp improvement has also taken place in the *turnover ratio*. The ratio, which was 50.9 per cent during 1993-94, declined to 34.4 per cent in the following year, but increased gradually thereafter to as high as 178.3 per cent during 1998-99 (Table FM.G).

Table FM.G: Indicators of Stock Market Development

(Per cent)

Year (April-March)	Market Capitalisation Ratio	Traded Value Ratio	Turnover Ratio
1	2	3	4
1983	5.6	—	—
1984	5.8	—	—
1985	9.3	—	—
1986	9.4	—	—
1987	10.7	—	—
1988	13.0	—	—
1989-90	15.4	—	—
1990-91	20.6	—	—
1991-92	57.4	—	—
1992-93	32.4	—	—
1993-94	45.6	23.2	50.9
1994-95	45.6	15.7	34.4
1995-96	47.0	18.7	39.7
1996-97	34.6	45.8	132.3
1997-98	37.7	58.1	154.1
1998-99	—	—	178.3

— Not available

Note : Data on market capitalisation up to 1988 are on a calendar year basis.

The above analysis suggests that the stock markets grew at a relatively rapid rate during the 'nineties as compared with the 'eighties. The stock markets in India have also witnessed two significant structural changes in the 'nineties.

Firstly, there has taken place significant change in the relative importance of various stock exchanges in the overall marketplace. Secondly, traditionally, manufacturing companies, such as, cement, steel, etc. and financial services sector, constituted the bulk of the market capitalisation and turnover at the stock exchanges. However, in the recent years, the relative importance of traditional sectors has declined, while that of the so-called golden triangle, i.e., information technology (IT) sector, pharmaceuticals and fast moving consumer goods sector (FMCG) has increased. The combined share of manufacturing companies and financial services sector in the aggregate turnover declined sharply from 84.1 per cent during 1991-92 to 33.6 per cent during 1998-99, while that of FMCG, IT sector and pharmaceuticals increased sharply from 7.8 per cent to 58.6 per cent (Appendix Table FM.3).

Financial Institutions

Financial institutions have been an integral part of the Indian capital market and have historically played a very important role in financing investment activity. Two significant changes have taken place in the financing of investment activity by FIs in the 'nineties as compared with the 'eighties. While the relative importance of foreign currency business of development financial institutions (DFIs) declined in the 'nineties, that of non-fund based business, such as, underwriting and guarantees increased.

Aggregate sanctions by all FIs grew at a marginally lower rate of 24.4 per cent in the 'nineties (1991-92 to 1998-99) as compared with 25.5 per cent in the 'eighties (1983-84 to 1990-91). While sanctions of rupee loans increased marginally, those of foreign currency loans decelerated sharply in the 'nineties. Sanctions of rupee loans increased marginally to 24.0 per cent in comparison with 23.0 per cent. However, foreign currency sanctions decelerated sharply to 19.0 per cent as compared with 62.5 per cent. Sanctions for underwriting and direct subscription and guarantees accelerated to 36.7 per cent and 103.1 per cent, respectively, in the 'nineties as against 33.0 per cent and 35.7 per cent, respectively, in the 'eighties. The trends in disbursals were broadly in conformity with those of sanctions, except that, in aggregate terms, they showed a marginally higher growth of 23.0 per cent in the 'nineties as against 22.9 per cent in the 'eighties (Appendix Table FM.4). Also, the deceleration in disbursals in foreign currency was less pronounced in comparison with sanctions. The sharp deceleration in the guarantees invoked in the 'nineties was due to the reason that FIs always endeavor to ensure that guarantees are given only to sound parties and that they are not invoked as far as possible. The structural change in the financing activity of FIs reflects partly the increased competition and partly the resource problem being faced by DFIs. The increased access to corporates in the international capital markets has affected DFIs' foreign currency business. As concessional sources of funds in the form of LTO Fund of the Reserve Bank and the government guaranteed bonds are no longer available, DFIs have started placing relatively more emphasis on non-fund business.

Inter-linkages among Money, Foreign Exchange and Repos Market

A significant feature of the financial market activity in the 'nineties has been the growing inter-linkages among the money, foreign exchange and repos markets. This is particularly so in the recent period. For instance, based on the experience of 1998-99 and 1999-2000 (April-September) the inter-linkages among money, foreign exchange and government securities market (repos) typically run in the following ways:

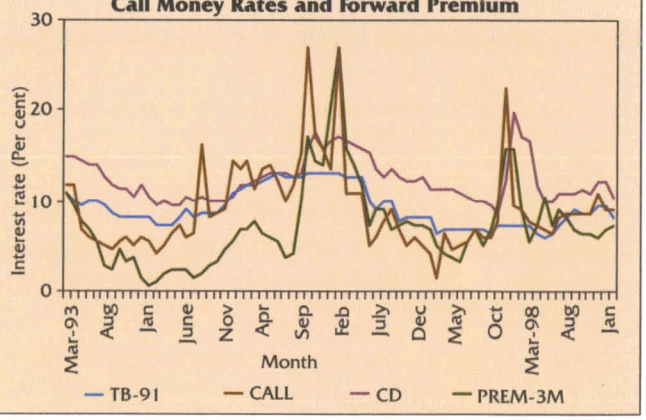
- The fixed rate repo and Bank Rate (as also export credit refinance rate) provide an informal corridor to the call money rates. The fixed rate repo normally acts as a floor for call rates, while the refinance/reverse repos at the Bank Rate normally provide a ceiling.

- Under excess liquidity condition, surplus funds are parked in repos. Call rates soften to approach the lower repo rate. In the case of uncertain conditions in the foreign exchange market, excess liquidity could spillover to the foreign exchange market, leading to hardening of forward premia and increase in turnover in the foreign exchange and money markets.
- Under tight monetary conditions, call rates increase and turnover in the money and foreign exchange market tends to decline. If call rates rule above the ceiling (Bank Rate), banks tend to borrow from the Reserve Bank's export credit refinance window, and their parking of funds in repos is reduced.
- Increased capital inflows lead to improved liquidity position and easing of forward premia and softening of call rates.

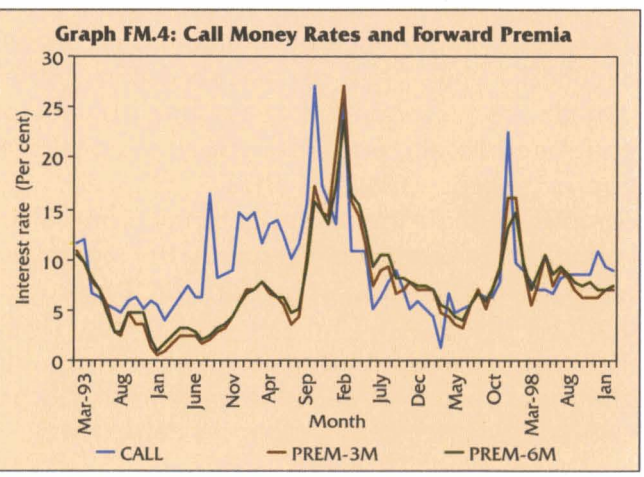
Available data for 1993 to 1999 lend support to the increased integration of different segments within the short-term financial market. This is reflected in the co-movement of interest rates. Interest rates in the call money-market (CALL), certificate of deposit (CD) and 91-day Treasury Bills (91-TB) were positively correlated. Correlation between interest rates in money markets (CAll, CD and 91-TB) and three-months forward premia in the foreign exchange market (PREM-3M) were also found to be of high order. This suggests that foreign exchange market has close integration with the call money and CD market (Graph FM.3 to FM.5).

All correlation coefficients amongst various interest rates were positive and those between call money rate and forward premia (PREM-3M and PREM-6M) and between CD rate and

Graph FM.3: Treasury Bills, Certificates of Deposit, Call Money Rates and Forward Premium



Graph FM.4: Call Money Rates and Forward Premia



Graph FM.5: BSE Sensex and Interest Rates on Treasury Bills

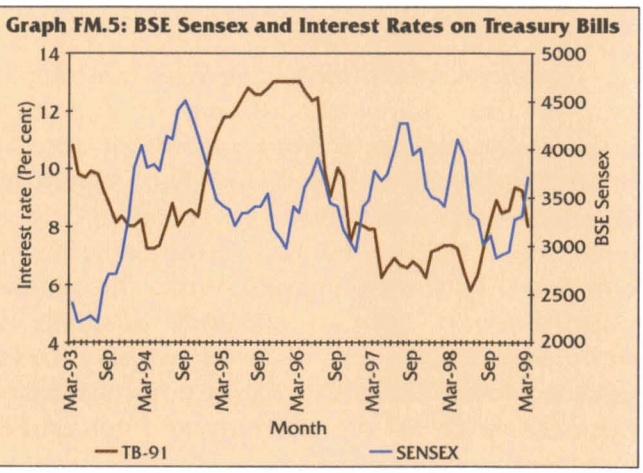


Table FM.H : Correlation coefficients among Money Market Interest Rates, Forward Premia and Stock Prices (March 1993 to March 1999)

	SENSEX	CALL	CD	91-TB	PREM-3M	PREM-6M
SENSEX	1					
CALL	-0.09	1				
CD	-0.31	0.43	1			
91-TB	-0.27	0.65	0.56	1		
PREM-3M	-0.25	0.67	0.68	0.46	1	
PREM-6M	-0.25	0.62	0.72	0.47	0.98	1

SENSEX: 30-Scrip BSE Sensitive Index. PREM-3M: 3-Month Forward Premium. 91-TB: Cut-off Yield of 91-day Treasury Bills.
CD: Discount rate on Certificates of Deposit. CALL: Call Money Rates. PREM-6M: 6-Month Forward Premium.

forward premia were also found to be of high order. The cut-off yield on the 91-day Treasury Bills was highly correlated with both the call money rate and CD rate and moderately correlated with forward premia in the foreign exchange market. Finally, the correlation coefficients between SENSEX and all money market interest rates were negative, but of low order suggesting relatively weak linkages between the equity market on the one hand, and the money and foreign exchange markets, on the other (Table FM.H).

Changes in the Financing Patterns of Indian Companies

The evolving institutional development has had an influence on the financing pattern of companies, underscoring the opening up of wider choices for companies in respect of instruments for financing. This issue has been extensively discussed from the theoretical perspective, where the main focus has been on finding out what can be termed as an optimal capital structure (Box FM.1).

The corporate financing patterns can be studied by either using national flow of funds data, which record flows of funds between different sectors of an economy, and domestic economy and rest of the world, or the balance sheets of companies, which can be aggregated at the industry or economy level. While the flow of funds data quite comprehensively cover the transactions between sectors, these data are generally constructed from a number of sources, which are rarely consistent. Besides, they can be obtained only after considerable time lag. The company accounts data have the limitation of being based on a sample of the country's corporate sector. However, they could be reliable, if the sample is representative. Since the company finances data are compiled on the basis of information obtained from major companies, the analysis here is based on the sample of non-government public limited companies for the period 1984-85 to 1997-98 and focuses on the companies' sources and uses of funds, which have been derived from their balance sheets. The relevant data are collected from the articles on 'Finances of Public Limited Companies' as published in various issues of the RBI Bulletin. The sample of companies varies from 1720 companies to 1948 companies for the period under consideration.

Data on pattern of sources of funds are set out in Appendix Table FM.5. Sources of funds could be broadly divided into two categories, *viz.*, internal and external. The internal sources include bonus shares, reserves and surplus (mostly retained profits) and provisions (mainly depreciation). The external sources of funds, on the other hand, comprise increase in paid-up capital (new capital issues including premium), borrowings (by way of debentures, loans and advances from intermediaries and public deposits) and trade dues.

As could be observed from Appendix Table FM.5, over the period, the relative share of internal sources, in general, tended to decline, while that of external sources tended to move up. The relative importance of internal sources in total sources of funds came down from 41.5 per cent in 1984-85 to 33.4 per cent by 1997-98. The importance of external sources correspondingly went up from 58.5 per cent in 1984-85 to 66.6 per cent by 1997-98. On grouping the data separately for the 'eighties and the 'nineties, it emerges that the share of internal sources in total sources of funds came down to 31.1 per cent during the 'nineties from 34.1 per cent during the 'eighties, which implies that external sources dominated in the 'nineties.

Internal Sources

The overall decline in the share of internal funds in total corporate finances was despite an increase in the share of reserves and surplus. Over the 14-year period, the share of reserves and surplus varied sharply between (-)2.0 per cent and 20.8 per cent, but it tended to move up in general, especially in the 'nineties. As a result, its share increased from 7.2 per cent in the 'eighties to 13.6 per cent during the 'nineties. The overall increase in the share of 'reserves and surplus' could be attributed to increase in the plough back of profits for re-investment purposes. The main factor behind the decline in the share of internal funds in total

Box FM.1: Alternative Approaches to Financing Patterns- Theoretical Perspective

The early literature on determinants of financing decisions of firms was based on perfect information and complete market models. While these assumptions offered the advantage of simplification, they were far away from reality. The subsequent literature relaxed, in particular, the assumption of symmetric information between investors and firms as it was found to be untenable. The traditional view is that debt is cheaper than equity and firms can increase their value and reduce their cost of capital by raising their level of gearing (the proportion of debt in total capital structure). Tax considerations should induce firms to increase their debt exposure, so as to benefit from the tax shield, as interest is paid from income before tax, whereas dividend is paid from income after tax (Rajan and Zingales, 1995). However, as increase in gearing raises risks of bankruptcy, the optimal level of gearing will involve optimising the comparatively low costs of debt finance against the greater risks of bankruptcy.

Modigliani and Miller (1958) questioned the traditional view and, based on certain assumptions, demonstrated that the valuation of a firm is independent of gearing. While Modigliani and Miller laid the foundations of modern finance, the other building block was provided by the asset pricing models and, in particular, the Capital Asset Pricing Model. The latter models are used in corporate finance to determine costs of capital of firms and projects. The Modigliani-Miller (1958) theorem in finance provided the foundation for the *neo-classical theory of investment*, and for nearly two decades, between 1960 and 1980, dominated the field of corporate finance. It assumes that as long as the firm has profitable investments with returns above the cost of capital, it can obtain sufficient funds to undertake them. Thus, internal and external finance can be viewed as substitutes, and firms could use external finance to smoothen investment when internal finance fluctuates. In a broader sense, the neo-classical view created a dichotomy between the real and financial decisions faced by the firm.

As opposed to the neo-classical view, the *cash flow theories of investment* emphasise financing hierarchy faced by the firm. As capital market imperfections raise the cost of external financing, the cash flows play an important role in capital expenditure decisions. This is popularly known as a "pecking order" theory of financing, whereby capital structure of a firm will be driven by firms' desire to finance new investments, first internally, then with low-risk debt, and finally with equity as a last resort. There are two approaches to the cash flow theories-the managerial approach and the information-theoretic approach.

In the managerial theory of investment, professional managers avoid relying on the external finance as it would subject them to the discipline of the external capital market and, therefore, the fundamental determinant of investment is the availability of internal investment. The managerial theory is based on the premise that managers have objectives different from those of shareholders. Managers do not maximise profits and shareholder wealth, but instead maximise the growth rate or size of the firm. Given the separation of ownership and control (management), the managerial behaviour is discretionary and constrained rather weakly by shareholder-owner interests, on the one hand, and by competitive market conditions on the other.

In the asymmetric information models, firm managers or insiders are assumed to possess private information about the characteristics of firm's return stream or investment opportunities. Myers and Majiluf (1984) showed that, if outside suppliers of capital are less well-informed than insiders about the value of the firm's assets, equity may be mispriced by the market as it may associate new equity issues with low-quality firms. As internal funds and riskless debt involve no undervaluation of the firm's value, these will be preferred to equity.

In these two approaches, therefore, there is a positive relationship between cash flows and investment, while cash flows were irrelevant for the firm's investment decisions in neo-classical theory and what mattered most was the cost of capital.

References:

1. Mayer, Colin (1992), 'Corporate finance', *The New Palgrave Dictionary of Money and Finance*, Vol.2, Macmillan, London.
2. Modigliani, F. and Miller, M. (1958), 'The cost of capital, corportion finance and the theory of investment', *American Economic Review*, 48:261-97.
3. Myers, S. and Majiluf, N. (1984), 'Corporate financing and investment decisions when firms have information that investors do not have', *Journal of Financial Economics*, 13: 187-221.
4. Rajan R. and L. Zingales (1995), 'What do we know about the Capital Structure? Some Evidence from the International Data', *Journal of Finance*, December.

funds was a sharp decline in the share of depreciation from 23.5 per cent in the 'eighties to 15.1 per cent in the 'nineties.

External Sources

Among the external sources of funds, corporates' reliance on debt financing has been much more than equity financing, even as the share of the latter has gone up over the years. The share of paid-up capital (including premium) in total sources of funds, which stood at 3.9 per cent in 1984-85, increased sharply to 15.8 per cent in 1987-88. During the next four years, it remained in the range of 6.8 per cent and 8.7 per cent. The year 1992-93 witnessed a sharp jump in the share of equity capital in total sources of funds to 22.3 per cent, which increased further to 29.6 per cent in 1993-94, before declining marginally to 26.8 per cent in 1994-95. It is significant to note that the sharp increase in the share of paid-up capital was due mainly to increase in the share of premium, which increased sharply from 4.3 per cent in

1991-92 to 16.4 per cent in 1992-93 and further to 23.8 per cent in 1993-94, before declining marginally to 22.5 per cent in 1994-95. This trend is consistent with the boom in the Indian primary capital market during 1992-93 to 1994-95, when many companies raised resources at high premia after free pricing was introduced. The share of paid-up capital in total sources of funds declined sharply to 13.9 per cent during 1995-96 and further to 7.6 per cent by 1997-98, due to depressed conditions in the capital market. The importance of paid-up capital in total sources of funds increased sharply from 7.0 per cent during the 'eighties to 16.7 per cent during the 'nineties, and much of this increase was due to sharp increase in the share of premium from 4.1 per cent to 12.8 per cent.

The share of borrowings (including issue of debentures, borrowings from banks, FIs and other sources) in total sources of funds hovered in the range of 31.3 per cent and 41.4 per cent during the period 1984-85 through 1991-92. However, it declined sharply from 41.2 per cent in 1991-92 to 27.6 per cent by 1994-95. This was the period when the primary market was buoyant and corporates raised large amount of equity capital at heavy premium. During buoyant conditions of 1992-95, the shares of debentures and borrowings from financial institutions (FIs) declined sharply, while that of borrowings from banks varied between (-)2.0 per cent and 12.4 per cent. During the period, 1995-96 to 1997-98, the share of paid-up capital declined sharply, while that of borrowings increased from 27.6 per cent in 1994-95 to 31.4 per cent in 1995-96, to 45.6 per cent in 1996-97 and further to 45.9 per cent in 1997-98. There is, therefore, some evidence of a tendency on the part of the corporates to substitute equity capital as a source of finance with debt financing when the stock market is depressed. Further, it is observed that substitution of equity took place largely with borrowings from FIs. On an average, the share of borrowings in total sources remained at the level of 36.2 per cent during the 'eighties and the 'nineties. Of the various components of borrowings, while the share of debentures and borrowings from banks declined, that of borrowings from FIs increased in the 'nineties *vis-à-vis* the 'eighties.

On aggregating all sources of finance from the capital market, i.e., paid-up capital, share premium and debentures, it is observed that capital market-based financing was particularly important during the period from 1991-92 to 1994-95. The contribution of capital market instruments (paid-up capital, premium and debentures) in total sources of funds reached the peak of 36.5 per cent in 1993-94, but declined thereafter to reach 15.6 per cent by 1996-97. It increased somewhat to 19.8 per cent in 1997-98. The share of debentures in total sources of funds came down from 10.4 per cent in 1984-85 to 5.4 per cent in 1996-97, but increased rather sharply to 12.2 per cent in 1997-98. During the 'eighties, debentures were popular as a source of funding for the corporate sector, but it became less important in the early 1990s, as companies were able to raise substantial funds in the form of equity at premium. In more recent years, debentures have again emerged as an important source of funding. It may, however, be observed that in recent years, especially since 1996-97, debentures have been issued mostly in the private placement segment of the primary market. It also needs to be noted that during 1993-94 when the share of capital market related instruments reached its peak, that of intermediated borrowings (from banks and FIs) touched its trough. In all, there were four years, i.e. 1987-88, 1992-93, 1993-94 and 1994-95, when the share of capital market related instruments was more than the intermediated borrowings. That is, during the aforesaid four years, the capital market system was the dominant feature of financial system. The share of trade dues and other current liabilities has shown sharp decline in the 'nineties.

The share of capital market-based instruments in total sources of funds increased from 17.2 per cent in the 'eighties to 23.9 per cent in the 'nineties, while that of financial intermediaries declined from 21.1 per cent to 19.8 per cent. This suggests that consequent upon financial sector reforms, in general, and capital market reforms, in particular, the reliance of corporates on capital market has gone up substantially. The corporates have also shown a tendency to substitute one source of long-term funds with another.

Over the years, one can also observe significant changes in the composition of borrowings. Total borrowings of Indian firms have three major components: (i) term loans from FIs, (ii) short-term finance from commercial banks, and (iii) debentures. Barring few years, borrowings from intermediaries (banks and FIs) continued to be a major source of funding for the corporate sector. Of the various components of borrowings, bank borrowings generally constituted the most important source, followed by borrowings from financial institutions (FIs) and debentures. Borrowings from banks (mostly short-term borrowings) remained an important source of funds for Indian companies for the entire period of analysis, except for 1993-94, when repayments were more than the borrowings. The share of bank borrowings in total sources of funds declined marginally from 12.7 per cent in the 'eighties to 10.3 per cent in the 'nineties. The long-term borrowings from FIs maintained their relative importance in the total sources of funds with their share increasing from 8.4 per cent during the 'eighties to 9.4 per cent during the 'nineties. The relative importance of debentures, which started declining significantly from the year 1992-93, increased sharply again during 1997-98. Overall, the share of debentures declined to 7.2 per cent in the 'nineties from 10.3 per cent in the 'eighties. It is somewhat puzzling that the relative importance of debentures started declining from the year when their interest rates were freed. A boom in equity market enabled the companies to charge high share premia and reduced the need for borrowed funds.

The dormant conditions in the capital market since 1995-96 have led to significant reversal of the changes in the pattern of financing for Indian companies noticed in the initial years of reforms. In particular, the increased popularity of the private placement market since 1996-97, which is mostly dominated by debt instruments, is a noteworthy development and is clearly reflected in the corporate balance sheets. During 1997-98, the share of equity capital declined to 7.6 per cent from 26.8 per cent in 1994-95, which was made up by the corresponding sharp increase in the share of total borrowings to 45.9 per cent in 1997-98 from 27.6 per cent in 1994-95. During 1996-97, there was a sharp increase in the share of borrowings from FIs in total sources of funds to 10.2 per cent from 6.1 per cent in 1995-96. The share of reserves and surplus in total sources of funds declined from 20.8 per cent in 1995-96 to 11.2 per cent by 1997-98. This could be partly attributed to the deceleration in industrial performance and partly to squeezing of profits due to increased competition in the commodity markets. During 1997-98, the share of paid-up capital in total sources of funds declined further to 7.6 per cent. The most significant change in 1997-98 is that of a sharp increase in the share of debentures in total sources of funds to 12.2 per cent from 5.4 per cent in 1996-97, which were mostly issued in the private placement market. In general, it can be observed that in the recent years, due to subdued conditions in the capital market, corporates have tended to meet their funding requirements from alternative sources of funds, such as, borrowings from FIs and issue of debentures and bonds on private placement basis.

Debt-Equity Ratio for Indian Companies

The debt-equity ratio, which depicts the relative importance of borrowed capital in relation to owned capital, is an important indicator of the capital structure of companies. The debt-equity ratio of companies is crucially linked to the institutional environment and the extent of development of financial markets, which, in turn, determines the financing options of corporates. A relatively high debt-equity ratio may result from under-developed domestic capital market and may create problems for corporates in servicing their debt.

In the 'nineties, the debt-equity ratio has witnessed a steep decline implying corporates' increased preference for equity financing. The debt-equity ratio (long-term debt to equity) of non-government non-financial public limited companies went up from 86.2 per cent in 1984-85 to 99.5 per cent in 1991-92. The ratio thereafter declined sharply to 60.1 per cent in 1995-96. The ratio was marginally higher at 62.4 per cent in 1996-97, and rose further to 65.0 per cent in 1997-98. Similar trend was discernible in case of debt-equity ratio when the debt component represents total borrowing,

including short-term loans and advances (Appendix Table FM.5).

A relatively high debt-equity ratio for Indian companies in the 'eighties was a consequence of restrictions on free pricing of equity issues, high corporate tax rates, eligibility of interest payment as an item of expenditure *vis-à-vis* dividend payment and lack of adequate depth of the capital market. The financial sector reforms have brought about a considerable change in all these respects.

To sum up, the financing pattern followed by the corporate sector depends upon several factors. The corporate sector in India has relied largely on external sources of funds and it is a matter of concern that the share of internal sources has tended to decline in recent years. The free pricing introduced in 1992 had a profound impact on the equity market with corporates raising huge resources by way of equity at high premia. This resulted in a sharp increase in the share of equity capital (including premium). During 1992-1995, the corporates relied more on capital market than on financial intermediaries for financing their requirements unlike in the past, when they relied more on financial intermediaries. However, the trend soon reversed and the financial intermediaries again became the major source of funds for the corporates. In general, borrowings from banks/FIs and by way of debentures constituted the largest source of funds. There is some evidence to suggest that in the buoyant capital market conditions, corporates substitute debt, especially borrowings from FIs, in favour of equity and *vice versa*. There is a welcome decline in the debt-equity ratio in the post-1991 period, notwithstanding the marginal reversal of trend in the recent years.

Relating the results to theory, it may be observed that the results for India (and also for other developing countries as have been observed by many studies) are quite different from the "pecking order" pattern of financing found in advanced economies. Besides, the findings have a number of implications for the stability of the financial system. The relative role of equity *versus* debt, or, in other words, the relative role of stock market and financial intermediaries, is an important issue. An important finding of the corporate finances studies has been the limited role of stock market as a source of finance, that is, capital market in general has played a secondary role in corporate financing in India, barring a few years. There is a need to take appropriate measures to correct the imbalance and develop the capital market along sound lines. In the absence of a vibrant stock market, the debt-equity ratio may be higher than what is prudentially desirable, which could create difficulties for servicing the debt by the corporates. In fact, FIs, which are a major source of long-term funds also stipulate debt-equity ratio while financing the projects. In case, the corporates are not able to raise matching equity from the market, FIs may not come forward to finance the project, thus affecting the capital formation. The liquid equity markets make equity investments less risky and more attractive as they allow savers/investors to re-allocate their portfolio.

The issue of corporate governance is also crucially linked to the prevailing financing patterns in a country. Well-developed capital markets can play an important role in disciplining and guiding the management. Although banks and FIs as lenders can also play an important role in the internal mechanisms of corporate governance, they are no substitutes for market-induced corporate governance practices.

The access of corporates to different sources of finance also depends on the extent of government regulations. The financial structure may also be influenced by the tax incentives prevailing in a country. To be more specific, the financing pattern may reflect the discrimination against dividend income relative to interest income, and capital gains income relative to interest income. There is, therefore, need to remove the incentives that encourage corporates to prefer debt financing, when without such benefits corporates would have gone for equity financing.

APPENDIX TABLE FM.1 : BSE SENSEX AND S&P CNX NIFTY

Year	BSE Sensex	S&P CNX Nifty*
1	2	3
1983-84	245.33	—
	(16.0)	(-)
1984-85	353.86	—
	(44.2)	(-)
1985-86	574.11	—
	(62.2)	(-)
1986-87	510.36	—
	(-11.1)	(-)
1987-88	398.37	—
	(-21.9)	(-)
1988-89	713.60	—
	(79.1)	(-)
1989-90	781.05	—
	(9.5)	(-)
1990-91	1167.97	366.45
	(49.5)	(-)
1991-92	4285.00	1261.65
	(266.9)	(244.3)
1992-93	2280.52	660.51
	(-46.8)	(-47.6)
1993-94	3778.99	1177.11
	(65.7)	(78.2)
1994-95	3260.96	990.24
	(-13.7)	(-15.9)
1995-96	3366.61	985.30
	(3.2)	(-0.5)
1996-97	3360.89	968.85
	(-0.2)	(-1.7)
1997-98	3892.75	1116.65
	(15.8)	(15.3)
1998-99	3739.96	1078.05
	(-3.9)	(-3.5)

* Trading on NSE commenced in March 1994. However, the S&P CNX Nifty is available from 1990 based on BSE prices.

— Not available.

Note : 1. Data are as at the end of the year.

2. Figures in parentheses are percentage variations over the previous year.

Source : Bombay Stock Exchange and National Stock Exchange.

APPENDIX TABLE FM.2 : SOME IMPORTANT PARAMETERS RELATING TO STOCK MARKETS

(Amount in Rupees crore)

Year	No. of Listed Cos.@		Market Capitalisation of Listed Cos.@		Turnover			
	BSE	All India	BSE	All India	BSE	NSE	Others	All India
1	2	3	4	5	6	7	8	9
1984-85	1,295	3,883	10,219	13,381	—	—	—	—
	(12.5)	(24.5)	(4.6)	(15.0)	(-)	(-)	(-)	(-)
1985-86	1,529	4,344	20,378	24,302	—	—	—	—
	(18.1)	(11.9)	(99.4)	(81.6)	(-)	(-)	(-)	(-)
1986-87	1,911	4,744	21,636	27,572	—	—	—	—
	(25.0)	(9.2)	(6.2)	(13.5)	(-)	(-)	(-)	(-)
1987-88	2,095	5,560	25,937	35,521	7,912	—	—	—
	(9.6)	(17.2)	(19.9)	(28.8)	(-)	(-)	(-)	(-)
1988-89	2,240	5,841	45,519	51,379	20,562	—	—	—
	(6.9)	(5.1)	(75.5)	(44.6)	(159.9)	(-)	(-)	(-)
1989-90	2,247	5,968	65,206	70,521	29,386	—	—	—
	(0.3)	(1.7)	(34.6)	(29.8)	(34.3)	(-)	(-)	(-)
1990-91	2,471	6,229	90,836	1,10,279	36,012	—	—	—
	(10.0)	(4.4)	(39.3)	(56.4)	(22.6)	(-)	(-)	(-)
1991-92	2,601	6,480	3,23,363	3,54,106	71,777	—	—	—
	(5.3)	(4.0)	(256.0)	(221.1)	(99.3)	(-)	(-)	(-)
1992-93	2,903	6,925	1,88,146	2,28,780	45,696	—	—	—
	(11.6)	(6.9)	(-41.8)	(-35.4)	(-36.3)	(-)	(-)	(-)
1993-94	3,585	7,811	3,68,071	4,00,077	84,536	—	1,19,167	2,03,703
	(23.5)	(12.8)	(95.6)	(74.9)	(85.0)	(-)	(-)	(-)
1994-95	4,802	9,077	4,35,481	4,73,349	67,748	1,728	93,429	1,62,905
	(33.9)	(16.2)	(18.3)	(18.3)	(-19.9)	(-)	(-21.6)	(-20.0)
1995-96	5,603	9,100	5,26,476	5,72,257	50,064	68,141	1,09,163	2,27,368
	(16.7)	(0.3)	(20.9)	(20.9)	(-26.1)	(3843.3)	(16.8)	(39.6)
1996-97	5,832	9,890	4,63,915	4,88,332	1,24,284	2,94,504	2,27,328	6,46,116
	(4.1)	(8.7)	(-11.9)	(-14.7)	(148.3)	(332.2)	(108.2)	(184.2)
1997-98	5,853	9,833	5,60,325	5,89,816	2,07,383	3,69,934	3,31,364	9,08,681
	(0.4)	(-0.6)	(20.8)	(20.8)	(66.9)	(25.6)	(45.8)	(40.6)
1998-99	5,848	9,877	5,45,361	5,74,064	3,11,999	4,14,383	2,97,000	10,23,382
	(-0.1)	(0.4)	(-2.7)	(-2.7)	(50.4)	(12.0)	(-10.4)	(12.6)
Average annual growth rate								
Eighties (1984-85 to 1990-91)	11.8	10.6	39.9	38.5	72.3	(-)	(-)	(-)
Nineties (1991-92 to 1998-99)	11.9	6.1	44.4	37.9	45.9	1053.3	27.8	51.4

— Not available.

@ Data on market capitalisation and listed companies up to 1988 are on a calendar year basis.

Note : 1. Figures in parentheses are percentage variations over the previous year.

2. Growth rate for 1989-90 has been annualised.

Source : Bombay Stock Exchange and SEBI.

APPENDIX TABLE FM.3 : TOP FIFTY COMPANIES BY MARKET CAPITALISATION AND TURNOVER AT BSE

(Amount in Rs. crore)

Item	Market Capitalisation (end of period)						Turnover					
	1991-92	% to total	1994-95	% to total	1998-99	% to total	1991-92	% to total	1994-95	% to total	1998-99	% to total
1	2	3	4	5	6	7	8	9	10	11	12	13
Manufacturing	86,232 (36)	58.6	1,66,628 (31)	64.0	96,857 (23)	31.7	41,572 (39)	83.0	11,167 (30)	61.8	73,047 (20)	26.3
Financial Services	29,842 (4)	20.3	24,587 (5)	9.4	22,386 (5)	7.3	576 (1)	1.1	3,928 (8)	21.8	20,314 (4)	7.3
F.M.C.G.	26,359 (7)	17.9	38,662 (6)	14.8	81,248 (6)	26.6	3,478 (6)	6.9	900 (3)	5.0	69,060 (6)	24.8
I.T.	..	..	..	..	39,265 (5)	12.9	..	..	..	..	82,712 (10)	29.7
Pharmaceuticals	..	..	2,283 (1)	0.9	24,319 (6)	8.0	436 (1)	0.9	693 (3)	3.8	11,190 (7)	4.0
Others	4,653 (3)	3.2	28,198 (7)	10.8	41,480 (5)	13.6	4,000 (3)	8.0	1,369 (6)	7.6	21,915 (3)	7.9
Total	1,47,086	100.0	2,60,358	100.0	3,05,555	100.0	50,062	100.0	18,057	100.0	2,78,238	100.0

F.M.C.G. Fast Moving Consumer Goods, such as, foods, beverages, personal products, etc.

I.T. Information Technology.

.. Nil or negligible.

Note : 1. Data are on April-March basis.

2. Figures in brackets indicate the number of companies included in the respective groups.

Source : Adapted from Table on 'Top 50 Companies by Market Capitalisation and Top 50 Companies by Turnover' as published in the Annual Reports of the Bombay Stock Exchange.

APPENDIX TABLE FM.4 : ASSISTANCE SANCTIONED AND DISBURSED BY ALL FINANCIAL INSTITUTIONS

(Amount in Rs. crore)

Year	Rupee Loans		Foreign Currency Loans		Underwriting and Direct Subscription		Guarantees		TOTAL	
	S	D	S	D	S	D	S	D	S	D
1	2	3	4	5	6	7	8	9	10	11
1983-84	3,254.8	2,437.8	281.2	134.7	437.1	287.1	80.4	4.7	4,053.5	2,864.3
	(18.0)	(19.4)	(113.7)	(5.1)	(60.6)	(56.1)	(40.0)	(13.2)	(25.9)	(21.5)
1984-85	4,335.4	2,886.9	334.9	173.7	730.2	434.6	247.1	6.6	5,647.6	3,501.8
	(33.2)	(18.4)	(19.1)	(28.9)	(67.1)	(51.4)	(207.3)	(40.4)	(39.3)	(22.3)
1985-86	5,032.8	3,686.1	463.8	320.0	1,032.8	743.1	83.7	175.1	6,613.1	4,924.3
	(16.1)	(27.7)	(38.5)	(84.2)	(41.4)	(71.0)	(-66.1)	(2553.0)	(17.1)	(40.6)
1986-87	6,143.1	4,341.3	829.8	404.0	1,060.3	794.9	124.0	113.0	8,157.2	5,653.2
	(22.1)	(17.8)	(78.9)	(26.3)	(2.7)	(7.0)	(48.1)	(-35.5)	(23.3)	(14.8)
1987-88	7,613.0	5,563.6	453.7	478.6	1,037.4	731.0	67.7	15.2	9,171.8	6,788.4
	(23.9)	(28.2)	(-45.3)	(18.5)	(-2.2)	(-8.0)	(-45.4)	(-86.5)	(12.4)	(20.1)
1988-89	10,827.7	7,612.8	1,506.8	409.2	1,627.3	919.3	111.6	93.9	14,073.4	9,035.2
	(42.2)	(36.8)	(232.1)	(-14.5)	(56.9)	(25.8)	(64.8)	(517.8)	(53.4)	(33.1)
1989-90	12,342.5	8,161.5	1,562.9	556.8	2,002.8	1,259.5	84.0	23.9	15,992.2	10,001.7
	(14.0)	(7.2)	(3.7)	(36.1)	(23.1)	(37.0)	(-24.7)	(-74.5)	(13.6)	(10.7)
1990-91	14,111.5	9,711.9	2,493.2	1,079.9	2,295.4	1,091.3	135.8	93.3	19,035.9	11,976.4
	(14.3)	(19.0)	(59.5)	(93.9)	(14.6)	(-13.4)	(61.7)	(290.4)	(19.0)	(19.7)
1991-92	17,009.7	11,878.6	1,687.3	1,546.9	3,688.3	2,382.1	733.4	81.4	23,118.7	15,889.0
	(20.5)	(22.3)	(-32.3)	(43.2)	(60.7)	(118.3)	(440.1)	(-12.8)	(21.4)	(32.7)
1992-93	22,816.6	17,325.7	1,763.8	1,865.5	7,913.6	3,853.2	1,103.6	62.2	33,597.6	23,106.6
	(34.1)	(45.9)	(4.5)	(20.6)	(114.6)	(61.8)	(50.5)	(-23.6)	(45.3)	(45.4)
1993-94	24,994.2	18,701.1	2,807.1	1,857.1	11,178.2	5,633.2	2,342.9	408.2	41,322.4	26,599.6
	(9.5)	(7.9)	(59.2)	(-0.5)	(41.3)	(46.2)	(112.3)	(556.3)	(23.0)	(15.1)
1994-95	34,028.9	22,913.3	6,611.5	2,641.0	14,183.7	7,748.7	4,839.0	225.7	59,663.1	33,528.7
	(36.1)	(22.5)	(135.5)	(42.2)	(26.9)	(37.6)	(106.5)	(-44.7)	(44.4)	(26.0)
1995-96	45,782.2	25,157.1	6,141.9	4,900.6	9,257.1	8,250.5	4,312.4	342.9	65,493.6	38,651.1
	(34.5)	(9.8)	(-7.1)	(85.6)	(-34.7)	(6.5)	(-10.9)	(51.9)	(9.8)	(15.3)
1996-97	35,331.1	28,668.2	7,138.7	5,277.2	8,742.1	8,128.1	3,429.3	583.0	54,641.2	42,656.5
	(-22.8)	(14.0)	(16.2)	(7.7)	(-5.6)	(-1.5)	(-20.5)	(70.0)	(-16.6)	(10.4)
1997-98	46,336.2	34,229.4	8,468.9	6,804.2	17,399.1	12,566.0	9,385.2	232.4	81,589.4	53,832.0
	(31.1)	(19.4)	(18.6)	(28.9)	(99.0)	(54.6)	(173.7)	(-60.1)	(49.3)	(26.2)
1998-99#P	68,993.0	44,153.9	4,855.5	3,701.0	15,866.7	11,772.4	6,929.6	1,144.4	96,644.8	60,771.7
	(48.9)	(28.9)	(-42.7)	(-45.6)	(-8.8)	(-6.3)	(-26.2)	(392.4)	(18.4)	(12.9)
Average annual growth rate										
Eighties (1983-84 to 1990-91)	23.0	21.8	62.5	34.8	33.0	28.4	35.7	402.3	25.5	22.9
Nineties (1991-92 to 1998-99)	24.0	21.3	19.0	22.8	36.7	39.6	103.1	116.2	24.4	23.0

S Sanctions.

D Disbursements.

P Provisional

Figures for the year 1998-99 are unadjusted for inter-institutional flows.

Note : 1. Data are on April-March basis.

2. Figures in parentheses are percentage variations over the previous year.

Source : For the years 1983-84 to 1997-98, Report on Development Banking in India, IDBI (various issues).
For 1998-99, respective financial institutions.

APPENDIX TABLE FM.5 : PATTERN OF SOURCES OF FUNDS FOR NON-GOVERNMENT NON-FINANCIAL PUBLIC LIMITED COMPANIES

(Per cent)

Item/Year	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1985-86 to 1990-91 (Eighties)	1991-92 to 1996-97 (Nineties)
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Number of Companies	1867	1942	1953	1885	1908	2131	1836	1802	1802	1720	1730	1930	1930	1948		
A. Internal Sources	**41.5**	**34.5**	**29.6**	**36.3**	**29.1**	**29.7**	**37.6**	**28.1**	**26.1**	**28.9**	**28.9**	**36.6**	**35.9**	**33.4**	**34.1**	**31.1**
of which:																
a) Reserves and Surplus	9.0	9.8	6.2	-2.0	5.7	7.2	14.4	9.3	6.9	14.1	16.3	20.8	16.4	11.2	7.2	13.6
b) Depreciation	27.6	21.7	22.1	32.3	21.5	19.5	19.8	16.1	17.5	11.8	9.7	12.2	17.9	20.8	23.5	15.1
B. External Sources	**58.5**	**65.5**	**70.4**	**63.7**	**70.9**	**70.3**	**62.4**	**71.9**	**73.9**	**71.1**	**71.1**	**63.4**	**64.1**	**66.6**	**65.9**	**68.9**
of which:																
a) Paid up capital	3.9	2.6	3.4	15.8	7.4	6.8	8.7	6.8	22.3	29.6	26.8	13.9	10.1	7.6	7.0	16.7
- Net Issues	2.1	1.7	2.5	4.7	3.1	2.3	3.2	2.5	5.9	5.8	4.2	3.4	2.6	2.9	2.8	3.9
- Premium	1.8	0.9	0.9	11.1	4.3	4.5	5.5	4.3	16.4	23.8	22.5	10.4	7.5	4.7	4.1	12.8
b) Borrowings	31.3	36.8	40.1	33.9	37.2	41.4	33.1	41.2	37.5	24.0	27.6	31.4	45.6	45.9	**36.2**	**36.2**
of which:																
- Debentures	10.4	13.2	13.6	9.8	4.3	14.3	6.5	12.2	7.2	6.9	2.8	3.5	5.4	12.2	10.3	7.2
- From Banks	11.3	13.1	14.1	9.8	19.2	11.5	9.7	8.8	12.0	-2.0	12.4	17.7	13.3	10.1	12.7	10.3
- From FIs	3.7	6.1	8.6	10.0	9.0	9.6	11.9	14.3	13.8	7.6	3.9	6.1	10.2	10.1	8.4	9.4
c) Trade dues & other current liabilities	23.0	25.9	26.6	13.7	26.0	21.9	20.3	23.8	14.0	17.4	16.4	17.9	8.2	12.8	22.5	15.8
C. Total (A+B)	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Memoranda:																
(i) Share of Capital Market Related Instruments (Debentures and Equity Capital)	14.3	15.8	17.0	25.6	11.7	21.1	15.2	18.9	29.5	36.5	29.6	17.4	15.6	19.8	17.2	23.9
(ii) Share of Financial Intermediaries (Borrowings from Banks and FIs)	15.0	19.2	22.7	19.8	28.2	21.1	20.6	23.1	25.8	5.6	16.3	23.8	23.5	20.2	21.1	19.8
(iii) Debt-Equity Ratio (Debt includes debentures and long-term borrowings)	86.2	77.8	84.7	87.4	92.8	99.4	98.1	99.5	90.4	76.5	63.1	60.1	62.4	65.0	89.5	73.9
(iv) Debt-Equity Ratio (Debt includes debentures and all types of borrowings)	131.2	119.0	127.8	131.2	142.1	150.4	145.9	147.2	135.1	109.1	95.7	89.6	97.2	103.4	135.4	111.0

Note : Data are on April-March basis.

Source : Finances of Public Limited Companies, RBI Bulletin (various issues).

FOREIGN TRADE

CHAPTER IX

FOREIGN TRADE*

Liberalisation of external trade formed an important aspect of the economic reforms programme launched in July, 1991. Although policy efforts directed towards external liberalisation can be traced back to late-'seventies and mid-'eighties, it is only during the 'nineties that such measures received a momentum as well as definitive direction. Responding to such policy changes, India's foreign trade exhibited considerable buoyancy during the period 1993-94 to 1995-96 with both exports and imports recording, on an average, an increase of around 20 per cent per annum. The growth in India's foreign trade, however, decelerated during the next three years i.e., during 1996-97 to 1998-99. A review of India's trade performance over the years reveals the influence of a variety of factors – both external and internal. While exact quantification of the relative impact of policy measures *vis-à-vis* other factors on India's trade performance may not be possible, it would be worthwhile to explore whether the major structural indicators of India's foreign trade have undergone noticeable changes during the 'nineties as compared with the 'eighties.

For the purpose of analysis at the aggregate level, India's trade performance during 1992-93 to 1998-99 (referred to here as the 'nineties) has been compared with that during 1980-81 to 1990-91 (the 'eighties). The year 1991-92 witnessed considerable strain on the balance-of-payments. To meet the crisis, severe restrictions were placed on imports and the Rupee was adjusted downward in July 1991. Being an exceptional year, 1991-92 should be excluded in any time series based analysis of trade developments. The periodisation of the analysis captures the structural shifts in the growth of exports and imports during the sub-periods. For instance, on an average annual basis, export growth during 1992-93 to 1998-99 at 9.8 per cent was higher than that of 8.2 per cent registered during 1980-81 to 1990-91.[1] Similarly, the average import growth observed during the 'nineties at 12.0 per cent remained substantially higher than that of 7.8 per cent recorded during the 'eighties (1980-81 to 1990-91) (Appendix Table TR.1).

The world trade has undergone significant changes since 1996 due to a host of developments including a sharp fall in international prices for manufactured products and the emergence of economic crises in certain parts of the world. In addition, protectionist policies and practices adopted by various industrialised countries during the recent years in the form of sanitary and phytosanitary measures, technical standard requirements and perhaps most importantly anti-dumping and countervailing measures seriously affected the export efforts of the developing countries (Stiglitz, 1999). These unfavourable factors have had their impact on the developing countries including India's trade performance.

In the light of the above factors, it would be appropriate to examine the trade performance of India during the two sub-periods of the 'nineties; the first sub-period covering the first four years following the introduction of reforms (i.e., 1992-93 to 1995-96) and the second sub-period consisting of the subsequent three years (i.e., 1996-97 to 1998-99). During the first sub-period, on an average basis, India's exports and imports increased by 15.7 and 17.5 per cent, respectively, which were significantly higher than the growth rates during the 'eighties. Broadly in line with the unfavourable external developments, between 1996-97 and 1998-99, growth in India's exports and imports, on an average basis, decelerated to 2.0 per cent and 4.5 per cent, respectively (Appendix Table TR.1). India's share in world exports, which had declined from 0.52 per cent to 0.47 per cent between 1984 and 1987, improved to 0.53 per cent in 1992. Notwithstanding the slowdown in India's export growth since 1996, reflecting the relatively better performance by

* **This chapter is based on information available up to December 15, 1999.**

1. *Growth rates of exports and imports are based on US dollar figures.*

India *vis-à-vis* rest-of-the-world, its share in global exports reached 0.62 per cent during 1997 (IMF, 1998).

India's trade-GDP ratio showed substantial improvements during the 'nineties as compared with the 'eighties. The export-GDP ratio declined from 4.9 per cent in 1980-81 to 4.2 per cent in 1985-86 and thereafter it gradually improved and reached 6.1 per cent in 1990-91. During the 'nineties, the ratio reached its highest level at 8.7 per cent in 1995-96.[2] The ratio declined, *al beit* marginally, during the next three years and was at 8.1 per cent in 1998-99. On an average basis, export-GDP ratio increased from 5.0 per cent to 8.2 per cent between the 'eighties and the 'nineties. Between these two periods, on an average basis, India's import-GDP ratio increased from 7.7 per cent to 9.4 per cent (Appendix Table TR.1). The noticeable improvements in the export-GDP and import-GDP ratios point to the increasing openness of India's foreign trade regime to global trade (for details on openness, see Box TR.1).

Along with the increase in trade-GDP ratio, there has been a decline in India's trade deficit-GDP ratio between the two periods. This is borne out by the fact that the difference between export-GDP and import-GDP ratio on an average basis, declined from 2.7 per cent in the 'eighties to 1.2 per cent in the 'nineties. This indicates that the divergence between export and import performance was more pronounced during the 'eighties than in the 'nighties. Similarly, the export-import ratio[3] (on an average basis) increased substantially from 65.1 per cent during the 'eighties to 87.0 per cent during the 'nineties (Appendix Table TR.1) reflecting thereby the increasing alignment between India's export and import performance during the 'nineties as compared with the 'eighties.

Developments in India's Trade Policy

Reflecting the change in the perception towards the external sector and its role in the overall strategy of development, the policies relating to India's foreign trade have, over the years, undergone significant changes. Though the process of trade liberalisation in India has been underway for over two decades, the trade policy measures initiated since 1991 as a part of the economic reform process have been more comprehensive. Some of the important features of the changes in India's trade policy are discussed in the following paragraphs.

With the realisation of the drawbacks of the excessively inward-looking trade strategy on the one hand and the need for modernisation and technology up-gradation of the Indian industry on the other, certain policy measures in the direction of trade liberalisation were initiated in the late 'seventies. The strategy towards a greater integration of the Indian economy with the rest of the world has been pursued since then. The liberalisation process remained somewhat slow during the first-half of the 'eighties and it gathered momentum during the second-half of the decade.

The policy changes have been influenced, *inter alia*, by the recommendations of a number of Committees, which were set up during the 'seventies and the 'eighties. In this context, mention may be made about two prominent Committee Reports - the Report of the Committee on Import Export Policies and Procedures (Chairman: P. C. Alexander, 1978) and the Report of the Committee on Trade Policies (Chairman: Abid Hussain, 1984). The Alexander Committee recommended simplification of the import licensing procedure and provided a framework involving a shift in the emphasis from 'controls' to 'development'. Following the recommendations of the Alexander Committee, selective import liberalisation measures were initiated in the late-'seventies primarily aiming at making the import of capital goods easier. Imports of certain raw materials

2. The compilation procedure of India's national account statistics has undergone certain changes and 1993-94 has been made the revised base period. A comparison of the GDP figures according to the new and old series for the year 1993-94 shows that data under the new series is about 8 percentage points higher than that under the old series. Since GDP figures for the period 1980-81 and 1992-93 are not available with the revised base, trade-GDP ratios for that period have been worked out using the old GDP series. Given the jump in GDP figure during 1993-94 due to the change in base, increase in trade-GDP ratios between the 'eighties and 'nineties would have been more marked if the GDP series with the same base were available.

3. Export-import ratio indicates the proportion of imports that can be financed from export earnings.

Box TR.1: Analytics of Openness

Openness of a country with respect to foreign trade refers to its permissiveness towards exports and imports. Although the term openness of a country is also used in the context of its attitude towards other types of inflows/outflows, most importantly capital, the focus is in terms of foreign trade. *Ex ante*, the openness of a country towards exports/imports is determined by the tariff and non-tariff restrictions it imposes on the flows of foreign trade. In the *ex post* sense, openness is generally measured by the trade-GDP ratio of the country. Notwithstanding the close link between the *ex ante* and *ex post* openness, they necessarily do not involve the same issues. For example, in spite of having high degree of *ex ante* openness, the *ex post* openness of a country can be low if the contribution of its non-tradeable sectors towards GDP is very high. Similarly, much of the high *ex post* openness of the small newly industrialised and developing countries are due to the small size of their economies rather than *ex ante* openness in terms of trade policies (Easterly, Islam and Stiglitz, 1999).

Measured in terms of both *ex ante* and *ex post* definations, the openness of the Indian economy has increased significantly since the introduction of economic reforms. The peak rate of tariff imposed by India on its imports declined sharply from 355 per cent to 45 per cent between 1990-91 and 1998-99. The simple average effective rate of tariff declined from 71 per cent in 1993-94 to 35 per cent in 1997-98. It is important to point out that decline in India's tariff rates is across the sectors. Along with reduction in tariff measures, India has also reduced the non-tariff measures by significant proportions. During the post-1991 period, the country has shifted the majority of items under the Restricted List of imports to the Open General License List in phases. The Negative List of imports has been altogether removed during March 1999. The proportion of items under canalisation has declined from 27 per cent in 1988-89 to 19 per cent in 1997-98. India has also made commitment to the WTO that all quantitative restrictions on imports would be removed by 2003.

In line with the significant improvement in India's *ex ante* openness, the *ex post* openness of the country towards foreign trade has also improved during the 'nineties. India's trade (i.e., exports plus imports)-GDP ratio increased from 11.7 per cent in 1985-86 to 14.2 per cent in 1990-91 and further to 16.3 per cent in 1993-94. The ratio further increased by 1.8 percentage points to reach 18.1 per cent between 1993-94 and 1998-99 (Appendix Table TR.1).[4]

Reference

Easterly, W. R. Islam and J. E. Stiglitz (1999): "Shaken and Stirred: Volatility and Macroeconomic Paradigms for Rich and Poor Countries," *Michael Bruno Memorial Lecture*, Buenos Aires (August 27), World Bank Document.

that were not available indigenously were also placed under the Open General License (OGL) List. The emphasis of the policy efforts was also to simplify the procedures governing India's foreign trade. During this period, special measures were initiated to boost the export of project goods.

The Abid Hussain Committee envisaged "growth-led exports" rather than "export-led growth" and stressed upon the need for harmonisation of foreign trade policies with other economic policies arguing for a phased reduction of effective protection. The Committee also favoured announcement of trade policies for longer periods in order to impart a degree of continuity and facilitate long-term planning of export business. In line with these recommendations, long-term trade policy was introduced with the announcement of an import export policy covering the period 1985-88. The policy was formulated with the aim of boosting exports and encouraging efficient import substitution. Following the announcement of two more such three-year Import Export Policies, these policies are being announced for a longer period of five years beginning with the Export Import (EXIM) Policy for 1992-97.

The trade policy changes in the post 1991 period sought to minimise the role of quantitative restrictions and substantially reduce the tariff rates on the lines suggested by the Tax Reforms Committee (Chairman: Raja J. Chelliah). The developments in India's trade policy during this period needs to be viewed in conjunction with policy reforms initiated in other spheres of the economy. The devaluation of the Rupee in July 1991 and the transition to the market-based exchange rate regime deserve mention in this regard. These measures were aimed, *inter alia*, at enhancing the price competitiveness of exports. The policies governing foreign investment and foreign collaboration also have undergone significant change, which have a bearing on trade performance. Apart from unilateral measures, the liberalisation of India's trade policies also reflects the multilateral commitments of the country to the World Trade Organisation (WTO).

Reductions in Quantitative Restrictions

Over the years, significant measures have been taken in the direction of removal of

4. It may, however, be noted that due to change in base, GDP figures before and after 1993-94 are not compatible.

restrictions on imports and exports, reduction of the licensing requirements and simplification of the procedures. Towards this end, the Import-Export Policy 1978-79 for the first time decentralised several licensing functions and enhanced the powers of the regional licensing authorities. The Import-Export Policy of 1985-88 helped to replace quotas by tariffs for certain commodities and pruned the list for canalised items. Measures were also undertaken to increase the access of exporters to certain kind of imported inputs and capital goods. The five-year EXIM Policy 1992-97 aimed at eliminating licensing and quantitative restrictions substantially. Under this policy, exports and imports were allowed freely subject to the regulation by a Negative List of exports and a Negative List of imports. The Negative List of imports has been altogether removed under the revised EXIM Policy 1997-2002 (RBI Bulletin, June 1999). Reflecting the relaxation of quantitative restrictions, in value terms, the proportion of canalised items in total imports declined from 27 per cent to 19 per cent between 1988-89 and 1997-98. Further, there have been continuous efforts to increase the coverage of items included in the OGL List. During 1997-98, the items included under the OGL List accounted for as much as 68 per cent of India's total tariff lines. The List has been further broadened by the subsequent modifications incorporated in the EXIM Policy 1997-2002.

India has also taken significant policy initiatives at the multilateral levels for tariffication of the non-tariff measures. The country has made commitment to the WTO for phased removal of all balance-of-payments related quantitative restrictions by 2003. The country has also made binding tariff commitment to the WTO for all agricultural products and 67 per cent of the manufactured products.

The Thrust on Export Promotion

The thrust on export promotion is clearly discernible from the Export-Import Policy throughout the period under review with various forms of incentives being provided to the exporters. While such incentives existed during the earlier years, the Import-Export Policy of 1985-88 aimed at striking a balance between export promotion and import substitution with marginal preference for the latter. The "Import Export Pass Book" scheme was introduced in 1985, as per the recommendation of the Abid Hussain Committee.

Export promotion received further emphasis under the EXIM Policies for the periods 1992-1997 and 1997-2002. Exporters are eligible for income tax rebate on their export earnings. Special incentives have been extended to units set up in Export Processing Zones (EPZs), Electronic Hardware Parks, etc. Export Oriented Units (EOUs) have also been extended such special benefits. Merchant exporters have been made eligible for special facilities. The measures also include favoured access to import of capital goods (under the Export Promotion Capital Goods (EPCG) Scheme) and restricted imports (under the Special Import License (SIL)).

India's Trade Policy vis-à-vis Other Developing Countries

Trade policy reforms in India need to be seen in the light of similar efforts made by a large number of developing countries since 'eighties. A comparison of reduction in domestic protection by various developing countries *vis-à-vis* India, based on the documents of the WTO, shows that the progress in trade liberalisation in India has been more pronounced than that in many other similarly placed countries. During the mid-'nineties, the import weighted average tariff rate in India at 20 per cent has been considerably lower than that in countries such as Pakistan (50 per cent) or Nigeria (24 per cent) and comparable with countries such as Sri Lanka (20 per cent) or Thailand (17 per cent). The peak tariff rate in India (45 per cent) is much lower than most of the developing countries including Thailand (200 per cent), Malaysia (145 per cent), and Pakistan (70 per cent). In terms of tariff binding commitments, the coverage of items under bound rates is much higher for India than most of the East Asian and South East Asian countries.

The non-tariff measures are an integral part of the trade policy of majority of the developing countries including India as they are in many industrialised countries. As compared to many other developing countries, quantitative restrictions such as price control in respect of exports/imports, direct subsidy to export/import-substituting sectors, etc. are less pronounced in India.

Structural Changes in India's Foreign Trade

The foregoing discussion on India's foreign trade policy brings out certain distinctive features of the policy changes introduced since early-'nineties. In the first place, there has been a clear shift in emphasis from import-substitution to export-promotion. Secondly, the reach of the export incentives has been broadened to cover a large number of non-traditional and non-manufactured export items. Thirdly, the policy stance marks a move away from the provision of direct export subsidy to indirect promotional measures. Apart from the discernible change in trade policy, the 'nineties was also characterised by the introduction of market-based exchange rate regime. All these developments put together contributed to a distinct change in the structure of India's trade, at the disaggregated levels between the 'eighties and the 'nineties.

At the outset, it may be mentioned that due to change in the commodity classification used by the Directorate General of Commercial Intelligence and Statistics (DGCI & S), data on India's foreign trade before and after 1987-88 are not strictly comparable. It may also be pointed out that due to balance-of-payments constraints, India's imports were subjected to certain restrictions during 1991-92. Exports, however, were not subjected to similar restrictions. Against this background, the disaggregated analysis in the context of India's exports during the 'eighties has been done on the basis of data for the five-year period covering 1987-88 to 1991-92, while the year 1991-92 has been excluded from the scope of discussion on structural change in India's imports. The disaggregated analyses in the context of both exports and imports for the 'nineties are based on data covering the period 1992-93 to 1998-99.

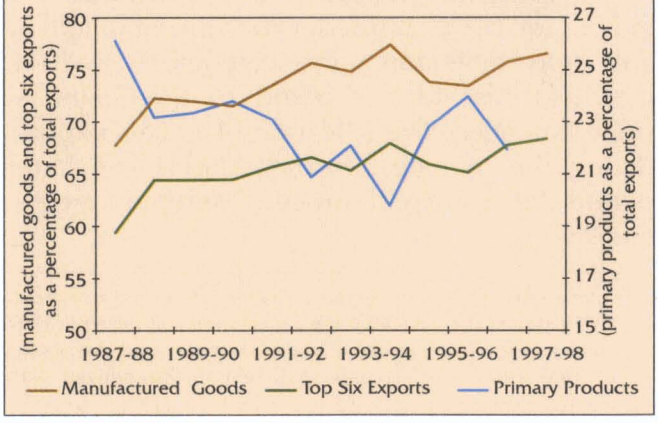
Structural Change in Exports

Changes in terms of Broad Categories

Reflecting the development of a large and diversified industrial sector, during the post-independence period, India has gradually transformed from a predominantly primary product exporting country into an exporter of manufactured products. In the mid-'eighties, manufactured exports accounted for about two-thirds of India's total exports while the rest comprised of primary products. During the years preceeding the introduction of economic reforms, i.e., between 1987-88 and 1991-92, while the share of manufactured goods increased from 67.8 per cent to 73.6 per cent, that of primary products declined from 26.1 per cent to 23.1 per cent. These trends were reinforced during the subsequent period (i.e., 1992-93 to 1998-99). On an average basis, the share of manufactured products increased by 4 percentage points while that of primary commodities declined by 2 percentage points between the 'eighties and the 'nineties. The share of residual exports including petroleum products declined almost continuously between 1987-88 and 1998-99 (Appendix Table TR.2 and Graph TR.1).

An analysis of the commodity composition of India's exports shows that the combined share of the top six export categories, namely, gems and jewellery, readymade garments, engineering goods, textile yarn, fabrics, made-ups, etc., leather and manufactures and chemicals and allied products increased steadily from 59.4 per cent in 1987-88 to 65.7 per cent 1991-92. On an average basis, the combined

Graph TR.1: Change in the Export Shares of Major Groups



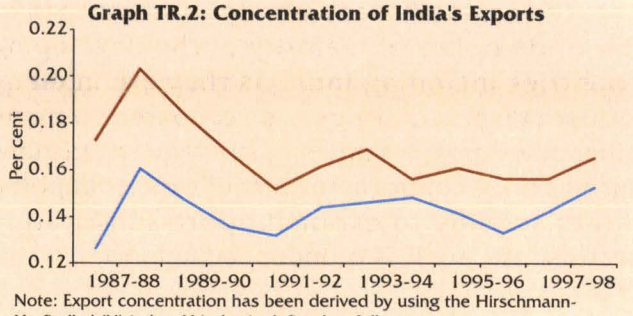
share of these exports at 66.8 per cent during the period 1992-93 to 1998-99 was 3 percentage points higher than that during the 'eighties (Graph TR.1).

The increase in the share of the top six categories of exports in the total exports by 9 per cent between 1987-88 and 1998-99 reflects a rise in the concentration of India's exports in terms of broad export categories. It may, however, be mentioned that each of these top export categories consists of a large number of individual items. Even if the export shares of traditional items within a broad category decline, the share of the whole product category in total exports can increase due to appearance of newer products within that group. The emergence of newer export items, however, indicate export diversification and in order to get a clear picture about the change in the concentration of exports, it is essential to examine the issue at a more disaggregated level.

Accordingly, using the disaggregated data published by the DGCI & S, concentration in India's exports has been calculated for the period 1987-88 to 1998-99 on the basis of Hirschmann-Herfindhal (H) index. This index is calculated using export shares of individual items and the total number of export items within the export basket of the country. The index is defined in such a way that it is directly proportional to the export share of individual items and inversely proportional to the total number of export items. The index has been calculated separately for the total export basket and the manufactured exports (Graph TR.2). The graph shows that after an initial increase, the concentration indices for total as well as manufactured exports declined during the 'eighties. These indices and in particular the indices of manufactured exports, remained by and large stable during the 'nineties. Graph TR.2 indicates that as compared to the 'eighties, there has been diversification of India's exports during the 'nineties. Further, during the latter period, India's export structure assumed greater stability.[5]

5. Kumar *et al.* (1998) measured concentration of Indian exports using similar methodology but on the basis of different data set namely, United Nations Trade Database, and the results of that study are in conformity with those derived with disaggregated data of DGCI & S (Graph TR.2).

Graph TR.2: Concentration of India's Exports



Note: Export concentration has been derived by using the Hirschmann-Herfindhal (H) index. H index is defined as follows:

$$H_t = \left(\sqrt{\sum_{i=1}^{n} e_{i,t}^2} - \sqrt{1/n}\right) / \left(1 - \sqrt{1/n}\right)$$

$e_{i,t}$ indicates export share of commodity i in time period t and n is the total number of sectors. Higher the value of index i.e., H, higher is the level of concentration. — Total — Manufacturing

Commodity Composition

Identification of shifts in exports in terms of concentration would provide clues about the extent of the underlying structural change in India's exports. Against this background, it is crucial to identify the emerging exports for which the country is breaking new grounds in the international market. It is also essential to identify the sectors where traditional exports are losing importance. Keeping these objectives in view, India's major export items have been ranked separately for the 'eighties and the 'nineties using the index provided by Amin and Ferrantino (1997). This index is used to study longer-term structural shift in exports and it is based on the time-path of cumulative export earnings by individual items within a period. The index has been defined in such a way that if starting from low base, export earnings of an item grow relatively fast compared to others, it is identified as an emerging export. Similarly, items that had high export earnings earlier but could not sustain it later on are identified as traditional exports. In order to exclude minor export items from these rankings, all items included for this exercise had minimum export earnings of US $ 50 million during each of the years spanning 1987-88 to 1998-99.

The changes in the structure of India's exports is more noticeable at the disaggregated level (Appendix Table TR.3). Items that registered considerable improvements in relative export performance between the 'eighties and the 'nineties include coffee, processed fruits, juices and miscellaneous processed items, rice, spices, works of art excluding floor coverings and other items like sugar and mollases and

raw cotton (not elsewhere included). On an average basis, the total export earning from these six items taken together declined by 2.9 per cent in the 'eighties, while they registered an impressive 20.5 per cent growth rate in the 'nineties. Items, which have exhibited steady relative export performance through the two periods include drugs, pharmaceuticals and fine chemicals, other agricultural and allied items, cotton yarn, fabrics, made-ups, etc. On an average basis, the total export earning from these three items taken together increased by 16.1 per cent and 12.8 per cent during the 'eighties and the 'nineties, respectively. The relative export performance of items such as oil meal, hand-made carpets excluding silk carpets, other ores and minerals and rubber, glass, paints, enamels and products worsened considerably during the 'nineties as compared to the 'eighties. As against an average growth of 18.1 per cent during the first period, the average growth rate of export earnings by these four items taken together decelerated sharply to 6.5 per cent during the 'nineties. Items which registered relatively low growth rates during the both periods include cashew, gems and jewellery, iron ore, leather and manufactures, natural silk yarn, fabrics, made-ups, etc., petroleum products and tea. The combined export earnings of these seven items taken together, on an average basis, increased by 6.3 per cent and 6.7 per cent, during the pre-1992 and post-1992 periods, respectively.

The change in the relative performance of individual export items between the two periods indicates that the change in the structure of agriculture and allied exports has been more marked than manufactured exports. Items such as coffee, rice, processed fruits, juices and miscellaneous processed items remained relatively less important export items during the 'eighties. These items, however, can be identified as crucial emerging exports during the 'nineties. In terms of average growth rate, these exports had declined by 3.2 per cent in the 'eighties, while they increased by an impressive 29.7 per cent in the 'nineties. The combined share of these three exports in India's total agricultural and allied exports had declined from 23.3 per cent in 1987-88 to 15.4 per cent in 1990-91. Their share more than doubled to reach 34.2 per cent in 1998-99. Alongside the emergence of newer products, the relative importance of some of India's traditional agricultural and allied export items such as cashew, oil meal, tea and tobacco declined considerably as between the two periods. On an average, the growth rate of these exports decelerated from 7.9 per cent in the 'eighties to 4.2 per cent in the 'nineties. More importantly, their combined share in total agricultural and allied exports, which increased from 38.1 per cent in 1987-88 to 43.6 per cent in 1989-90, declined sharply to 26.2 per cent in 1998-99.

Various studies (e.g., Gulati, 1998) have shown that even before the initiation of economic reforms, many of India's agricultural products were internationally price competitive, notwithstanding the numerous quantitative restrictions. Such restrictions included export prohibition, announcement of minimum export prices, fixing of rigid ceilings for the maximum permissible export quantities and the requirement of export licensing for certain types of agricultural products. Initiation of economic reforms has considerably relaxed these restrictions and helped the emergence of relatively non-traditional agricultural exports such as *non-basmati* rice and coffee as important export earners. Further, it is only after the initiation of economic reforms that many primary export items became eligible to avail of the facilities under export promotion measures such as EPCG Scheme, allotment of SIL, etc. It is interesting to point out that during the 'nineties, the export of high value-added agricultural products such as processed fruits, juices and miscellaneous processed items have recorded high growth rates.

There are indications that during the 'nineties, some of the Indian exports have moved upwards in the value-addition chain whereby instead of exporting raw materials, the country has switched over to the export of processed items. For example, while the value of iron ore exports declined, that of primary and semi-finished iron and steel increased many fold between the two periods. Reflecting this trend, the share of ores and minerals in total exports declined, on an average basis, from 5.5 per cent to 3.5 per cent between the 'eighties and the 'nineties (Appendix Table TR.2).

Indian manufactured exports registered considerable growth momentum between 1993-94 and 1995-96. The growth performance of all major manufactured exports except for certain chemical and allied products and textile items was much better during this period as compared to that of the 'eighties. Before the introduction of economic reforms, many of India's export promotion measures were implicitly targeted towards selected traditional manufactured export items. For example, input-output norm for duty drawback was not available for many non-traditional manufactured exports, which meant that availing of drawback facilities was cumbersome for exporters of non-traditional products. Similarly, facilities under certain export promotion measures were geared primarily towards the export of specific export items such as gems and jewellery, specific engineering products, etc. The reform process, however, has tried to extend such facilities to all export items. Since the initiation of economic reforms, input-output norms have been announced for a large number of non-traditional manufactured products. The reach of promotional measures such as allotment of SILs, entitlement to EPCG Scheme, etc. has been enhanced to include almost all exports. Further, a large number of non-traditional manufactured exports have been identified by the Ministry of Commerce as "Extreme Focus Items" and special promotional measures have been initiated to encourage these exports. In line with these policy efforts, shares of non-traditional manufactured exports such as plastic and linoleum and rubber, glass, paints, enamels and products started showing considerable increase during the initial years of economic reforms.

Although the unfavourable developments since 1996 decelerated the growth of India's manufactured exports and inhibited structural transformation within this category, some of these items such as textile yarn, fabrics, made-ups, etc., engineering goods, chemicals and allied products and plastic and linoleum products registered noticeable increase in their share in total exports between the 'eighties and the 'nineties. On the other hand, the share of leather and leather manufactures and gems and jewellery declined considerably between these two periods (Appendix Table TR.2).

There were also significant compositional shifts within the major manufactured product groups such as engineering goods, chemicals and allied products, etc. as between the two periods. On an average basis, the share of basic chemicals, pharmaceuticals and cosmetics within the chemicals and allied group, declined from 71.4 per cent to 62.4 per cent between the 'eighties and the 'nineties. In particular, the average export share of cosmetics, toiletries, etc. within this group declined sharply from 12.4 per cent to 4.7 per cent between these two periods. Within the same group, the average export share of plastic and linoleum increased from 6.4 per cent during the 'eighties to 13.2 per cent in the 'nineties. Among the components of engineering goods, the average share of machinery and equipment in total engineering exports declined from 30.6 per cent to 21.7 per cent while that of primary and semi-finished iron and steel increased from 2.9 per cent to 11.9 per cent as between the two periods. Among the textile products, while the importance of man-made yarn, fabrics, made-ups increased as between two periods, that of jute manufactures declined sharply. The internal export composition of leather and leather manufactures and ready-made garments remained stable before and after the initiation of economic reforms.

India's manufacturing exports are showing tendencies of shifting away from traditional exports towards relatively new manufactured products (Appendix Table TR.3).[6] Another interesting point about the compositional change in the manufactured exports is that, by and large, major export items within the category for which internal composition remained unchanged between the 'eighties and the 'nineties (e.g., leather and leather products, ready-made garments) recorded relatively poor export performance as compared with groups which recorded changes in their internal composition (e.g., chemicals and allied products, engineering goods). This indicates the existence of a close link between export performance and structural change in the case of India's manufactured exports.

As mentioned earlier, since 1996-97 there has been a marked deceleration in the growth

6. Kumar et al. (1998) also arrive at similar conclusions.

of India's manufactured exports. Apart from its negative impact on the overall export growth, a fall in the growth of manufactured exports also likely to have constrained structural transformation within the category of manufactured exports. A number of external as well as domestic factors contributed to the process of slowdown in India's exports in general and manufactured exports in particular. These included: decline in international manufactured prices, increased protectionism by the industrialised countries coupled with non-implementation of the transitional agreements on integration of trade in textiles and clothing with the WTO by the industrialised countries. While these factors had adverse implications for Indian manufacturing exports, particularly exports of engineering goods, chemicals and allied products and textiles and clothing, the sharp price fluctuation in the international market for raw diamonds and gold between 1996 and 1998, had contributed to the decline in gems and jewellery exports, the single largest export item of India. Alongwith the increase in processed items and decline in raw materials in India's export basket, there are indicators that intra-industry trade by India has increased between the 'eighties and the 'nineties.[7] Grubel and Lloyd (1975) suggested a measure of intra-industry trade by deriving an index based on industry-wise movements in net exports (exports less imports). This measure shows that as against an average of 0.27 during the mid-'eighties, the average value of intra-industry trade index for India increased to around 0.39 between 1987-88 to 1991-92 and further to around 0.44 during the early years of reform. The index declined thereafter, though on an average basis, it remained higher during the 'nineties than in the 'eighties. Since intra-industry trade involves simultaneous exports and imports in similar products, product differentiation and specialisation by a country in particular niches of an industry are often the reasons for this type of trade. In many industrialised countries, a major portion of foreign trade is intra-industry in nature. It has often been argued that a large part of India's exports consists of undifferentiated products and they have very low-income elasticity, but high price elasticity (Sharma and Mehta, 1998). Reversing this trend, the proportion of differentiated products in India's export basket has increased during the 'nineties. This is another important dimension of the structural change in Indian exports over the entire period of the 'eighties and the 'nineties.

The foregoing discussion focuses solely on the internal change in the commodity composition of India's exports. It is also important to study whether there has been any change in India's share in global trade (Appendix Table TR.4). It may be noted that commodities for which India's share in global exports have increased considerably as between the two periods include rice, coffee and substitutes, feeding stuff for animals, textile yarn (in particular, cotton yarn), pearls, precious and semi-precious stones and gold and silver jewellery. Items for which India's global export share declined as between the two periods include shellfish, tea and mate, spices, iron ore concentrate, leather, leather manufactures and certain categories of textile and garment articles.

It is interesting to note that during the 'eighties, there were many export items for which India's global market shares were high while growth in world trade for those products was low. It is argued that lack of alignment between the composition of India's export basket and the demand structure in foreign markets has been a major constraint for expansion of India's exports (Sharma and Mehta (1998)). Reversing such trends, during the 'nineties, by and large, India's global shares have improved for those commodities for which world trade showed relatively high growth potential and India's global shares declined for those commodities for which growth in world trade decelerated (Appendix Table TR.4). In other words, the alignment between the structure of world demand and the composition of India's exports has improved during the 'nineties as compared to the 'eighties. This is likely to have major impact on the future behaviour of India's exports.

Country-Destination Pattern

It is interesting to note that, in spite of a noticeable change in commodity composition,

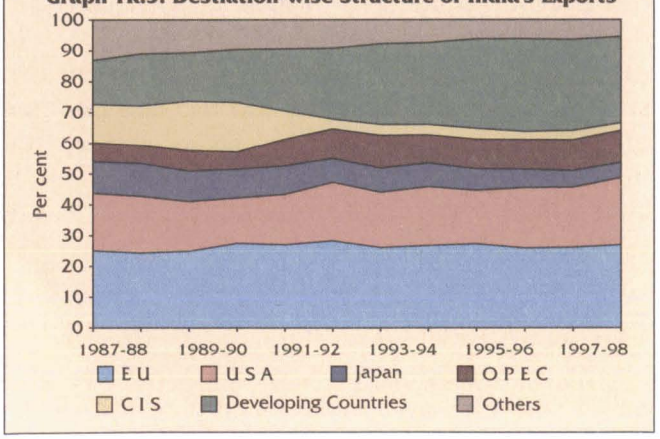
7. Intra-industry trade refers to simultaneous export and import in similar products by a country.

it is the destination pattern of India's exports that has undergone a marked change between the two periods under review. While the combined share of Japan, US and EU in India's total exports remained stable during the 'eighties as well as the 'nineties at around 50 per cent, the shares of countries in transition and the developing countries have undergone considerable changes. As between the two periods, on an average basis, the shares of the European Union (EU) and the USA increased by 1.1 per cent and 2.6 per cent, respectively, and that of Japan declined by 3.5 percentage points (Appendix Table TR.7 and Graph TR.3).

One of the most important changes in the destination structure of India's exports between two periods has been the sharp decline in the share of former USSR in India's total exports. This share declined from 16.1 per cent in 1990-91 to 9.3 per cent in 1991-92 and further to 2.5 per cent in 1998-99. However, there have been sharp increases in the shares of Organisation of Petroleum Exporting Countries (OPEC) and developing countries which have more than compensated the losses suffered in the East Europe market. On an average basis, the shares of OPEC and developing countries in India's total exports have increased by 3.8 per cent and 11.8 per cent, respectively between the 'eighties and the 'nineties (Appendix Table TR.7).

During the 'nineties global developments suggest increasing evidence of larger regional cooperation and formation of trading blocs. The establishment of common market in Europe, and the formation of North Atlantic Free Trade Association (NAFTA) are examples of such efforts. Though there is no universally accepted view about the impact of increased regional cooperation and formation of trading blocs on world trade, there are indications that the proportion of intra-regional trade has increased during the 'nineties. Between 1990 and 1998, the share of intra-regional trade in total trade increased from 41.0 per cent to 51.0 per cent for NAFTA, from 59.0 to 62.5 per cent for EU, from 8.9 per cent to 24.8 per cent for *Mercado Comun del Sur* (MERCOSUR, called the Common Market of the South) (IMF, 1999). These trends can be treated as "trade diversion effect" of formation of trading blocs. The available evidence suggests that the adverse impact of such trade diversion effects on India, however, to be negligible. India's share in the total imports of the EU increased from 0.40 per cent to 0.55 per cent between 1990 and 1995. Thereafter, the share remained almost unchanged till 1998. In the case of NAFTA, India's share in total imports by the area increased almost continuously from 0.43 per cent in 1990 to 0.69 per cent in 1998. India's share in total imports by the MARCUSOR increased from 0.39 per cent to 1.01 per cent between 1990 and 1994. The share, however, declined to 0.40 per cent in 1998.

Graph TR.3: Destiation-wise Structure of India's Exports



In terms of country-wise destination pattern of important export items, there has been an increase in the importance of the US market between two periods for a large number of products including coffee, tobacco, spices, cashew, leather and leather manufactures, engineering goods, ready-made garments and carpets. Other industrialised markets, which have become important between the two periods, include Italy for coffee and engineering goods, Germany for coffee, Belgium for tobacco, UK for cashew and Japan for carpets. Among the developing countries, the share of UAE increased for a large number of Indian exports including tea, spices, marine products, engineering goods and ready-made garments. The importance of Singapore increased for spices and oil meal and that of Hong Kong for gems and jewellery and cotton yarn, fabrics, made-ups, etc. Other developing countries that became important markets for Indian exports during the 'nineties include China for marine products and iron ore, Saudi Arabia, Bangladesh and South Africa for rice, South Korea and

Indonesia for oil meal and Iran and Chinese Taipei for iron ore.

The transition of economic structure of the East European countries had a profound impact on destination-wise structure of India's exports. Until the early-'nineties, a major part of India's trade with these countries was governed by rupee-rouble agreement. The termination of rupee trade with these countries and the economic turmoil faced by them resulted in a sharp decline in India's trade with these countries. Since a major part of India's exports to Eastern Europe was in terms of agricultural products such as tea, tobacco, spices, etc., the decline in trade with these countries affected India's agricultural and allied exports rather than the manufactured exports.

Structural Change in Imports

Structural change in imports is analysed on the basis of the relative growth performance and changes in the shares of the constituent items in India's total imports valued in terms of the US dollar. The relative growth performance of the constituent items has been measured in two ways: (1) percentage growth in the annual average level of imports during the period 1992-99, over that during the period 1987-91, and (2) the average annual growth rates between these two sub-periods of the 'nineties. Changes in the relative shares of the constituent items correspond to the first measure; non-proportional growth of a constituent item (higher/lower than the overall growth) implies an increase/decline in its relative share.

Commodity Composition

In the discussion on the structural change in India's imports in this sub-section, the relative shares of the major commodities/groups in total imports should generally be exclusive of gold and silver imports. This has been done keeping in view the sharp increase in gold and silver imports in the recent years, which obscures the changes in the relative shares of other items. The import of gold and silver rose from US $ 4 million in 1990-91 to US $ 4,876 million in 1998-99 and formed as much as 11.6 per cent of India's total imports during that year (Appendix Table TR.5). For analytical purposes, the commodity-wise data on imports of the remaining items have been clubbed under two broad groups: (1) items mainly for industrial use consisting of capital goods and raw materials and intermediate goods, and (2) other items mostly for final use. This classification helps in identifying the role of some of the probable factors shaping the structure of imports, although this may not strictly represent the end-use pattern of the commodities.

The average annual level of India's total imports, net of gold and silver, during 1992-99 valued at US $ 31,692 million were higher by 54.7 per cent than that recorded during 1987-91. Between these two periods, the items imported mainly for industrial purposes recorded a lower rise of 46.3 per cent, while the import of other items showed a greater increase of 71.9 per cent. Among the industry-related items, the import of capital goods recorded a relatively sharp rise of 56.9 per cent, while that of the raw materials and intermediate goods rose by 39.7 per cent. The relative share of capital goods in India's total imports net of gold and silver improved, *albeit* marginally, from 25.6 per cent during 1987-91 to 26.0 per cent during 1992-99. Within the capital goods group, the rise in import was more pronounced in the case of manufacture of metals, machine tools, and electrical machinery (including electronic and computer goods), while that of non-electrical machinery and transport equipment recorded a relatively low order of increase. While the overall increase in the import of industrial raw materials and intermediate goods was less pronounced, certain individual items mainly catering to export activities such as cashew nuts, textile yarn, fabrics, made-ups etc., and chemicals (organic and inorganic), however, recorded sharper rise (Appendix Table TR.5).

Among other items, the imports of petroleum (crude and products) showed wide fluctuations, reflecting *inter alia*, the movements in international prices. There was a sharp increase in its import during 1989-90 (25.2 per cent) and 1990-91 (60.0 per cent) and the average annual growth rate during 1988-91 was considerably higher at 27.2 per cent as compared with the 12.0 per cent growth in total imports. After attaining a high base in 1990-

91, the oil imports declined during 1991-92 by 11.7 per cent. During the period 1992-93 to 1998-99, the growth rate in oil imports ranged between 33.4 per cent in 1996-97 and a negative of 21.2 per cent in 1998-99. Although the average annual growth rate of this item during 1992-99 was low (4.6 per cent), the average value at US $ 7,134 million stood 79.2 per cent higher than US $ 3,981 million during 1987-91 (Appendix Table TR.5). Consequently, the relative share of oil imports moved up to 22.5 per cent during 1992-99 from 19.4 per cent during 1987-91.

Similarly, the average level of import of manufactured fertilizers during 1992-99 also stood 77.7 per cent higher than that during 1987-91, although the average annual growth rate remained considerably lower at 9.5 per cent during 1992-99 than that of 79.5 per cent during 1988-91. The increase in the imports of consumption goods was relatively less pronounced (27.3 per cent), with its share dropping from 4.3 per cent during 1987-91 to 3.6 per cent during 1992-99. Within this category, the import of edible oils, however, increased by 55.9 per cent and that of sugar increased by 269.3 per cent.

As mentioned earlier, in the recent years, there has been a surge in the import of gold and silver. This import growth is essentially policy driven. Following the repeal of the Gold Control Order in 1991, a series of measures have been undertaken for liberalising the import of gold. Returning non-resident Indians have been permitted to bring 10 kgs of gold effective from January 1997. Gold could also be imported using SIL. Further, since October 1997, certain authorised agencies have been permitted to import gold under the OGL for sales to certain specified categories of jewellers and domestic consumers. The imports of gold and silver through the passenger baggage route rose from US $ 1,083 million in 1992-93 to US $ 2,664 million in 1997-98. The imports of gold and silver through the SIL/OGL route recorded a sharper growth; it rose from US $ 226 million in 1992-93 to US $ 4,876 million in 1998-99, with sharp increases during the last two years. It is the latter category of import that is included in the data on India's total imports reported in Appendix Table TR.5.

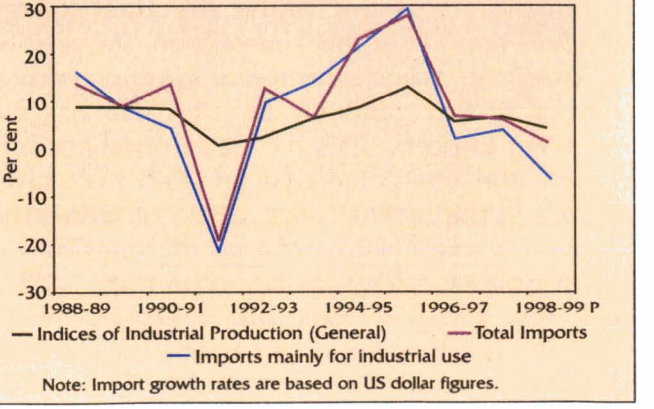
The changes in the structure of India's imports as discussed above are reflective of the influence of three factors: (1) movements in international prices; (2) changes in trade policy; and (3) pattern of domestic demand. The role of international prices in shaping the trends in the import of petroleum, crude and products has already been discussed earlier. This apart, it may be indicated that the international prices of manufactured goods have declined considerably during the recent years, keeping their import value depressed.

The surge in the imports of gold and silver, edible oils and manufactured fertilizers were to some extent policy driven. Similarly, reflecting the impact of further easing of the restrictions on the import of capital goods, these items recorded higher import growth during 1992-99. Since a sizable part of India's imports cater to the needs of the industrial sector, the trends in the demand for imports may be judged from the overall growth in industrial production. Graph TR.4 shows a positive association between the growth in industrial production and imports.

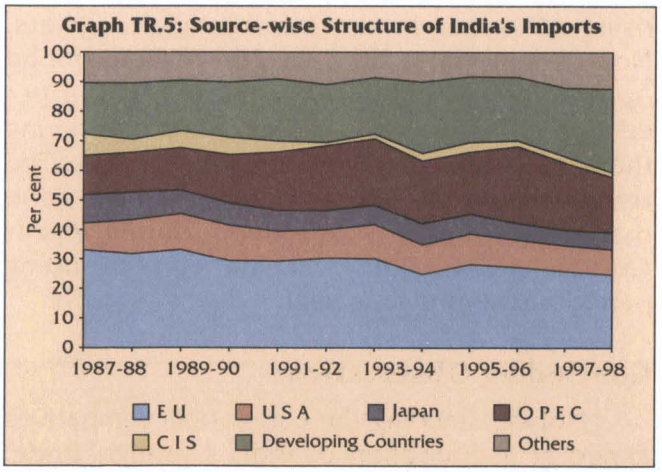
Country-Source Composition

Structural changes are also discernible from the data on sources of India's imports. While there has been a sharp increase in the relative share of the developing countries, that of the industrialised countries declined (Appendix Table TR.8 and Graph TR.5). Between 1987-91 and 1992-99, the relative share of the developing countries as a group moved up from 18.0 per cent to 23.0 per cent. This was largely on account of the increase in the imports from the newly industrialised countries in South East Asia. Among

Graph TR.4: Growth in Industrial Production and Imports



Note: Import growth rates are based on US dollar figures.



the commodities that contributed to the import growth, petroleum (crude and products) from Malaysia and Singapore, vegetable oils from Malaysia, chemicals from Republic of Korea and Singapore, and electronic goods from Hong Kong, Republic of Korea, Malaysia and Thailand were prominent. Between the two periods, the relative shares of the countries belonging to the OPEC group also increased from 14.5 per cent to 21.9 per cent. This is mainly reflective of the surge in the oil import bill on account of higher prices.

The share of the OECD as a group in India's imports dropped considerably from 59.4 per cent during 1987-91 to 52.1 per cent during 1992-99. Within this group, the relative share of the EU countries fell from 31.8 per cent during 1987-91 to 26.9 per cent during 1992-99. The import shares of some of the individual EU countries such as Denmark, Greece, Ireland and Italy, however, recorded relatively high growth, while those from traditionally important countries such as Germany, Netherlands, Sweden and UK showed lower rise. The relative share of the UK fell to 5.8 per cent during 1992-99 from 7.9 per cent during 1987-91. Among other OECD countries, the imports from Australia, New Zealand and Switzerland recorded relatively large growth. The relative share of Switzerland moved up from 1.1 per cent during 1987-91 to 4.0 per cent during 1992-99. This was largely on account of the import of gold and silver and non-electrical machinery. It may be indicated that during 1992-99, the import of gold and silver formed as much as 69.2 per cent of India's total import from Switzerland, while Switzerland alone accounted for 58.1 per cent of India's total import of gold and silver during this period. The relative share of the East European countries declined from 8.1 per cent during 1987-91 to just 2.9 per cent during 1992-99 with absolute decline in the imports from most of the countries belonging to this group.

Recent Developments in India's Foreign Trade

The discussion so far focussed on the changes in the trade policy environment as well as structural changes in India's foreign trade performance from a relatively long-term perspective. This section presents a brief review on India's recent trade performance, i.e., the developments during 1998-99 and 1999-2000.

Developments during 1998-99

According to the provisional data released by the DGCI & S, India's exports at US $ 33,659 million recorded a decline of 3.9 per cent during 1998-99 as against an increase of 4.6 per cent registered during 1997-98. India's imports at US $ 41,858 million during 1998-99 showed an increase of 0.9 per cent as compared with the increase of 6.0 per cent during 1997-98. As a consequence, India's trade deficit widened to US $ 8,199 million during 1998-99 from US $ 6,478 million during 1997-98 (Appendix Table TR.1).

Commodity-wise data show that during 1998-99 the exports of both primary products and manufactured goods declined by 10.4 per cent and 2.8 per cent, respectively. Within the primary products group, the exports of agriculture and allied products declined by 9.5 per cent and those of ores and minerals fell by 16.0 per cent. It may be mentioned that except for manufactured products, all the categories of exports noted above had registered negative growth during 1997-98 as well.

Some of the major export items, however, registered positive growth during 1998-99. These include tea (8.4 per cent), rice (62.5 per cent), gems and jewellery (10.4 per cent) and handicrafts (10.5 per cent). Almost all the other important export items registered decline. The declines have been particularly marked for raw cotton (75.9 per cent), tobacco (35.7 per cent), sugar and molasses (92.1 per cent), iron ore (20.2 per cent), processed minerals (30.1 per cent), engineering goods (17.2 per cent) and

chemicals and related products (8.7 per cent).

The oil imports declined by 21.2 per cent during 1998-99, over and above the fall of 18.7 per cent during the previous year, partly reflecting the decline in international oil prices. The growth of non-oil imports decelerated to 6.3 per cent in 1998-99 from 14.5 per cent during the previous year. The import of gold and silver at US $ 4,876 million recorded a sharp increase of 53.9 per cent during 1998-99. The declining trend in capital goods imports continued during 1998-99; these imports declined by 6.4 per cent during the year.

Data on direction of India's foreign trade show that exports to the North American countries increased by 7.9 per cent. Consequently, the share of these countries in India's export basket rose to 23.2 per cent during 1998-99 from 20.7 per cent in the previous year. Their share in India's total imports, however, dropped to 9.6 per cent in 1998-99 from 10.0 per cent in the previous year. Exports to the developing countries in Africa also increased by 8.6 per cent, and the share of these countries moved up to 5.3 per cent during 1998-99 from 4.7 per cent in the previous year. Their share in India's import basket increased to 7.1 per cent in 1998-99, resulting from an import growth of 69.6 per cent from these countries. Exports to the four crisis-affected South East Asian countries, *viz.*, Indonesia, Malaysia, Thailand and South Korea declined by 36.8 per cent during 1998-99. Among other major country groups, exports to Eastern Europe and developing countries of Asia declined by 16.6 per cent and 13.9 per cent, respectively.

Developments during 1999-2000

During the first seven months of the current fiscal year (i.e. April-October 1999-2000), India's exports at US $ 22,766 million increased by 10.0 per cent over the corresponding period of 1998-99. During the same months of the previous year, exports had declined by 5.1 per cent. India's imports during April-October 1999-2000 at US $ 26,565 million increased by 7.7 per cent over the corresponding period of the preceding year. During April-October 1999-2000, oil imports at US $ 5,281 million increased by 52.0 per cent as against 26.1 per cent decline during the same months of the previous year reflecting the rising of prices in the international markets. Non-oil imports at US $ 21,284 million, during April-October 1999-2000, increased by 0.4 per cent as compared to 18.7 per cent rise during the same months of the previous period. The trade deficit at US $ 5,799 million rose marginally by US $ 2 million during April-October 1999-2000 over the corresponding period of the previous year.

Concluding Observations

Notwithstanding the earlier policy initiatives aimed at liberalisation of India's foreign trade, the outward-looking trade policy measures announced in 1991 marks the initiation of a new era in India's foreign trade. India's foreign trade performance improved significantly during the recent years and there has been a perceptible change in the structure of India's foreign trade between the 'eighties and the 'nineties. The share of manufactured products has increased in India's total exports. At the same time, since the introduction of reforms, the proportions of high-value and differentiated products have increased in India's export basket. Along with the increase in India's aggregate share in world trade, the alignment between the country's export basket and world demand has increased during the 'nineties. The relative share of certain capital goods in India's total imports has also increased in this period. Imports of manufactured fertilizers and edible oils also recorded higher growth during the post-1991 period. In line with the policy changes, imports of gold and silver have increased sharply during the 'nineties. Reflecting the increased link between exports and imports, the shares of certain export-related imports have also increased during the recent years. The most remarkable change in the country-wise composition of India's exports and imports since 1991 has been the increase in the share of developing countries in India's overall trade. While the share of the East European countries has declined in India's total trade, that of the OECD countries has declined in the case of imports. India's foreign trade has, however, been adversely affected by certain unfavourable external developments since 1996. Notwithstanding these negative developments, India's trade performance during the 'nineties as a whole has been better than that during the 'eighties.

Reference

1. Balassa, B. and L. Bauwens (1988): *Changing Trade Patterns in Manufactured Goods*, Elsevier Publishers.
2. Chandra R., S. Pohit, A. V. Deardorff and R. M. Stern (1998): "Analysis of India's Policy Reforms", *World Development*, Vol. 21(2), (March), pp. 235-259.
3. — (1998 a): *The Impact of Trade and Domestic Policy Reform in India: A CGE Modeling Approach*, University of Michigan Press, Ann Arbor.
4. Kumar, A. G., K. Sen and R. R. Vaidya (1998): "Finance and Changing Trade Patterns in Developing Countries: A case study of India", *Project Report No. 38*, Indira Gandhi Institute Of Development Research.
5. Government of India (1978): *Report of the Committee on Import-Export Policies and Procedure* (Chairman, P. C. Alexander), New Delhi.
6. — (1984): *Report of the Committee on Trade Policies* (Chairman, Abid Hussain), New Delhi.
7. — (1991): *Interim Report of Tax Reforms Committee* (Chairman, Raja J. Chelliah), New Delhi.
8. Grubel, H., and P. J. Lloyd (1975): *Intra-Industry Trade*, London, Halsted Press.
9. Gulati, A. (1998): "Indian Agriculture in an Open Economy: Will it Prosper?" in I.S. Ahluwalia and I.M.D. Little (ed.) *India's Economic Reforms and Development*, Oxford University Press, Delhi.
10. Havrylyshyn, O. and E. Civan (1983): "Intra-Industry Trade and the stage of Development", in P. K. M. Thakaran (ed.) *Intra-Industry Trade*, North-Holland, Amsterdam.
11. Havrylyshyn, O. and P. Kunzel (1997), "Intra-Industry Trade of Arab Countries: An Indicator of Potential Competitiveness", *IMF working paper*, WP/97/47.
12. Havrylyshyn, O. (1997): "Progress in Stabilization and Structural Reform in Mediterranean Countries: Open Trade, and other Accompanying Measures", IMF.
13. International Monetary Fund (1998): *International Financial Statistics*, Washington, D.C.
14. Johan A. (1998): "Environmental Regulation, Comparative Advantage and the Porter Hypothesis", *working paper*, University of Ghent, Belgium.
15. Krishna, P. and D. Mitra (1998): "Trade Liberalisation, Market Discipline and Productivity Growth: New Evidence from India", *Journal of Development Economics*, Vol. 56 (August), pp. 447-462.
16. Nsouli, S., A. Bisat and O. Kanaan (1996): "The European Union's New Mediterranean Strategy", *Finance and Development*, pp.14-18.
17. Reserve Bank of India (1999) : RBI Bulletin, (June), Mumbai.
18. Sharma A. and P. K. Mehta (1998): "Indian Exports and European Union", in R. Kapila and U. Kapila (ed.) *Economic Development in India*, Vol. 2, Academic Foundation, Delhi.
19. Shela A. and M. Firrantino (1997): "Export Diversification and Structural Dynamics in the growth process: The case of Chile", *Journal of Development Economics*, Vol. 52, pp. 375-391.
20. Stiglitz, J. E. (1999): *Two Principles for the Next Round or How to Bring Developing Countries in from the Cold*, The WTO-World Bank Conference Paper, Geneva, (September).
21. Stone, J. A. and H. H. Lee (1995) "Determinants of Intra-Industry Trade: A Longitudinal, Cross-Section Analysis", *Weltwirtschaftliches Archiv*, Series 131, No. 1, pp. 67 - 83.

APPENDIX TABLE TR.1: MAJOR INDICATORS OF INDIA'S FOREIGN TRADE

Year	US $ million							Per cent				
	Export			Import			Trade Balance	Growth Rate		Export GDP Ratio	Import GDP Ratio	Export Import Ratio
	Oil	Non-oil	Total	Oil	Non-oil	Total		Export	Import			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1980-81	32	8,453	**8,485**	6,655	9,212	**15,867**	**-7,382**	7.0	40.5	4.9	9.2	53.5
1981-82	246	8,458	**8,704**	5,786	9,387	**15,173**	**-6,469**	2.6	-4.4	4.9	8.5	57.4
1982-83	1,278	7,830	**9,108**	5,816	8,970	**14,787**	**-5,679**	4.6	-2.5	4.9	8.0	61.6
1983-84	1,536	7,914	**9,449**	4,673	10,638	**15,311**	**-5,862**	3.8	3.5	4.7	7.6	61.7
1984-85	1,529	8,349	**9,878**	4,550	9,863	**14,412**	**-4,534**	4.5	-5.9	5.1	7.4	68.5
1985-86	527	8,378	**8,905**	4,078	11,989	**16,067**	**-7,162**	-9.9	11.5	4.2	7.5	55.4
1986-87	322	9,423	**9,745**	2,200	13,527	**15,727**	**-5,982**	9.4	-2.1	4.3	6.9	62.0
1987-88	500	11,588	**12,089**	3,118	14,038	**17,156**	**-5,067**	24.1	9.1	4.7	6.7	70.5
1988-89	349	13,622	**13,970**	3,009	16,488	**19,497**	**-5,527**	15.6	13.6	5.1	7.1	71.7
1989-90	418	16,194	**16,613**	3,768	17,452	**21,219**	**-4,607**	18.9	8.8	6.1	7.7	78.3
1990-91	523	17,623	**18,145**	6,028	18,044	**24,073**	**-5,927**	9.2	13.4	6.1	8.1	75.4
Average 1980-81 to 1990-91								**8.2**	**7.8**	**5.0**	**7.7**	**65.1**
1991-92	415	17,451	**17,865**	5,325	14,086	**19,411**	**-1,545**	-1.5	-19.4	7.1	7.8	92.0
1992-93	476	18,061	**18,537**	6,100	15,782	**21,882**	**-3,344**	3.8	12.7	7.6	9.0	84.7
1993-94	398	21,841	**22,238**	5,754	17,553	**23,306**	**-1,068**	20.0	6.5	8.0	8.3	95.4
1994-95	417	25,914	**26,331**	5,928	22,727	**28,654**	**-2,324**	18.4	22.9	8.0	8.7	91.9
1995-96	454	31,341	**31,795**	7,526	29,150	**36,675**	**-4,880**	20.8	28.0	8.7	10.1	86.7
Average 1992-93 to 1995-96								**15.7**	**17.5**	**8.1**	**9.0**	**89.7**
1996-97	482	32,988	**33,470**	10,036	29,096	**39,132**	**-5,663**	5.3	6.7	8.4	9.9	85.5
1997-98	353	34,654	**35,006**	8,164	33,321	**41,485**	**-6,478**	4.6	6.0	8.3	9.9	84.4
1998-99 P	89	33,569	**33,659**	6,433	35,425	**41,858**	**-8,199**	-3.9	0.9	8.1	10.0	80.4
Average 1996-97 to 1998-99								**2.0**	**4.5**	**8.3**	**9.9**	**83.4**
Average 1992-93 to 1998-99								**9.8**	**12.0**	**8.2**	**9.4**	**87.0**

P : Provisional.

GDP estimates for 1997-98 and 1998-99 are quick estimates and revised estimates, respectively.

Source: DGCI & S and CSO.

APPENDIX TABLE TR.2: EXPORT OF PRINCIPAL COMMODITIES

(values in US dollar million, ratios and growth rates in per cent)

Commodity	1987-88	1990-91	1995-96	1998-99 P	Period Average			
					Percentage Share		Growth Rate	
					1987-88 to 1990-91	1992-93 to 1998-99	1988-89 to 1990-91	1992-93 to 1998-99
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. Primary Products	**3,161**	**4,324**	**7,257**	**6,887**	**24.1**	**21.8**	**11.2**	**8.8**
A. Agriculture and Allied Products	**2,561**	**3,354**	**6,082**	**5,996**	**18.4**	**18.4**	**10.0**	**10.7**
1. Tea	464	596	350	547	3.3	1.3	10.0	5.4
2. Coffee	202	141	449	405	1.2	1.2	-9.7	21.3
3. Rice	261	257	1,366	1,474	1.7	2.9	0.0	44.3
4. Cotton Raw Incl. Waste	85	471	61	53	1.1	0.5	283.3	92.0
5. Tobacco	104	147	134	185	0.7	0.6	14.7	10.8
6. Cashew Incl. CNSL	243	249	370	383	1.5	1.2	2.4	5.6
7. Spices	260	130	237	384	1.2	0.9	-20.3	15.5
8. Oil Meal	165	339	702	455	1.9	2.4	31.3	9.3
9. Fruits and Vegetables	99	119	158	126	0.8	0.5	6.7	-0.4
10. Processed Fruits, Juices, Misc Processed Items	134	119	265	170	0.8	0.6	-3.9	20.7
11. Marine Products	411	535	1,011	1,038	2.9	3.4	10.1	10.1
12. Sugar and Mollases	9	21	151	5	0.1	0.4	57.3	81.2
13. Meat and Meat Preparations	68	78	187	181	0.5	0.6	5.1	11.4
14. Others	57	152	641	589	0.7	1.8	59.1	19.7
B. Ores and Minerals	**600**	**970**	**1,175**	**891**	**5.6**	**3.4**	**18.8**	**0.6**
1. Iron Ore	428	585	515	380	3.3	1.5	11.2	-4.1
2. Mica	18	19	8	10	0.1	0.0	3.1	-0.6
3. Others	154	366	652	500	2.2	1.9	45.0	7.3
II. Manufactured Goods	**8,195**	**12,996**	**23,501**	**25,797**	**71.2**	**75.4**	**16.8**	**10.4**
1. Leather and Manufactures	964	1,449	1,752	1,653	7.6	5.4	14.7	4.3
2. Chemicals and Allied Products	567	1,307	2,359	2,892	6.4	7.8	33.2	11.3
a) Drugs, Pharmac eutical and Fine Chemicals	252	565	1,019	1,462	2.7	3.5	32.3	13.9
b) Others	316	742	1,340	1,429	3.7	4.3	34.3	9.4
3. Plastic and Linoleum Products	50	111	585	480	0.5	1.5	31.0	29.1
4. Rubber, Glass, Paints, Enamels and Products	174	297	642	617	1.5	2.1	19.9	14.0
5. Engineering Goods	1,152	2,250	4,391	4,416	11.5	14.0	25.5	10.9
6. Readymade Garments	1,403	2,236	3,676	4,444	11.6	11.9	17.4	10.8
7. Textile Yarn, Fabrics, Made-ups, Etc.,	1,084	1,540	3,523	3,726	8.1	11.3	13.0	12.0
a) Cotton Yarn, Fabrics, Made-ups, Etc.,	883	1,170	2,577	2,774	6.2	8.4	11.0	12.7
b) Natural Silk Yarn, Fabrics, Made-ups, Etc.,	107	131	133	182	0.8	0.5	7.6	4.4
c) Others	94	239	813	771	1.1	2.4	37.3	12.6
8. Jute Manufactures	186	166	186	141	1.1	0.5	-3.1	0.4
9. Coir and Manufactures	23	27	63	74	0.2	0.2	5.7	15.3
10. Handicrafts	2,443	3,437	6,129	6,943	21.6	19.3	14.1	11.2
a) Gems and jewellery	2,015	2,924	5,275	5,904	18.3	16.3	15.8	12.2
b) Carpets (Handmade Excl. Silk)	253	289	420	413	1.9	1.5	4.8	0.3
c) Works of Art (Excl. Floor Coverings)	174	224	434	626	1.4	1.5	8.9	14.6
11. Sports Goods	44	48	74	72	0.3	0.2	3.2	13.8
12. Others	104	127	143	371	0.8	1.0	7.2	28.8
III. Petroleum Products	**500**	**523**	**454**	**89**	**2.9**	**1.3**	**4.9**	**-11.9**
IV. Others	**233**	**302**	**583**	**885**	**1.9**	**1.5**	**10.3**	**38.3**
Total Exports	**12,089**	**18,145**	**31,795**	**33,659**	**100.0**	**100.0**	**14.6**	**9.8**

Note: 1. Leather and Manufactures include Finished Leather, Leather Goods, Leather Garments, Footware of Leather & Components, and Saddlery Harnes.

2. Engineering goods include Ferro alloyes, Alluminium other than products, Non-ferrous metals, Manufactures of Metals, Machine Tools, Machinery and instruments, Transport Equipments, Residual engineering items, Iron and Steel bar/rod etc, Primary and semi-finished iron and steel, Electronic goods, Computer software and Project goods.

3. Chemicals and allied products include Drugs, pharmaceuticals and fine chemicals, Dyes, intermediates and coal tar chemicals, Inorganic/ organic/agro chemicals, Cosmetics/toilet preparations etc., and Residual chemicals and allied products.

4. Rubber, glass, paints, enamels and products excludes Footwear of rubber/canvas etc.

P : Provisional.

Source: DGCI & S.

APPENDIX TABLE TR.3: CHANGE IN THE COMMODITY-WISE STRUCTURE OF INDIA'S EXPORTS

Commodity Groups	Ranks		Rank Difference
	1988-92	1993-99	
(1)	(2)	(3)	(4)
Carpets (Handmade Excl. Silk)	14	28	14
Cashew Incl. CNSL	21	24	3
Coffee	28	5	-23
Cotton Yarn, Fabrics, Made-ups, Etc.,	10	8	-2
Drugs, Pharmaceutical and Fine Chemicals	2	3	1
Engineering Goods	7	14	7
Gems and Jewellery	22	18	-4
Iron Ore	18	27	9
Leather and Manufactures	17	25	8
Marine Products	15	19	4
Meat and Meat Preparations	16	10	-6
Natural Silk Yarn, Fabrics, Made-ups, Etc.,	20	23	3
Oil Meal	6	26	20
Other Agriculture and Allied Items	4	6	2
Other Chemicals and Allied Products	3	11	8
Other Manufactured Goods	13	20	7
Other Textile Yarn, Fabrics, Made-ups, Etc.,	1	13	12
Others	26	4	-22
Others Ores and Minerals	12	22	10
Petroleum Products	25	29	4
Plastic and Linoleum Products	5	12	7
Processed Fruits, Juices, Misc Processed Items	27	7	-20
Readymade Garments	9	16	7
Rice	24	1	-23
Rubber, Glass, Paints, Enamels and Products	11	21	10
Spices	29	2	-27
Tea	23	17	-6
Tobacco	8	15	7
Works of Art (Excl. Floor Coverings)	19	9	-10

Note: (1) Structural change index (SCI) has been derived in the following way:

$$CEI_{it} = \sum_{t=t_0}^{t} e_{it} \Big/ \sum_{t=t_0}^{t_n} e_{it}, SCI_i = \sum_{t} CEI_{it} \Big/ (t_n - t_0 + 1)$$

Where, CEI_{it} is cumulative export index, e_{it} is export share of commdity i in period t, t is time, the initial time period is 0 and the final time period is n, SCI is structural change index. Commodities have been ranked on the basis of their SCI, lower the SCI higher is the rank and *vice- versa*. (2) Individual items have been chosen with the criterion that their export earnings during each year between 1987-88 and 1998-99 are equal or more than US $ 50 million.

APPENDIX TABLE TR.4: INDIA'S POSITION IN WORLD TRADE

(per cent)

SITC Code/Commodities	India's Share in the World Exports				Average Growth in World Exports		
	1984	1987	1992	1995	1984 to 1987	1987 to 1992	1992 to 1995
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
All Commodities	**0.5**	**0.4**	**0.5**	**0.6**	**11.4**	**11.2**	**11.8**
036 Shell Fish Fresh, Frozen	6.2	4.8	4.3	4.5	23.0	13.6	11.3
042 Rice	7.5	8.8	7.9	18.9	-3.5	12.1	17.1
071 Coffee and Substitutes	1.5	1.5	1.8	2.8	4.6	-8.0	34.2
074 Tea and Mate	29.8	25.9	16.2	16.0	-6.1	5.7	-1.7
075 Spices	17.2	12.6	8.1	9.3	30.0	-5.4	12.9
081 Feeding Stuff for Animals	1.5	1.2	3.3	3.4	11.7	7.2	4.2
281 Iron Ore, Concentrates	6.4	5.9	4.0	5.9	6.8	9.2	-5.8
541 Medical, Pharmaceutical Product	1.3	0.7	0.9	1.0	21.9	20.9	14.9
611 Leather	0.7	6.9	3.2	2.4	21.7	9.8	17.7
612 Leather etc. Manufactures	16.7	13.9	8.4	6.4	30.2	18.7	15.0
651 Textile Yarn	0.5	1.7	2.6	4.0	17.9	5.1	11.0
6513 Cotton Yarn	0.9	5.3	7.2	n.a.	17.1	2.9	n.a.
6521 Grey Woven Cotton Fabric	84.4	12.3	10.5	n.a.	519.1	9.1	n.a.
6522 Woven Cotton, Bleached etc.	5.0	2.3	2.4	n.a.	19.7	12.8	n.a.
658 Textile Articles n.e.s.	7.2	4.0	4.1	5.0	15.1	18.7	10.4
659 Floor Covering etc.	6.5	6.3	6.8	6.3	18.3	10.5	2.4
667 Pearl, Precious, Semi-precious Stone	7.9	10.4	10.2	16.2	17.4	12.6	12.2
6672 Diamonds Non-Industrial unset	8.8	11.4	10.9	n.a.	18.0	13.2	n.a.
843 Women's Outer Wear Non-Knit	4.6	4.2	3.6	3.8	20.9	21.4	6.5
844 Undergarment Non-Knit	6.5	5.8	5.2	6.3	22.9	28.3	10.2
846 Undergarment Knitted	0.8	2.0	2.3	2.5	30.2	31.1	13.5
897 Gold, Silverware, Jewellery	1.0	0.7	2.0	2.4	8.6	15.9	9.2

n.a. – Not available.

Source: International Trade Yearbook, various issues, United Nations.

APPENDIX TABLE TR.5: IMPORT OF PRINCIPAL COMMODITIES

(values in US dollar million, ratios and growth rates in per cent)

Commodity/group	1987-88	1990-91	1995-96	1998-99P	Period Average						
					Value			Percentage Share		Growth Rate	
					1987-88 to 1990-91	1992-93 to 1998-99	Change (%) (7) over (6)	1987-88 to 1990-91	1992-93 to 1998-99	1988-89 to 1990-91	1992-93 to 1998-99
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I Total Imports	**17,156**	**24,073**	**36,675**	**41,858**	**20,486**	**33,285**	**62.5**	**100.0**	**100.0**	**12.0**	**12.0**
Of which:											
II Gold and silver	**1**	**4**	**873**	**4,876**	**3**	**1,593**	**53365.8**	**0.0**	**4.8**	**58.1**	**616.0**
III Total imports net of gold and silver	**17,154**	**24,068**	**35,803**	**36,982**	**20,483**	**31,692**	**54.7**	**100.0**	**95.2**	**12.0**	**10.1**
III.1 Items mainly for industrial use	**11,606**	**15,206**	**23,254**	**23,032**	**13,719**	**20,066**	**46.3**	**67.0**	**63.3**	**9.5**	**10.5**
III.1.1 Capital goods	**5,064**	**5,836**	**10,330**	**9,168**	**5,248**	**8,233**	**56.9**	**25.6**	**26.0**	**5.1**	**13.0**
Manufactures of Metals	124	169	278	405	143	265	85.8	0.7	0.8	10.9	18.0
Machine Tools	163	263	372	329	198	312	57.5	1.0	1.0	18.0	14.4
Machinery Except Electrical and Electronic	2,017	2,100	3,924	3,107	1,964	2,937	49.6	9.6	9.3	1.7	13.4
Electrical machinery including electronic and computer goods	843	949	2,260	2,669	990	1,840	85.9	4.8	5.8	5.3	25.3
Transport Equipments	586	931	1,105	611	731	1,014	38.6	3.6	3.2	21.5	21.4
Project Goods	1,331	1,425	2,391	2,046	1,222	1,864	52.6	6.0	5.9	4.7	6.5
III.1.2 Raw materials and intermediate goods	**6,542**	**9,371**	**12,924**	**13,864**	**8,472**	**11,833**	**39.7**	**41.4**	**37.3**	**13.5**	**9.3**
Crude fertilizers, sulphur & unrosted iron pyrites	247	348	301	286	310	264	-15.0	1.5	0.8	12.5	2.0
Coal, Coke and Briquittes, Etc.	169	440	926	940	309	815	163.7	1.5	2.6	39.5	14.3
Wood and wood products	184	254	250	360	231	265	14.9	1.1	0.8	12.4	15.1
Wool raw	102	102	145	111	104	132	26.7	0.5	0.4	0.1	7.0
Pulp and Waste Paper	184	255	275	231	201	218	8.5	1.0	0.7	12.9	11.5
Paper, Paperboards, Mgfs. Incl. News Prints	208	254	473	449	220	367	66.5	1.1	1.2	7.3	16.2
Crude Rubber, Incl. Synthetic and Reclaimed	93	126	215	141	111	144	30.4	0.5	0.5	12.2	13.4
Artificial Resins and Plastic Materials, Etc.	437	610	803	661	551	631	14.4	2.7	2.0	12.3	4.4
Textile Yarn, Fabrics, Made-ups, Etc.	144	247	359	436	195	324	66.4	1.0	1.0	19.9	19.4
Synthetic and regenerated fibre	23	31	150	67	29	95	229.9	0.1	0.3	16.9	40.7
Dyeing, tanning, colouring material	68	94	152	189	78	141	80.6	0.4	0.4	12.8	17.9
Organic and Inorganic Chemicals	834	1,276	2,566	2,718	1,143	2,262	97.9	5.6	7.1	18.5	11.8
Metalliferrous Ores, Metal Scrap, Etc.	373	852	822	606	586	692	18.0	2.9	2.2	33.5	8.1
Non Ferrous Metals	493	614	904	671	589	742	26.0	2.9	2.3	9.3	13.1
Iron and Steel	1,018	1,178	1,446	1,178	1,221	1,165	-4.6	6.0	3.7	6.5	7.4
Medicinal and Pharmaceutical Products	129	261	406	344	198	326	64.4	1.0	1.0	27.3	8.3
Chemical Materials and Products	148	159	246	395	142	249	75.4	0.7	0.8	3.5	16.8
Non-Metallic Mineral Manufactures	81	113	152	153	102	124	21.5	0.5	0.4	13.7	9.9
Pearls, Precious and Semi-Precious Stones	1,557	2,083	2,106	3,762	2,097	2,692	28.4	10.2	8.5	13.0	12.8
Cashew Nuts	50	75	227	165	54	185	241.9	0.3	0.6	17.6	8.1
III.2 Other Items	**5,549**	**8,862**	**12,549**	**13,950**	**6,764**	**11,626**	**71.9**	**33.0**	**36.7**	**17.4**	**9.9**
III.2.1 Petroleum, crude and products	**3,118**	**6,028**	**7,526**	**6,433**	**3,981**	**7,134**	**79.2**	**19.4**	**22.5**	**27.2**	**4.6**
III.2.2 Consumption goods	**1,141**	**557**	**970**	**2,282**	**889**	**1,132**	**27.3**	**4.3**	**3.6**	**-14.3**	**55.0**
Cereals and Cereal Preparations	51	102	24	233	230	163	-29.2	1.1	0.5	278.9	111.4
Edible Oils	747	182	676	1,695	390	607	55.9	1.9	1.9	-21.0	86.3
Pulses	194	268	205	96	217	194	-10.4	1.1	0.6	27.7	8.8
Sugar	149	5	65	258	53	196	269.3	0.3	0.5	—	—
III.2.3 Manufactured fertilizers	**145**	**636**	**1,382**	**787**	**466**	**827**	**77.7**	**2.3**	**2.6**	**79.5**	**9.5**
III.2.4 Professional, scientific instrument etc.	**385**	**591**	**669**	**812**	**462**	**599**	**29.7**	**2.3**	**1.9**	**18.0**	**12.3**
III.2.5 Others (residual)	**760**	**1,051**	**2,002**	**3,636**	**966**	**1,932**	**100.0**	**4.7**	**6.1**	**12.4**	**24.9**

Note : Figures under columns (9) and (10) against items I, II and III are percentage to total imports while those for all subgroups under item III are percentage to total imports net of gold and silver.

P Provisional. - : negligible.

APPENDIX TABLE TR.6: IMPORTS OF GOLD AND SILVER

(US $ million)

Year	OGL/SIL	Baggage	Total
(1)	(2)	(3)	**(4)**
1987-88	1	—	**1**
1988-89	2	—	**2**
1989-90	4	—	**4**
1990-91	4	—	**4**
1991-92	6	—	**6**
1992-93	226	1,083	**1,310**
1993-94	255	1,670	**1,925**
1994-95	714	2,100	**2,814**
1995-96	873	1,958	**2,831**
1996-97	1,004	2,718	**3,722**
1997-98	3,203	2,664	**5,867**
1998-99 P	4,876	n.a.	**n.a.**

n.a. : Not available, – : Nil/Negligible,

P : Provisional.

Source: DGCI&S.

APPENDIX TABLE TR.7: DESTINATION OF INDIA'S EXPORTS

(values in US dollar million, ratios and growth rates in per cent)

Country	1987-88	1990-91	1995-96	1998-99 P	Period Average			
					Percentage Share		Growth Rate	
					1987-88 to 1990-91	1992-93 to 1998-99	1988-89 to 1990-91	1992-93 to 1998-99
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
I. O E C D Countries	**7,122**	**10,249**	**17,705**	**19,519**	**57.2**	**57.0**	**12.9**	**9.7**
A. E U	**3,034**	**4,989**	**8,656**	**9,059**	**25.6**	**26.7**	**18.1**	**9.8**
Of which:								
1. Belgium	374	702	1,120	1,297	4.0	3.6	26.3	10.3
2. France	292	427	747	843	2.3	2.3	14.1	10.6
3. Germany	817	1,421	1,977	1,885	6.8	6.2	20.9	6.0
4. Italy	384	558	1,014	1,065	2.9	3.1	13.9	10.2
5. Netherland	216	359	769	781	1.9	2.3	18.8	11.8
6. U K	783	1,186	2,011	1,908	6.1	6.2	15.3	8.2
B. North America	**2,380**	**2,830**	**5,826**	**7,808**	**17.7**	**20.4**	**6.1**	**14.2**
1. Canada	128	156	305	477	1.0	1.1	7.2	14.4
2. U S A	2,252	2,673	5,520	7,331	16.7	19.3	6.1	14.3
C. Asia and Oceania	**1,403**	**1,895**	**2,652**	**2,097**	**11.3**	**7.8**	**10.8**	**2.4**
Of which:								
1. Australia	139	179	376	390	1.2	1.2	10.3	10.7
2. Japan	1,245	1,694	2,216	1,651	10.0	6.5	11.0	0.9
D. Other O E C D Countries	**305**	**536**	**571**	**555**	**2.6**	**2.1**	**21.1**	**1.9**
Of which:								
1. Switzerland	157	224	282	323	1.3	1.0	12.9	6.4
II. O P E C	**742**	**1,020**	**3,081**	**3,542**	**6.1**	**9.9**	**12.5**	**13.0**
Of which:								
1. Indonesia	21	109	662	187	0.4	1.3	75.2	18.1
2. Iran	107	79	155	159	0.5	0.6	-5.0	5.2
3. Iraq	14	24	1	35	0.2	—	69.5	—
4. Kuwait	82	41	136	164	0.6	0.5	-8.1	22.1
5. Saudi Arab	214	233	482	773	1.5	1.9	3.4	12.7
6. U A E	239	439	1,428	1,853	2.3	4.8	23.7	14.6
III. Eastern Europe	**2,001**	**3,243**	**1,340**	**1,070**	**17.7**	**3.8**	**18.4**	**-3.0**
Of which:								
1. Romania	47	53	30	17	0.3	0.1	36.9	23.6
2. U S S R	1,514	2,929	1,145	844	14.7	3.1	25.7	-2.2
IV. Developing Countries	**1,719**	**3,099**	**9,197**	**9,390**	**16.0**	**27.8**	**22.2**	**15.7**
Of which:								
A. Asia	**1,443**	**2,610**	**7,308**	**6,867**	**13.5**	**22.1**	**22.2**	**13.7**
a) S A A R C	**313**	**533**	**1,721**	**1,708**	**2.7**	**4.8**	**19.7**	**16.7**
1. Bangladesh	144	305	1,049	991	1.5	2.5	29.7	20.4
2. Bhutan	—	2	17	10	—	—	—	65.8
3. Maldives	2	6	16	8	—	—	42.1	13.6
4. Nepal	73	48	160	149	0.4	0.5	-10.5	11.3
5. Pakistan	15	41	77	111	0.2	0.3	42.1	21.4
6. Sri Lanka	80	131	402	440	0.6	1.3	36.1	15.2
b) Other Asian Developing Countries	**1,130**	**2,077**	**5,587**	**5,159**	**10.8**	**17.3**	**23.0**	**13.2**
Of which:								
1. Hong Kong	344	597	1,821	1,883	3.4	5.5	23.4	19.0
2. South Korea	112	183	448	274	1.0	1.2	17.8	7.4
3. Malaysia	70	151	393	318	0.7	1.2	29.9	9.9
4. Singapore	211	379	902	520	1.8	2.6	22.3	7.6
5. Thailand	63	247	473	320	1.0	1.3	61.0	9.0
B. Africa	**243**	**394**	**1,512**	**1,774**	**2.0**	**4.2**	**17.5**	**24.0**
Of which:								
1. Benin	9	13	11	27	0.1	—	15.8	17.6
2. Egypt Arab Republic	61	99	164	274	0.5	0.6	18.9	21.1
3. Kenya	27	36	245	146	0.2	0.5	12.2	27.7
4. Sudan	17	22	31	56	0.1	0.1	24.5	24.3
5. Tanzania	17	30	81	86	0.2	0.3	21.1	10.5
6. Zambia	4	22	35	18	0.1	0.1	132.6	-4.2
C. Latin American Countries	**33**	**95**	**376**	**749**	**0.5**	**1.6**	**79.9**	**30.1**
V. Others	**5**	**11**	**19**	**48**	**—**	**0.1**	**38.9**	**25.5**
Total Trade	**12,089**	**18,145**	**31,795**	**33,659**	**100.0**	**100.0**	**14.6**	**9.8**

P : Provisional. – : Negligible / not applicable.

Note: Exports of Petroleum Products are taken into account in total exports, but are not included in country-wise details.

Source: DGCI & S.

APPENDIX TABLE TR.8: SOURCES OF INDIA'S IMPORTS

(values in US dollar million, ratios and growth rates in per cent)

Country	Values						% change	Period Average			
					Period Average			Percentage Share		Growth Rate	
	1987-88	1990-91	1995-96	1998-99 P	1987-88 to 1990-91	1992-93 to 1998-99	(7) over (6)	1987-88 to 1990-91	1992-93 to 1998-99	1988-89 to 1990-91	1992-93 to 1998-99
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
I. O E C D Countries	**10,266**	**13,773**	**19,209**	**21,346**	**12,164**	**17,347**	**42.6**	**59.4**	**52.1**	**10.3**	**11.0**
A. E U	**5,708**	**7,067**	**10,303**	**10,341**	**6,515**	**8,953**	**37.4**	**31.8**	**26.9**	**7.5**	**9.9**
Of which:											
1. Belgium	1,057	1,515	1,702	2,519	1,403	2,007	43.1	6.8	6.0	14.0	12.1
2. France	615	727	841	726	716	705	-1.6	3.5	2.1	13.1	3.3
3. Germany	1,665	1,936	3,145	2,139	1,743	2,325	33.4	8.5	7.0	5.4	6.3
4. Italy	395	608	1,064	1,094	454	839	84.9	2.2	2.5	17.5	15.1
5. Netherland	341	442	570	467	371	447	20.5	1.8	1.3	10.5	9.6
6. U K	1,410	1,613	1,918	2,565	1,615	1,939	20.0	7.9	5.8	5.2	11.7
B. North America	**1,774**	**3,235**	**4,243**	**4,012**	**2,594**	**3,584**	**38.2**	**12.7**	**10.8**	**22.9**	**9.1**
1. Canada	230	312	381	371	278	342	23.1	1.4	1.0	11.6	9.1
2. U S A	1,544	2,923	3,861	3,641	2,316	3,242	40.0	11.3	9.7	24.5	9.8
C. Asia and Oceania	**2,067**	**2,690**	**3,552**	**3,966**	**2,342**	**3,204**	**36.8**	**11.4**	**9.6**	**9.6**	**10.7**
Of which:											
1. Australia	388	816	1,022	1,493	558	1,104	98.0	2.7	3.3	29.2	16.3
2. Japan	1,640	1,808	2,468	2,384	1,739	2,025	16.4	8.5	6.1	3.6	9.1
D. Other O E C D Countries	**717**	**782**	**1,112**	**3,027**	**714**	**1,607**	**125.0**	**3.5**	**4.8**	**4.6**	**34.1**
Of which:											
1. Switzerland	182	268	1,021	2,872	216	1,338	521.1	1.1	4.0	13.9	60.6
II. O P E C	**2,277**	**3,924**	**7,649**	**7,823**	**2,961**	**7,299**	**146.5**	**14.5**	**21.9**	**20.1**	**12.2**
Of which:											
1. Indonesia	54	81	461	814	63	444	604.9	0.3	1.3	17.7	52.1
2. Iran	111	567	598	486	250	558	122.9	1.2	1.7	95.0	1.7
3. Iraq	472	276	—	151	—	—	—	1.4	0.1	11.6	—
4. Kuwait	364	202	1,970	1,502	406	1,677	313.3	2.0	5.0	7.2	39.8
5. Saudi Arab	590	1,616	2,025	1,875	1,095	1,969	79.8	5.3	5.9	58.0	5.7
6. U A E	588	1,059	1,607	1,724	777	1,499	93.1	3.8	4.5	22.8	6.3
III. Eastern Europe	**1,640**	**1,882**	**1,674**	**852**	**1,662**	**975**	**-41.3**	**8.1**	**2.9**	**6.7**	**6.5**
Of which:											
1. Romania	45	28	148	44	46	77	64.8	0.2	0.2	-5.6	39.9
2. U S S R	1,240	1,420	1,223	678	1,188	710	-40.2	5.8	2.1	9.0	14.2
IV. Developing Countries	**2,967**	**4,490**	**8,140**	**11,829**	**3,694**	**7,659**	**107.4**	**18.0**	**23.0**	**15.5**	**17.6**
Of which:											
A. Asia	**2,077**	**3,372**	**6,426**	**8,180**	**2,678**	**5,758**	**115.0**	**13.1**	**17.3**	**18.1**	**16.7**
a) S A A R C	**76**	**131**	**257**	**463**	**93**	**238**	**156.4**	**0.5**	**0.7**	**35.9**	**26.8**
1. Bangladesh	11	17	86	64	12	47	278.2	0.1	0.1	19.6	55.0
2. Bhutan	—	1	35	6	—	—	—	—	—	—	110.3
3. Maldives	—	—	—	—	—	—	—	—	—	—	—
4. Nepal	34	45	49	142	26	63	143.3	0.1	0.2	4968.4	27.5
5. Pakistan	22	47	45	212	38	81	114.0	0.2	0.2	47.3	53.0
6. Sri Lanka	9	21	41	39	16	31	102.1	0.1	0.1	45.3	22.8
b) Other Asian Developing Countries	**2,001**	**3,241**	**6,169**	**7,718**	**2,585**	**5,521**	**113.6**	**12.6**	**16.6**	**17.9**	**16.5**
Of which:											
1. Hong Kong	93	166	388	445	132	302	128.7	0.6	0.9	21.7	25.8
2. South Korea	257	366	825	1,165	321	775	141.5	1.6	2.3	12.8	21.4
3. Malaysia	648	555	903	1,570	536	844	57.4	2.6	2.5	-0.7	29.6
4. Singapore	323	796	1,092	1,364	522	982	88.2	2.5	3.0	35.3	11.3
5. Thailand	50	65	170	271	89	165	86.3	0.4	0.5	67.0	38.3
B. Africa	**503**	**573**	**1,131**	**2,979**	**572**	**1,361**	**138.0**	**2.8**	**4.1**	**7.1**	**25.1**
Of which:											
1. Benin	—	1	16	12	—	—	—	—	—	—	38.9
2. Egypt Arab Republic	76	44	73	193	44	130	192.5	0.2	0.4	119.6	51.5
3. Kenya	5	22	15	36	12	18	57.2	0.1	0.1	69.8	23.0
4. Sudan	2	2	15	17	8	8	12.4	—	—	363.2	476.9
5. Tanzania	31	35	96	126	31	74	140.0	0.1	0.2	11.7	27.5
6. Zambia	109	86	60	40	111	68	-38.6	0.5	0.2	-5.4	5.8
C. Latin American Countries	**387**	**546**	**583**	**670**	**444**	**540**	**21.6**	**2.2**	**1.6**	**12.5**	**19.6**
V. Others	**6**	**3**	**3**	**7**	**6**	**3**	**-45.6**	**—**	**—**	**-0.4**	**114.9**
Total Trade	**17,156**	**24,073**	**36,675**	**41,858**	**20,486**	**33,285**	**62.5**	**100.0**	**100.0**	**12.0**	**12.0**

- : Negligible / not applicable. P : Provisional.

Source: DGCI & S.

INTERNATIONAL FINANCE

CHAPTER X

INTERNATIONAL FINANCE

The external sector of the Indian economy has undergone significant structural transformation in the current decade. In contrast to inward looking policies up to the 'eighties, the market forces have been assigned an important role in the 'nineties to enhance the efficiency of the economy. Consequently, external sector policies of the 'nineties have, *inter alia*, been marked by the processes of liberalisation of trade, market determination of the exchange rate, opening up of foreign investment, and gradual liberalisation of capital account. Against this backdrop, this Chapter evaluates the structural transformation in the external sector during the 'nineties as reflected in developments in current and capital accounts, external debt, foreign exchange reserves management and issues of adequacy of reserves, as also exchange rate management.

Current Account Developments

Growing Trade Openness

During the 1950s and 1960s, most developing countries pursued import substitution policies partly reflecting the lingering export-pessimism that manifested itself at the end of World War II. Poor growth resulting from such a strategy led to policy reforms in the early 'sixties: while one set of countries started giving more incentives for export sector even as they pursued second-stage import substitution (for instance, Brazil, Argentina and Mexico), another set of countries made a more fundamental shift towards a relatively outward-looking strategy in the early 'sixties (for instance, Korea, Singapore and Taiwan) (Balassa, 1989).[1]

The Indian development strategy recognised the significance of liberal trade policy from the early 'eighties. And since 1991 the country has embarked on a liberalised trade policy regime. The 'eighties were marked by a shift in emphasis from control to deregulation as reflected in simplification of the import licensing system (Alexandar Committee, 1978), the recognition of dynamic comparative advantage flowing from export growth (Tandon Committee, 1980), the need for harmonisation of foreign trade policies with other macro-economic policies, advantages of an export-led growth and a phased reduction of effective protection (Abid Hussain Committee, 1984) and the need to discourage inefficient import substitution (Narasimham Committee, 1985). These concerns notwithstanding, the trade regime continued to be characterised by a licensing regime along with a high level of tariffs shielding the economy from external competition; in addition, the trade performance was hampered by restrictive industrial and foreign investment policies of the time. In the wake of the external payments difficulties in 1990, structural reforms encompassing not only the trade policy regime but also the industrial and foreign investment policies were undertaken to harmonise various policies with the ultimate objective of enhancing the economy's efficiency. The trade policy reforms resulted in a short negative list of imports, removal of quantitative restrictions for all goods except consumer goods, and a phased reduction in customs duties; these reforms along with a two-step downward adjustment in the exchange rate followed by a market determined exchange rate regime imparted necessary vibrancy to the external sector.

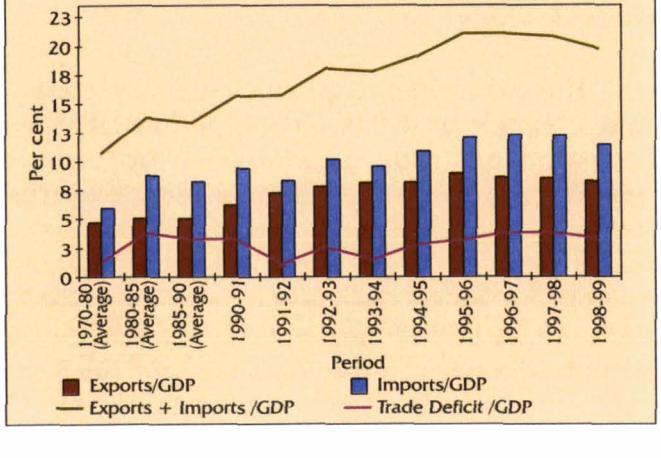
The changing policy stance was reflected in robust export growth over the period 1993-96 and growing trade openness (exports plus imports as per cent of GDP) in India over the 'nineties. The lacklustre export growth in the recent period (1996-97 to 1998-99), is a cause for concern, reflecting largely the decline in world demand as well as an element of decline in competitiveness in the aftermath of the East Asian crisis. While exports-GDP ratio increased

1. Balassa, Bela (1989), 'Outward Orientation' in Chenery, Hollis and T.N. Srinivasan (ed.), *Handbook of Development Economics* (Volume II), Elsevier Science B.V.

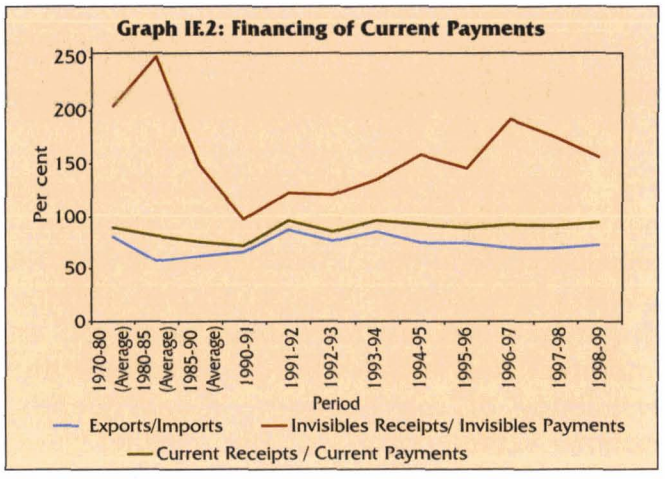
from 5.1 per cent in the second half of the 'eighties to a peak of 8.9 per cent in 1995-96 before falling to 8.2 per cent in 1998-99, import-GDP ratio too increased from 8.2 per cent in the second half of the 'eighties to a peak of 12.3 per cent in 1996-97 before falling to 11.4 per cent in 1998-99. It is pertinent to note that a part of the increase in import-GDP ratio in the 'nineties is on account of the switch of gold imports from the unofficial channel to the official channel in response to a liberal policy that allowed imports initially through the NRI baggage route and subsequently through the OGL route. At the same time, the decline in import-GDP ratio in 1998-99 reflects, in part, the beneficial effects of easier crude oil prices during the year. Openness of the economy has accordingly increased significantly from 13.3 per cent of GDP to almost one-fifth of GDP in the recent period (Graph IF1).

Besides import liberalisation, a self-equilibrating mechanism of imports in relation to exports has also been witnessed in the 'nineties reflecting, in part, the self-adjusting mechanism of a market determined exchange rate regime: exports have consequently financed more than seventy per cent of India's imports during the 'nineties in contrast to an average of 61 per cent over the second half of the 'eighties (Graph IF.2). The merchandise trade deficit (as a proportion of GDP), despite the gold imports through official channels, at 3.3 per cent during the recent period (1994-99) has, however, remained more or less the same as that in the second half of the 'eighties (3.2 per cent).

Graph IF.1: Trends in Merchandise Trade



Graph IF.2: Financing of Current Payments



Increasing Significance of Invisibles: Shift in Competitiveness

Perceptions about the contribution of services to economic development have changed significantly since the 'eighties with internationalisation of trade in services. Until recently, services were generally considered not only to be non-tradable but were also viewed as a low productivity activity. The revolution in information technology in the 'nineties has changed this perception significantly by expanding the boundaries of tradables. Technological innovation by unbundling consumption and production has expanded the opportunities for services to be embodied in goods that can be traded internationally in the form of software diskettes and shifting of back-offices using processing facilities. A positive outcome of the internationalisation of services has been the associated foreign direct investment inflows to the developing countries as commercial presence abroad through representative offices/branches has been the preferred mode of supply for many services. Accordingly, not only the growth of services transactions has outstripped the growth of merchandise trade since the mid-eighties, but the fastest growing component of FDI flows has also been that related to service industries (Braga, 1996)[2]. These developments have been of immense importance to developing economies. Even though developing countries are relatively small players in international transactions in services, they have gained

2. Braga, Carlos A.P. (1996), "The Impact of Internationalisation of Services on Developing Countries", *Finance and Development*, Volume 33, No. 1 (March).

competitive edge in many services drawing from natural advantages enjoyed by them wherever the services industry is labour intensive. Reflecting the growing importance of international trade in services, the General Agreement on Trade in Services (GATS) was adopted in 1993 to extend multilateral rules and disciplines to services emphasising non-discrimination and prohibition of quantitative restrictions.

India has also undergone the process of shift in competitiveness towards services, in particular, technology-related services. Accordingly, an important positive development in India's balance of payments has been the significant contribution of invisibles' surplus during the 'nineties. Private transfers in the form of remittances of Indians working abroad – the single largest source of invisible earnings – which had declined (as a proportion of GDP) in the second half of the 'eighties partly due to the delays in payment and settlements through the banking sector and partly on account of the divergence between the official and the parallel market exchange rates responded significantly to the market-based exchange rate regime and other structural reforms, especially in the banking sector. Consequently, private transfers which had declined from an average of 1.4 per cent of GDP in the first half of the 'eighties to about one per cent of GDP in the latter half, recovered strongly to 2.5 per cent of GDP during the period 1993-94 to 1998-99. Another noteworthy feature of the invisible receipts has been the emergence of technology related exports, in particular, strong growth in software exports from 1993-94 onwards which accounted for 0.6 per cent of GDP in 1998-99 (as against its negligible share in the early 'nineties). Tourism earnings which were the single largest item of non-factor services earnings during the 'eighties have waned in relative importance in the Indian balance of payments even though they have inched up from 0.5 per cent of GDP during the second half of the 'eighties to 0.7 per cent of GDP during the period 1993-94 to 1998-99.

On the payments side, investment income payments, which capture the dynamic links between the current account and the capital account, worsened in the second half of the 'eighties on account of: (a) higher level of financing requirements emanating from the widening of CAD, leading to a higher stock of external debt and hence higher interest payments, (b) a compositional shift in financing from the earlier concessional official financing to relatively costly external commercial borrowings and NRI deposits, and (c) conspicuous neglect of non-debt creating investment flows in financing CADs. Investment income payments, therefore, nearly doubled from 0.5 per cent of GDP in the first half of the 'eighties to 0.9 per cent in the latter half. These payments have since been moderated in the 'nineties (1.3 per cent of GDP during the period 1993-94 to 1998-99), reflecting the combined impact of management of current account deficits to a sustainable level and the financing of these deficits through a judicious mix of debt and non-debt capital flows. It is pertinent to note that other invisible payments have also remained moderate despite substantial liberalisation on current account restrictions and the eventual movement to current account convertibility.

Reflecting the buoyant private transfers and the booming software earnings, India's invisible receipts in US dollar terms recorded an average growth of 18.8 per cent during the 'nineties (1993-94 to 1998-99), significantly higher than 1.7 per cent during the second half of the 'eighties. On account of prudent management of current account deficits to a moderate level and consolidation of external debt due to recourse to non-debt financing, invisible payments growth could be contained to an average rate of 14.9 per cent during the 'nineties (1993-94 to 1998-99) as against 14.1 per cent during the second half of the 'eighties.

The performance of invisible receipts during the recent period is particulary noteworthy as it has been impervious to developments in East Asia. While merchandise export growth suffered in the aftermath of the East Asian developments, major components of invisible receipts – software and private transfers – have maintained their trend growth rate. Invisible receipts have accordingly more than doubled from an average of 2.8 per cent of GDP during the second half of the 'eighties to 6.2 per cent during 1998-99. Invisible payments, on the

other hand, reveal a relatively modest growth from an average of 2.0 per cent of GDP during the second half of the 'eighties to around 3.0 per cent over most of the 'nineties. In the process, invisibles' (net) contribution in the current account of the balance of payments has nearly trebled from an average of 0.8 per cent of GDP during the second half of the 'eighties to 2.2-2.6 per cent over the most recent period (Graph IF.3). This growing surplus has, in fact, contributed to the containment of the current account deficit during the 'nineties.

Current Account Deficit: Towards Sustainability

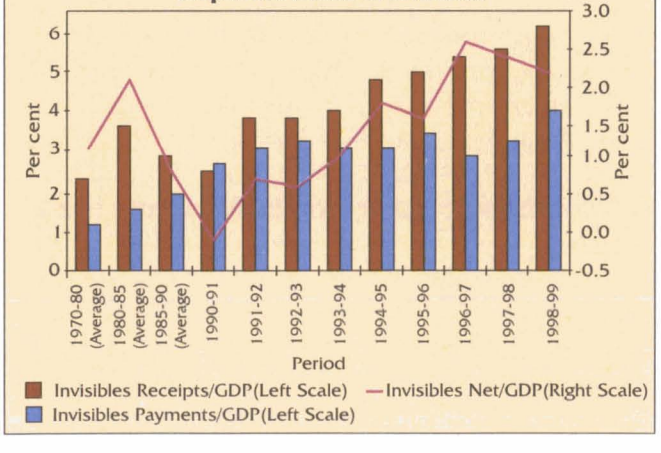
The external payments problem faced by India in 1990 and the recent events in the East Asian countries have highlighted, *inter alia,* the role of large current account deficits (CAD) and the consequent build-up of external debt, in precipitating the crisis. This raises issues relating to optimal and sustainable levels of CAD (Box IF.1).

Like other developing countries, India also incurred current account deficits to finance the saving-investment gap by external resources. Despite improvement in export performance over the second half of the 'eighties, the CAD/GDP ratio widened from 1.6 per cent in the first half of the 'eighties to 2.3 per cent in the second half of the 'eighties. The deterioration reflected the surge in imports, the decline in net invisible earnings, in particular, on account of high investment income payments and a misalignment in exchange rate. Following the Gulf war of 1990 which led to increased POL imports, the partial loss of export markets, and the decline in tourism earnings and private remittances, the current account deficit widened to 3.2 per cent of GDP in 1990-91. The widening of the CAD was exacerbated by drying up of external financing as investor confidence waned.

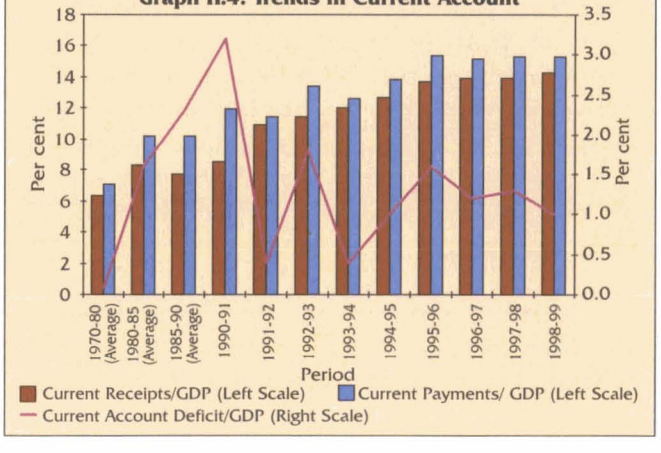
The structural reforms programme launched in 1991 encompassed trade and foreign investment policy and a move towards liberalised exchange rate regime accompanied by macroeconomic stabilisation with a view to restoring the viability of the external sector. The outcome of the reforms reflected in robust export growth, increased financing of imports by exports, recovery in private transfers and emergence of technology related exports, as discussed earlier. These developments coupled with restructuring of capital account towards attracting non-debt foreign investment inflows helped to keep CAD at comfortable level with the CAD/GDP ratio averaging just a little over one per cent in the 'nineties so far (Graph IF.4). In this context, the persistence of high level of CADs by the crisis hit East Asian countries – averaging more than 6 per cent of GDP in the 'nineties in case of Thailand and Malaysia (Graph IF.5) – and/or the manner of their financing during the course of the 'nineties gave further credence to the cautious approach being pursued by India in restricting current account deficits to a sustainable level and also in conforming to strict regulations on access to short-term capital flows.

The size of CAD which a country can sustain without encountering external constraints is contingent on its servicing capacity which could

Graph IF.3: Trends in Invisibles



Graph IF.4: Trends in Current Account



Box IF.1 : Current Account Sustainability

Developing countries typically run current account deficits (CAD) in their early stages of development to supplement their domestic savings to achieve higher level of investment and growth. This process enables recipient countries to achieve higher growth without cutting their current consumption; at the same time, higher productivity of capital in developing countries benefits foreign lenders by earning higher returns on their capital. By enabling inter-temporal allocation of resources, current account balances, therefore, help in consumption-smoothing across both the borrowers and lenders. In the borrowing countries, the accumulated current account deficits result in external debt and other liabilities that need to be serviced out of a country's current earnings. This raises the question of an optimal CAD level for a country which, however, needs to be circumscribed by a sustainable level of capital flows. The external payments problems faced by India in 1990 and the recent events in the East Asian countries have highlighted, *inter alia*, the role of large current account deficits and the consequent build-up of external debt, in precipitating the crisis.

In an inter-temporal scenario, for an economy to remain solvent, the constraint that its ratio of external liabilities to output or to exports cannot grow without bound requires it to generate future current account surpluses. Following this approach, the actual current account deficits of a country could be evaluated against the levels predicted by inter-temporal consumption smoothing model. However, this approach concentrates on long-run viability and solvency and ignores the short-run liquidity constraints that developing countries may face in international capital markets marked by asymmetric information and herd behaviour.

Another approach to sustainability emerging from the currency crises literature attempts to analyse the behaviour of determining factors between crisis and non-crisis countries. The current account sustainability depends upon external as well as domestic macroeconomic factors (Ghosh and Ostry (1994), Milesi-Ferretti and Razin (1996, 1997)). Amongst the external factors impacting on CAD sustainability are: (a) the behaviour of real interest rates, in conjunction with the level of external debt (b) terms of trade shocks and (c) growth in industrial countries. Amongst the domestic macroeconomic factors that determine the viable level of CAD are: (a) the ratio of external debt to exports (b) the ratio of interest payments to exports (c) the degree of openness and export diversification: while a higher degree of openness makes an economy more vulnerable to shocks, a diversified export base reduces the vulnerability (d) the extent of exchange rate flexibility and real exchange rate appreciation (e) the level of national savings and investment and fiscal deficits (f) the financing pattern of external deficits, in particular, the composition of volatile flows (portfolio and short-term debt flows) and non-debt creating direct investment inflows in total capital inflows and (g) the level of foreign exchange reserves. Recent events in East Asia have also highlighted the strength of domestic financial sector.

Accordingly, a sustainable level of CAD would differ from country to country and even over time for a given country which, ultimately, is determined by the foreign investors' confidence in the domestic economy, depending upon the various external and domestic factors identified above. While a ratio of CAD/GDP of 8 per cent or so turned out to be unsustainable in the case of Thailand, the same ratio continues to remain sustainable in the case of New Zealand in view of the confidence in its macroeconomic policies. According to this view, foreign investors' enthusiasm for investing in the New Zealand economy has been leading to foreign capital flows; and, since the capital account surplus, following the balance of payments classification, mirrors in CAD, it is the capital flows that are driving the New Zealand CAD. While this level of deficit need not be a cause for alarm as long as transparent and consistent policies remain, the authorities recognise the pitfalls of being complacent with this level of deficit (Brash, 1998).

In the Indian context, recognising the need to contain CAD to a sustainable level, the High Level Committee on Balance of Payments (Chairman: Dr. C. Rangarajan, 1993) recommended that the CAD be contained at 1.6 per cent of GDP, given the level of normal capital flows. The Report of the Committee on Capital Account Convertibility (Chairman: Dr S.S.Tarapore, 1997) felt that a sustainable CAD/GDP ratio can not be static for all times and, therefore, recommended that the CAD/GDP ratio could be varied in line with the servicing capacity of the economy proxied by trends in current receipts/GDP. The actual outcome of CAD/GDP ratio averaging just over 1 per cent in the 'nineties so far could be reflective of the lower need for foreign savings in view of the significant increase in domestic savings from an average of 20.6 per cent in the second half of the 'eighties to 23.9 per cent in the recent period (1995-96 to 1997-98). It could also be reflective of infrastructural and other bottlenecks in the economy that hamper higher levels of investment.

References

1. Brash, Donald T. (1998), *Address to the Canterbury Employers' Chamber of Commerce in Christchurch on 30/1/98* in BIS Review 8/1998.
2. Ghosh A. and J.D.Ostry (1994), *Export Instability and the External Balance in Developing Countries,* IMF Staff Papers 41 (2).
3. Milesi-Ferretti, Gian Maria and A.. Razin (1996), *Current Account Sustainability: Selected East Asian and Latin American Experiences,* NBER Working Paper 5791 (October).
4. Milesi-Ferretti, Gian Maria and A. Razin (1997), *Sharp Reductions in Current Account Deficits: An Empirical Analysis,* IMF Working Paper 97/168 (December).
5. Report of the High Level Committee on Balance of Payments (Chairman: Dr. C. Rangarajan) (1993), Reserve Bank of India Bulletin (August).

be proxied by the degree of openness of the economy (defined as the ratio of current receipts to GDP). In the Indian case, the degree of openness has increased substantially since 1990-91. Current receipts as a per cent of GDP have increased continuously from 7.7 per cent during the second half of the 'eighties to 14.3 per cent in 1998-99 (Graph IF.4). Concomitantly, current payments financed by current receipts increased from 75.7 per cent during the second half of the 'eighties to over 90 per cent for the recent period (Graph IF.2). The dynamic linkage between the current account and the capital account operating through investment income payments

highlights that the composition of capital flows can be a determinant of current account viability. The share of non-debt flows in total capital flows has increased significantly from a negligible level in the 'eighties to an average of 60 per cent over the period 1993-94 to 1998-99.

One of the key indicators of external sector viability is the debt service ratio (DSR) (the ratio of debt service payments to current receipts). Although the *level* of this indicator may not provide an advance signal in case of a crisis as the recent East Asian experience (where some of the countries which faced the crisis had DSR of even less than 10 per cent) has indicated (Graph IF.5), increases in this ratio over time should be a cause for concern to policy makers. In the Indian context, reflecting the policy initiatives, the DSR has been on a declining trajectory since 1990-91 - falling from a high 35 per cent during 1990-91 to 18 per cent during 1998-99. In the context of increasing reliance on non-debt flows, the conventional measure of DSR ignores outgoes under dividends and profits and hence needs to be supplemented by a measure of total external servicing, the liability service ratio (LSR). Even by this wider measure of external servicing, the liability servicing ratio reveals a significant decline indicative of re-investment of a significant part of profits and dividends (Graph IF.6).

Capital Account Developments

Policy Framework Towards Capital Flows

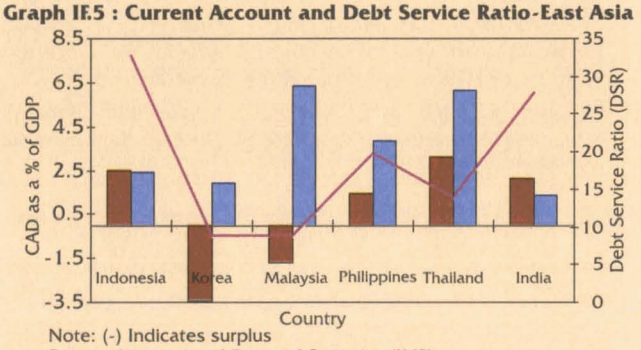
Reflecting the inward oriented economic policies in pursuit of self-reliance through "export bias" and "import substitution", the role of the capital account in India's balance of payments, till the 'eighties, was basically restricted to financing the current account deficits. Moreover, in line with the prevailing view of self-reliant growth, the period up to the late seventies was characterised by almost exclusive reliance on concessional official assistance. The widening of the current account deficit in the 'eighties coupled with the drying up of traditional source of official concessional flows, however, necessitated a recourse to additional sources of financing. Given the policy bias against foreign investment, the required additional capital financing took the form of debt creating commercial borrowings and non-resident deposits supplemented by exceptional financing in the form of IMF loans.

The external payments difficulties of 1990 highlighted the weaknesses of the debt-dominated capital account financing and brought out the need for a more balanced approach to capital flows in the form of non-debt creating flows, particularly direct investment flows, on account of their positive impact both in terms of technology and the stabilising role in external sustainability. At the same time, the policy shift also underscored the need for capital account liberalisation and its concomitant benefits. The policy has, therefore, been to gradually liberalise capital account, by considering capital account liberalisation as a process rather than as a single event (Box IF.2).

Foreign Investment Flows

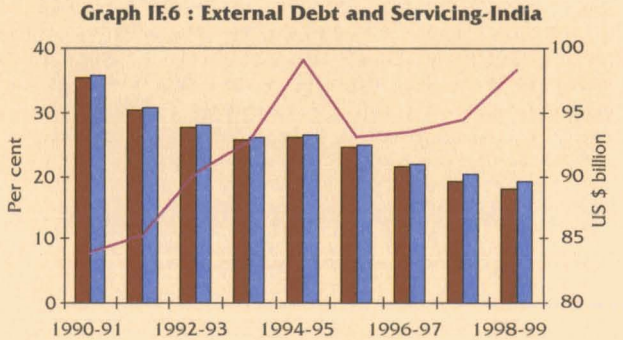
The policy of selective restrictions and controls in the 'seventies and partial

Graph IF.5 : Current Account and Debt Service Ratio-East Asia



Note: (-) Indicates surplus
Source: International Financial Statistics (IMF)
& Global Development Finance (World Bank)
Average CAD/GDP(1985-90) Average CAD/GDP(1991-97)
Average DSR(1990-97)

Graph IF.6 : External Debt and Servicing-India



Debt Service Ratio(Left Scale) Liability Service Ratio (Left Scale)
External Debt (Right Scale)



Box IF.2: Issues in Capital Account Liberalisation

Capital account liberalisation (CAL) is defined as freedom from restrictions on transactions in the capital and financial accounts of the balance of payments. It entails the removal of exchange and other controls but not necessarily all tax-like instruments imposed on the underlying transactions. Although, international capital was highly mobile in the pre-1914 period, the inter-war period witnessed marked capital restrictions from the developed countries. The present form of liberalisation emanated from the Code of Liberalisation of Capital Movements of the OECD, which was introduced in a limited way in 1961 and later extended in stages to encompass the full range of capital account transactions by 1989.

On the costs and benefits of capital liberalisation, three different theoretical strands could be identified. The classical "efficient markets" literature favours international capital mobility as a mechanism for risk sharing and portfolio diversification and as a means for enhancing the efficiency of financial services, allocation of savings and resources towards their most productive use. On the other hand, since asymmetric information – a situation where one party to a transaction has less information than the other – is a key feature of capital markets, it limits the efficiency of resource allocation. International financial liberalisation, therefore, unambiguously improves efficiency only when accompanied by appropriate policies to limit moral hazard, adverse selection, excess volatility and related problems such as herd behaviour and contains their potentially dangerous consequences. The third school, based on the theory of "second best", argues that even when information is complete, capital controls could improve welfare in the face of domestic distortion; accordingly, international financial liberalisation can be income and welfare reducing in the presence of domestic distortions. The arguments against CAL rather highlight the need for appropriate macroeconomic policies and financial sector reforms to remove such distortions.

Empirical studies on the macroeconomic effect of CAL relate capital controls to higher inflation and greater seigniorage revenue but lower real interest rates. While liberalisation of outflows often increases inflows (Laban and Larrain (1997)), a positive correlation between restrictions of outflows in developing countries and real interest rates in industrial nations is also noted (Bartolini and Drazen (1997)). By making the consumers liquidity constrained, capital restrictions have been found to limit a country's ability to smooth consumption when hit by shocks to income (Lewis (1996, 1997)). As regards the impact of CAL on output growth, the evidence is somewhat mixed, with a number of studies (for instance, Rodrik (1998) and Grilli and Milesi-Ferreti (1994)) finding no correlation between capital controls and economic growth. Apart from the endogeneity problem – declining growth prospects and rising inflation are normally accompanied by controls - involved in estimation, this finding also reflects data limitations: most of the studies on the subject have used a dummy variable for capital controls which does not capture fully the intensity of capital controls. On the other hand, Quinn (1997) uses an index of controls to capture their intensity and finds a positive correlation between CAL and growth.

Experiences with CAL indicate that episodes of liberalisation have been accompanied by crisis on one hand and surges in inflows on the other hand. Fiscal prudence, monetary policy aimed at inflation control, flexible exchange rate policy, reserve adequacy and financial sector reform could limit the probability of sharp reversals associated with CAL. These measures can be supplemented by managing capital flows within targeted limits through short-term measures such as sterilisation, reserve requirement, special measures on certain speculative transactions, limiting the open foreign exchange position of financial institutions, foreign borrowing limits on classes of liability or borrowers and monitoring of short-term borrowings.

Recognising that liberalisation of capital account needs to be treated as a continuous process, the Indian approach is based on a careful and continuous monitoring of certain preconditions/signposts and certain important attendant variables identified from the lessons of the international experience and the specifics of the Indian situation such as: (i) fiscal consolidation (ii) mandated inflation rate (iii) strengthening of financial system (iv) monitoring of attendant macro economic indicators (e.g. the exchange rate, the balance of payments and the adequacy of reserves) while determining the appropriate timing and sequencing of CAC. Within the financial system, reforms are aimed towards bringing about a level playing field between various participants in the financial system, removing market segmentation, uniform treatment of resident and non-resident liabilities for purposes of reserve requirements, improving risk management systems in the financial system, introduction of more stringent capital adequacy standards and prudential standards, effective supervisory system and greater autonomy for banks and financial institutions. The process of CAL needs to be embarked as part of overall economic reforms with proper assessment of the emerging economic scenario relating to international economic and financial architecture.

References

1. Bartolini, Leonardo and Allan Drazen (1997), "Capital Account Liberalisation as a Signal", *American Economic Review*, Vol.87 (March),
2. Dooley, Michael (1996), "A Survey of the Literature on Controls Over International Capital Transactions", *Staff Papers, IMF*, Vo.43 (December),
3. Eichengreen, Barry and Michael Mussa *et al.* (1998), "Capital Account Liberalisation : Theoretical and Practical Aspects", *IMF Occasional Paper.*
4. Quirk J. Peter and Owen Evans *et al.* (1995), "Capital Account Convertibility: Review of Experience and Implications for IMF Policies", *IMF Occasional Paper.*
5. Reddy, Y.V. (1999), " Managing Capital Flows", *Reserve Bank of India Bulletin*, January.
6. Report of the Committee on Capital Account Convertibility (1997), *Reserve Bank of India.*

liberalisation in the 'eighties has given way to a policy of full-fledged liberalisation of foreign investment regime since 1991. During the 'eighties, the emphasis on foreign investment had gradually shifted towards a more concerted policy initiative both for technological upgradation as well as generation of foreign exchange. Special incentives were devised to encourage investment from overseas corporate bodies (OCBs). In contrast, the ongoing measures taken since 1991 are focused towards a virtual elimination of the barriers to foreign investment and a growing market integration with the rest of the world in tune with the

broader macroeconomic objectives. The shift in the Indian policy is a part of the global phenomenon. As the World Investment Report[3] notes, the transnational corporations (TNCs) which were seen by the governments as a part of the 'development problem' barely two decades back are increasingly seen as a part of the solution. Policies have been oriented to shed not only the direct barriers to foreign direct investment but also the indirect barriers in the form of investor protection, differences in accounting standards, legal and regulatory structure. Similarly, foreign portfolio investment has been encouraged to bring down the cost of mobilising primary capital and boost the volume of domestic investment. The policy has also taken into account the role of portfolio investment in improving secondary market investor discipline by bringing in international practices that relate to corporate governance, payments and settlement, custodial services, registration facility, better information flows and a wider dissemination of information on economic fundamentals and the stance of macro economic policies.

In respect of approval procedures regarding foreign direct investment (FDI), a transparent framework is followed under which all sectors, except agriculture and plantation, have been opened with full repatriation benefits to foreign investors. The Reserve Bank provides automatic approval in the case of foreign direct investment up to 51 per cent equity in the case of 51 high priority sector industries and export/trading/ star trading houses; in 9 of the priority sector industries, the automatic approval limit has been extended to 74 per cent. The proposals involving higher equity participation are cleared by the SIA/FIPB. In the case of NRIs/OCBs, the equity limit for the priority sector industries can be extended up to 100 per cent. Wholly owned foreign subsidiaries are allowed in power sector, 100 per cent Export Oriented Units (EOUs), units in Free Trade Zones (FTZs) and Export Processing Zones (EPZs).

At present, portfolio investment in any of the listed companies of Indian stock exchanges / Over-the-Counter exchange can be made by foreign institutional investors (FIIs) as well as NRIs/OCBs, without any lock-in period for the remitting of the funds, subject to the condition that the aggregate holding of shares/debentures of the FIIs does not exceed 30 per cent of the voting equity capital of the company with the individual share of the FIIs not exceeding 10 per cent. FIIs are permitted to invest in unlisted shares as well as through private placement of domestic shares. These FIIs have also been permitted to invest in debt securities through 100 per cent debt funds. The taxation guidelines are transparent with the withholding tax of 20 per cent on the dividend income and a tax of 10 per cent and 30 per cent on long term and short term capital gains, respectively.

Management of NRI Deposits : Shift towards Rupee Denominated Deposits

Non-resident Indian (NRI) deposits have been a major source of external financing, especially since the mid-eighties. The two oil shocks which had shifted substantial resources towards oil exporting countries also provided investment opportunities in the oil rich countries as well as employment opportunities to outsiders. A large number of Indians too were attracted by these employment opportunities. Sensing the potential of surplus savings of the non-residents, the authorities devised specific deposit schemes to tap these savings. These deposit schemes can be put into two broad categories: (i) deposits denominated in Indian rupees and (ii) foreign currency denominated deposits.

A part of the increase in the NRI deposits during the 'eighties could be attributed to genuine savings of the Indians working abroad while the surge over the latter half of the 'eighties was partly due to interest rate differential over the prevailing international interest rates. At the same time, provision of foreign exchange guarantee by the Reserve Bank of India/Government of India provided incentives to non-residents to hold deposits mainly in the form of foreign currency denominated deposits. The external payments difficulties of 1990-91 demonstrated the vulnerability of these deposits. The policy concerns in the subsequent period have tried to overcome these weaknesses through withdrawal of the exchange-guaranteed FCNR(A) scheme and

3. World Investment Report (1999), *Foreign Direct Investment and the Challenge of Development*, UNCTAD.

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alignment of interest rates with international rates with de-emphasis on short-term deposits.

In the recent period, the policy with respect to non-resident deposit schemes has, therefore, been to retain the attractiveness of these schemes and maintain capital flows from abroad while at the same time bringing down the effective cost of borrowing in terms of interest outgo and the cost to macroeconomic management. In line with these objectives, while the Reserve Bank of India has gradually freed interest rates, reserve requirements have been fine-tuned in relation to the cycle in capital flows in order to modulate these flows consistent with the overall macroeconomic management.

Commercial Borrowings: Towards Transparency and Curtailing Short-term Debt

The policy on external commercial borrowings has been made transparent with gradual phasing out of end-use restrictions, except for investments in real estate and stock markets. As a part of prudent debt management, the approvals are subject to an overall ceiling with a policy preference in favour of infrastructure and export sectors. To elongate the maturity profile of the external debt, the policy favours long-term borrowings; for these purposes, borrowings with an original maturity of 8-year and above, although subject to approval, have been kept outside the overall ceiling. Similarly, the policy towards short-term credit has been to keep such exposures under strict control. Consequently, short-term credits are allowed only for the purposes of imports and are subject to an overall ceiling.

External Assistance: Disbursement Bottlenecks

During the period up to the early 'seventies, capital financing was dependent almost entirely on official aid reflecting policy aversion to foreign investment and commercial borrowings. While the concessionality associated with official flows was one of the reasons for the policy reliance on external assistance flows, the limitations on the use of these flows were highlighted over the course of the 'eighties. Disbursements started suffering on account of paucity of matching resources, delays involved in project appraisals and tender finalisation due to administrative bottlenecks, lack of cost related tariff structure for power, delays in land acquisition etc. *(Report of the High Level Committee on Balance of Payments, op cit).* External factors like reduction in overall aid flows in the world and entry of larger claimants (especially China) also limited scope for higher disbursements to India. At the same time, growing amortisation payments started putting pressure on net transfers and this in a way prompted, as noted above, recourse to alternative sources of external finance in the form of foreign investment and commercial borrowings.

In the context of the policy framework as outlined above and against the backdrop of the overall trends in global capital flows, the developments in capital and financial account of India's balance of payments are assessed in the following paragraphs.

Trends in Capital Flows to Developing Countries

The period since the 'eighties has been marked by a sharp increase in capital flows to developing countries aided in part by a gradual easing of capital controls and phenomenal growth in communication and information technology. While the official flows remained more or less stagnant, private capital flows – both direct and portfolio – have emerged as the principal source of finance for developing countries (Table IF.1). Foreign direct investment has become increasingly the most important source in the financing needs of developing countries and has supplanted relatively volatile portfolio equity flows in the recent period; for instance, foreign direct investment flows which formed only a quarter of net long-term resource flows to developing countries in 1990 more than doubled to 56 per cent in 1998. The capital flows to India mirror the shifts in global capital flows.

Capital Flows: The Indian Experience

With the opening of capital account to foreign investment and other policy developments in the form of stable macro environment, there has been a marked shift in the magnitude and instruments of capital flows into India during the 'nineties reflecting the growing investor confidence.

Table IF.1: Net Capital Flows to Developing Countries, 1990-98

(in US $ billion)

Year	Official Flows	Private Flows	International Capital Markets*	Foreign Direct Investment	Net Long term Resource Flows	Net Short term Flows
1990	56.9	43.9	19.4	24.5	100.8	—
1991	62.6	60.5	26.2	34.4	123.1	22.0
1992	54.0	98.3	52.2	46.1	152.3	37.6
1993	53.3	167.0	100.0	67.0	220.2	—
1994	45.5	178.1	89.6	88.5	223.6	—
1995	53.4	201.5	96.1	105.4	254.9	64.2
1996	32.2	275.9	149.5	126.4	308.1	30.7
1997	39.1	299.0	135.5	163.4	338.1	21.6
1998 P	47.9	227.1	72.1	155.0	275.0	10.2

* Includes bonds, notes and portfolio equity flows.

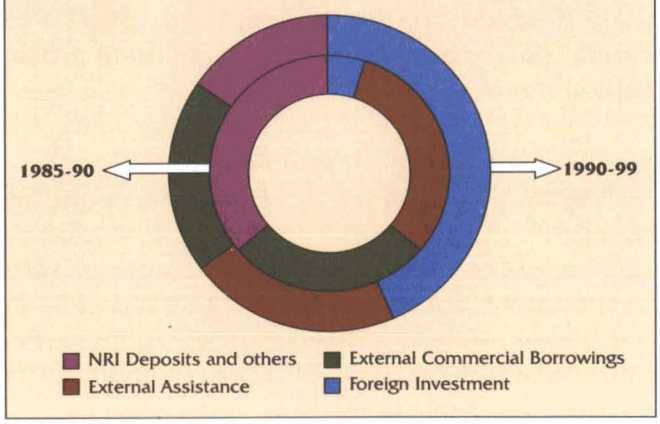
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Source: Global Development Finance, The World Bank (1999).

As a result, while net capital inflows have more than doubled from an average of US $ 4.0 billion during the 'eighties to an average of about US $ 8.7 billion in the 'nineties since 1993-94, the proportion of non-debt flows in total capital flows has risen from about 5 per cent in the latter half of the 'eighties to about 43 per cent during 1990-99 (Graph IF.7).

Cumulative foreign equity investment since 1990-91 has risen to US $ 29 billion – an increase of almost ten folds over the outstanding stock of 1990. While portfolio flows were the main source of foreign investment in the initial period, direct investment flows have also picked up and turned out to be more stable. For instance, FDI inflows have averaged about US $ 2.9 billion in the recent period during 1996-99 as against US $ 1.7 billion of portfolio flows.

Graph IF.7 : Composition of Net Capital Flows in India



Reflecting the policy framework, flows under NRI deposits have been relatively stable in the period since 1991-92. The balances under NRI deposits have increased from US $ 14 billion at end-March 1991 to US $ 21.3 billion at end-March 1999. A positive development has been the decline in the proportion of foreign currency denominated deposits from a high of 78 per cent at end-March 1992 to less than 40 per cent of total NRI deposits at end-March 1999. Another significant development has been the increasing share of the non-repatriable rupee deposits which has positive implications for the foreign exchange markets; at end-March 1999, deposits under the non-repatriable NR(NR)RD scheme formed about one-third of total NRI deposits and more than half of rupee denominated deposits.

Amongst other debt creating flows, while external assistance has declined in importance (from 32 per cent of net capital flows in the second half of the 'eighties to a little less than 10 per cent in the recent 3-year period 1996-99) reflecting mainly growing amortisation payments in the face of sluggish/declining disbursements and also the availability of alternative sources of external financing, the share of external commercial borrowings in total capital flows has increased from about 26 per cent to 38 per cent over the same period. The shift in emphasis from debt to non-debt flows has helped to contain the debt service ratio; it also highlights the importance of monitoring of liability service ratio rather than the traditional servicing of debt liabilities only. Even by this wider criterion, external servicing, as noted earlier, reveals a declining trend in the 'nineties (Graph IF.6). As the current account deficit during the period has remained moderate, the higher level of capital flows has translated into accretion of foreign exchange reserves.

An assessment of the evolution of capital flows over the 'nineties reveals that policies on control of short-term debt flows and the recourse to foreign investment inflows has strengthened and imparted stability to India's capital account. At the same time,

strong inflows under foreign investment notwithstanding, the potential to attract higher flows exists. For instance, according to the World Investment Report (1999), India' share in net foreign direct investment received by developing countries was only 1.2 per cent in 1998 (although it was a little higher at 1.8 per cent in 1997); at this level, India ranked 13th amongst emerging market economies with the top six recipients in 1998 being China (US $ 45 billion), Brazil (US $ 29 billion), Mexico (US $ 10 billion), Thailand (US $ 7 billion), Argentina (US $ 6 billion) and Korea (US $ 5 billion) (Table IF.2). In regard to inflows under NRI deposits, the large quantum of deposit liabilities and continuation of such inflows has brought to the fore various issues relating to the costs and benefits of these special deposit schemes. Furthermore, capital flows in excess of current account deficits have also raised issues relating to macro-economic management such as their impact on the conduct of monetary policy and on inflation control.

Table IF.2: FDI Flows to Developing Countries

(in US $ million)

	1998	1997
1 China	45,460 (24.8)	44,236 (23.2)
2 Brazil	28,718 (15.7)	18,745 (9.8)
3 Mexico	10,238 (5.6)	12,831 (6.7)
4 Thailand	6,969 (3.8)	3,733 (2.0)
5 Argentina	5,697 (3.1)	8,094 (4.2)
6 Korea	5,143 (2.8)	2,844 (1.5)
7 Poland	5,129 (2.8)	4,908 (2.6)
8 Chile	4,792 (2.6)	5,417 (2.8)
9 Venezuela	3,737 (2.0)	5,087 (2.7)
10 Malaysia	3,727 (2.0)	5,106 (2.7)
11 Colombia	2,983 (1.6)	5,701 (3.0)
12 Czech Republic	2,540 (1.4)	1,301 (0.7)
13 India	2,258 (1.2)	3,351 (1.8)
All Developing Countries	**183,449**	**191,065**

Note: Figures in the parenthesis represent the percentage share to total flows into developing countries.

Source: World Investment Report, 1999, UNCTAD.

External Debt: Towards Consolidation

One of the important structural changes in the external sector as a consequence of external sector reforms has been the consolidation of India's external debt over the 'nineties.

The various measures discussed earlier in the Chapter have helped to keep the country's external debt well within the sustainable level. While the absolute magnitude has increased from US $ 75.9 billion at end-March 1991 to US $ 98.2 billion at end-March 1999 (Graph IF.6), the external debt-GDP ratio, which is a measure of an economy's debt servicing capability, has been on a declining trend: from a peak of 41.0 per cent in March 1992 to 23.7 per cent in March 1999. Coupled with an increase in current receipts, the debt service ratio has declined from a peak of 35.3 per cent in 1990-91 to 18 per cent in 1998-99. The cautious approach to short-term debt is reflected in short-term debt at end-March 1999 (US $ 4.3 billion) being almost one half of its March 1991 level (US $ 8.5 billion). As a proportion of the country's foreign exchange reserves, short-term debt was barely 13.3 per cent at end-March 1999 as compared with 189.3 per cent at end-March 1990.

Reflective of the falling share of external assistance and the changed context of policy on ECBs, the share of government's external debt in total external debt has declined continuously from 60.7 per cent at end-March 1993 to reach 47.5 per cent at end-March 1999. Concessional debt has consequently declined from 46.7 per cent of total debt at end-March 1990 to 37.9 per cent at end-March 1999.

Reserve Management

While changes in exchange rate and other macroeconomic policies correct fundamental imbalances in the external sector, foreign exchange reserves are generally deployed to resist speculative attacks on currency unrelated to fundamentals. Reserves, therefore, provide a source of comfort to the authorities as well as the external investors by providing a cushion for short term demand-supply mismatches in the foreign exchange market (Box IF.3).

Box IF.3: Effectiveness of Foreign Exchange Intervention

Exchange market intervention can be defined as a sale or a purchase of foreign currency by monetary authorities with the aim of changing the exchange rate of their own currency vis-à-vis one or more currencies. Intervention can be either sterilised, i.e. the monetary effects are neutralized by offsetting domestic liquidity measures or non-sterilised. Interventions can similarly be either co-ordinated i.e. central banks of different countries intervening in the same direction, or unilateral. Moreover, these interventions can be both in the spot market and the forward market.

Following the collapse of the Bretton Woods regime in the 'seventies, a number of countries switched to flexible exchange rate system. However, given sharp fluctuations in exchange rates and persistent deviations of market exchange rates from (howsoever defined) equilibrium exchange rates, an overwhelming number of countries which switched to a flexible regime have followed a managed exchange rate system. An implication of this has been that central banks world over typically intervene in the foreign exchange markets to minimise deviations from some sort of target based on fundamental factors, although targets are rarely revealed to the public. Alternatively, a simple rule wherein past exchange rates, when considered to be at a desirable level, could form the basis of a target level. An assumption here is that central banks fight only a fundamental misalignment, although *ex-ante* it may be difficult to distinguish the nature of misalignment. In the case of developing countries, where the markets are thin and narrow, central bank's "leaning against the wind" intervention policy is to bring about orderly market conditions by countering erratic fluctuations.

The literature on intervention essentially focusses on the efficacy of sterilised intervention (or what is also called 'pure' intervention). Sterilised intervention can have impact on the exchange rate through three possible channels: (i) *portfolio balance channel*, whereby market interventions alter the investors' portfolios of domestic and foreign securities. Since these securities are imperfect substitutes, a change in the risk premium occurs which induces a corresponding change in the exchange rate, (ii) *market-efficiency channel* wherein the central bank can focus the attention of the public on neglected information that is germane to exchange rate determination, and (iii) *superior-information channel* or expectations channel whereby the central bank could influence the exchange rate by providing the market with new information or signal the future course of exchange rate or of monetary policy.

The general empirical consensus is that, given the very small size of intervention volumes to global asset supplies, portfolio effects are either absent or too small and uncertain to be effective in the long-run. However, although sterilised intervention is not an important determinant of exchange rate, it could be effective if signals sent by intervention are backed by prompt adjustment of monetary policies. At best, interventions could be considered a second-best policy instrument that should be narrowly focused on maintaining orderly market conditions to contain excessive fluctuations in the forward rates.

In the Indian context, the Reserve Bank's market intervention broadly follows this principle. Accordingly, the Reserve Bank's intervention is to be viewed as ensuring orderly market conditions in view of homogeneous expectations emerging from narrow and thin foreign exchange markets while allowing market forces sufficient flexibility to determine exchange rate in alignment with fundamentals (Graph IF.10). Typically, reserve losses arising out of intervention sales have been fully recouped in subsequent repurchases as nervousness gave away and confidence returned to the markets. This is reflected in the accretion of foreign currency assets over the period which have increased 5-fold from US $ 6.4 billion at end-March 1993 to US $ 30.6 billion at end-June 1999.

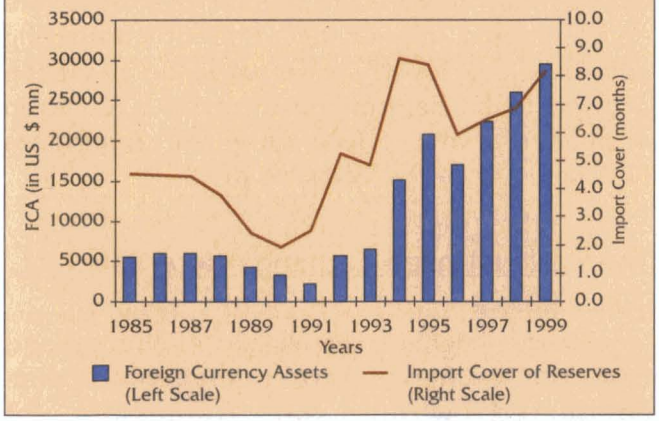
References

1. Eijffinger, C.W. Sylvester (1998) (ed.) *Foreign Exchange Intervention: Objectives and Effectiveness,* Edward Elgar Publishing Ltd.
2. Obstfeld, Maurice (1990), "Effectiveness of Foreign Exchange Intervention, 1985-88," in *International Policy Co-ordination and Exchange Rate Fluctuations* (ed.: Jacob Frenkel), University of Chicago, Chicago.
3. Edison, Hali J. (1993), *The Effectiveness of Central Bank Intervention: A Survey of the Literature after 1982,* Princeton Special Paper in International Economics, No. 18, July.

Trends in Foreign Exchange Reserves

India's foreign exchange reserves comprise foreign currency assets of the Reserve Bank of India, gold held by the Reserve Bank of India and SDRs held by the Government of India. Reflecting the widening current account deficit (CAD) over the second half of 'eighties, the foreign currency assets of the Reserve Bank declined from US $ 5.5 billion at end-March 1985 to US $ 2.2 billion at end-March 1991 and fell to an all-time low of US $ 975 million on July 12, 1991. The precariousness of the reserve level is brought out more significantly as the import cover of foreign currency assets fell from 4.2 months at end-March 1985 to a mere 1.1 months at end-March 1991 and barely to a fortnight during July 1991. With the onset of structural reforms, as investors' confidence returned, the overall balance of payments has been in surplus since 1993-94 (excepting in 1995-96) which is reflected in accretion to foreign currency assets to US$ 30.6 billion at end-June 1999 or an import cover of almost eight months (Graph IF.8).

Graph IF.8 : Foreign Currency Assets and Import Cover



Foreign Exchange Reserves: Indicators of Adequacy

An important consideration in the management of foreign exchange reserves is the adequacy of reserves which is contingent on a number of factors, in particular, the openness of the economy. For an economy with restrictions on capital account flows, the level and volatility of current receipts and payments, leads and lags in exports and imports and debt service payments would govern the adequacy of reserves. On the other hand, for an economy where capital account movements, for instance, portfolio investment, are relatively high, level of short term debt liabilities and composition of capital inflows would overshadow the conventional adequacy measures. In a market determined exchange rate system, the reserve management strategy primarily reflects the need for interventions to ensure orderly conditions in the market.

As acquisition of foreign exchange reserves by the central bank is intrinsically linked to the money supply process, domestic monetary management and maintenance of price stability necessitate maintaining an appropriate balance between the costs and benefits of holding foreign exchange reserves. For instance, in the latter half of the 'eighties, the net foreign exchange assets (NFEA) of the Reserve Bank contributed, on an average, 12 per cent of the increase in reserve money; on the other hand, in the 'nineties (1992-99) so far, the whole of the increase in reserve money can be attributed to increases in NFEA. While a very large level of foreign exchange reserves may be reassuring for the market, it has associated costs. First, the central bank incurs an explicit cost on account of the difference in the rate of return on holding such foreign assets against holding domestic assets. Second, the implicit cost to the economy arises in the form of inflationary potential of reserve accretion on the money supply in the face of incomplete sterilisation. Foreign exchange reserves adequacy is, therefore, essentially a trade-off between benefits arising out of precautionary demand of the economy as against its cost of holding.

In the Indian context, the Report of the Committee on Capital Account Convertibility (CAC) proposed four comprehensive indicators to be used for evaluating the adequacy of foreign exchange reserves: (i) cover for at least six months of imports, (ii) at least three months import cover plus half of annual debt service payments plus one month's imports and exports to take into account the possibilities of leads and lags, (iii) the short term debt and portfolio stock to be no more than 60 per cent of the level of reserves, and (iv) net foreign exchange assets to currency in circulation to be maintained around 70 per cent with a minimum of 40 per cent. As at end-March 1999, the foreign exchange reserves generally satisfy these criteria (Table IF.3 and Graph IF.9).

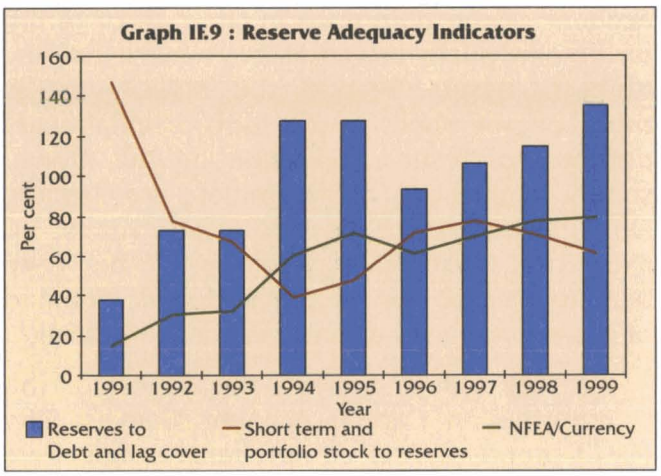
Table IF.3: Reserve Adequacy Criteria

Year	Import cover (in months)	Debt and lag cover (in per cent)	Short term and port-folio cover (as per cent of reserves)	NFEA / Currency ratio
1991	2.5	38.0	146.6	14.4
1992	5.3	72.8	76.8	29.6
1993	4.9	72.8	67.1	32.0
1994	8.6	127.5	38.7	60.2
1995	8.4	127.8	47.3	71.4
1996	6.0	93.2	71.1	60.4
1997	6.5	105.7	77.3	69.1
1998	6.9	114.6	70.1	76.8
1999	8.2	135.0	60.9	78.5
Desired Level @	*> 6*	*> 100*	*< 60*	*>=40*

@ : Based on the Report of the Committee on Capital Account Convertibility.

Note : 'Debt and lag cover' is the ratio of foreign exchange reserves to the sum of three months of imports plus half of annual debt service payments plus one month's imports and exports to account for leads and lags.

The Reserve Bank intervenes in both spot and forward segments of the exchange market but it ensures that the outstanding forward



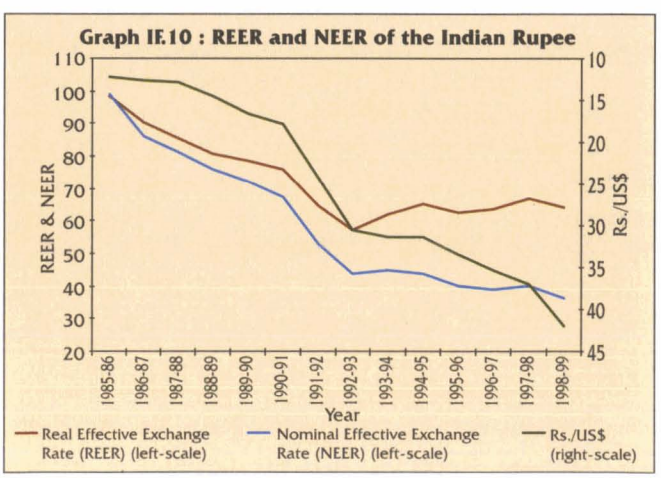
liabilities at any point of time are maintained at a reasonable proportion of the total stock of foreign currency assets. In fact, in an effort to make its operations transparent, the Reserve Bank publishes its outstanding forward liabilities on a monthly basis. The reserve assets are deployed in highly liquid and safe instruments keeping in view the overall objective of risk minimisation and consideration of liquidity. The reserves management strategy reflects the concerns as detailed above in Box IF.3 and is closely linked to the exchange rate policy.

Exchange Rate Management

India's exchange rate policy has evolved in tandem with international and domestic developments. The period after independence was followed by a fixed exchange rate regime where the Indian rupee was pegged to the Pound Sterling on account of historic links with Britain and this was in line with the Bretton Woods system prevailing at that time. With the breakdown of the Bretton Woods system in the early 'seventies and the consequent switch towards a system of managed exchange rates, and with the declining share of the United Kingdom in India's trade, the Indian rupee, effective September 1975, was delinked from the Pound Sterling in order to overcome the weaknesses of pegging to a single currency. The exchange rate subsequently came to be determined with reference to the daily exchange rate movements of an undisclosed basket of currencies of the countries which were India's major trading partners, with the basket composition being at the discretion of the Reserve Bank subject to approval of the Government of India. As the basket-linked management of the exchange rate of the rupee did not fully capture the market dynamics and developments in exchange rate of competing countries, the rupee's external value has been allowed to be determined by market forces in a phased manner following the payments difficulties since the early 'nineties.

The Basket-Linked Exchange Rate Policy of the 'Eighties

In the 'eighties, especially in the second half, the exchange rate management was conducted within the framework of macroeconomic policies for the external sector as the exchange rate began to be actively used as a policy instrument to achieve a sustainable current account deficit by ensuring improvements in the price competitiveness of exports. The active use of exchange rate is reflected in trends in nominal and real effective exchange rates. In contrast to a cumulative appreciation of about 7 per cent in the nominal effective exchange rate (NEER) of the Indian rupee (on the basis of 36-country export-based weights) over the seven-year period ending 1982-83, the NEER depreciated by about 38 per cent during 1983-91 (or, about 5 per cent per annum on an average). More importantly, the real effective exchange rate (REER) depreciated by 28 per cent in the latter period, significantly higher than that of 5 per cent in the former period (Graph IF.10). This order of real depreciation notwithstanding, it was recognised that both domestic macroeconomic policy and structural factors had contributed to a misalignment in exchange rate in the latter half of the 'eighties. Competitive devaluations by India's competitors had aggravated the



misalignment; for instance, over the period 1980-89, the depreciation *vis-à-vis* the US dollar of the Chinese currency (68 per cent) exceeded that of the Indian rupee (53 per cent) even as the inflation rate in the former (100 per cent) was lower than that in the latter (114 per cent) (Rangarajan, 1991).[4]

While exports recorded a higher growth rate in the second half of the 'eighties, the current account deficit nonetheless widened driven by internal imbalances and exchange rate misalignment. The external sector weaknesses, as detailed earlier, were exposed by the Gulf crisis of 1990 as the current account deficit widened to 3.2 per cent of GDP in 1990-91. Furthermore, as investors tried to avoid capital losses in the expectation of a depreciation, capital outflows occurred in the form of withdrawal of NRI deposits. In order to counter massive drawdown in the foreign exchange reserve losses and to instill confidence in the investors as also to improve domestic competitiveness, the Reserve Bank effected two sharp downward exchange rate adjustments, in early July 1991 (July 1 and 3), of the order of 18-19 per cent in the external value of the rupee (Rangarajan, *op cit*) (Box IF.4). The depreciation of the rupee, however, was not an isolated event; it was an integral part of an overall structural and stabilisation programme to reform India's external policies.

Exchange Rate Policy in the 'Nineties : Transition to Market Determined Exchange Rate

While the sharp downward adjustments of July 1991 corrected the misalignment, it provided necessary impetus for allowing greater exchange rate flexibility. It was felt that small and frequent movements in the exchange rate that would be signalled by market forces would be a better alternative to discrete, large and delayed corrections necessitated by a basket-pegged regime. The exchange rate policy of India in the nineties reflected this fundamental shift in consonance with the institution of structural reforms and the evolution of the economy towards greater openness and integration with the world economy. Moreover, the opening up of the economy to capital inflows necessitated a flexible exchange rate regime (Box IF.5). The exchange rate regime thereby transited from a basket-linked managed float to market based system in March 1993 via a transitional phase of dual exchange rate between March 1992 and February 1993.

The transition to the market based system was sequenced on the basis of the Interim Report of the High Level Committee on Balance of Payments (Chairman: Dr. C.Rangarajan). The committee had recommended a dual exchange rate system to start with which could over time graduate to a fully convertible market determined exchange rate. Accordingly, in March 1992, India adopted a dual exchange rate system known as the Liberalised Exchange Rate Management Systems (LERMS). Under this system, 40 per cent of the current receipts were required to be surrendered to the Reserve Bank at the official exchange rate while the rest 60 per cent were converted at the market exchange rate. The 40 per cent portion was utilised to meet the essential imports at a lower cost. As the experience with the dual exchange rate system in terms of market volatility was satisfactory (the difference between the official rate and market rate hovered around 17 per cent), the final step towards a unified market determined exchange rate system was taken in March 1993.

As a part of the reform process, restrictions on current account transactions were relaxed in a phased manner. Authorised Dealers (ADs) were allowed to provide foreign exchange for effecting current payments up to specified indicative limits, beyond which foreign exchange could be obtained for bonafide current payments after making a reference to the Reserve Bank. The process culminated in Current Account Convertibility of the Rupee on August 20, 1994 as India accepted obligations under Article VIII of the IMF's Articles of Agreements.

In the past six years since the introduction of the market based exchange rate system, the country has had a variety of episodes of long periods of excessive inflows putting an upward pressure on the exchange rate followed by short

4. Rangarajan, C. (1991), "Recent Exchange Rate Adjustments: Causes and Consequences", *Reserve Bank of India Bulletin* (September).

Box IF.4: Exchange Rate: An Indicator of Competitiveness

An important aspect of the exchange rate is its role in determining a country's external competitiveness. This, therefore, requires an assessment of the appropriateness of the current exchange rate. Two alternative approaches, *viz.*, purchasing power parity (PPP) principle and the macroeconomic balance framework are available in the literature to answer this question.

The first approach is based on the concept of the relative version of PPP principle which predicts that changes in nominal exchange rate should equal the differential between domestic and foreign inflation rates on an equivalent basket of goods. An implication of this approach is a constant long-run real exchange rate. In a world of multiple exchange rates, the concept of PPP is operationalised by calculating appropriately weighted real effective exchange rates (REER). Although short-run PPP is strongly rejected by data (empirical evidence on the validity of long-run PPP is though mixed), movements in REER have nonetheless been widely used as an indicator of the appropriateness of the exchange rate as well as its competitiveness. While the short-run deviations of exchange rates from their PPP rates are on account of 'hysteresis' effects due to adjustment costs and nominal price rigidities that arise due to differential speeds of adjustment in goods and financial markets, long-run deviations occur due to goods being imperfect substitutes and structural changes (for instance, productivity differential between traded and non-traded goods sectors noted by Balassa-Samuelson) in demand as well as technology. As there is no unanimity on an appropriate price deflator (whether export unit prices, GDP deflators, wholesale prices, consumer prices, unit labour costs etc.), the measured REER indices could be highly susceptible to the used index; this divergence in various measures of REER is clearly seen, for instance, in the case of Japan. Thus, although a trade-weighted REER index is generally used as an indicator of competitiveness, it does not capture dynamic changes in competitiveness emanating from changes in productivity growth, terms of trade, tariff and non-tariff reforms, interest rate differences and the pace and the depth of financial sector reforms across countries. Despite the above and other limitations, *viz.* selecting the number of trade competitor countries or choice of currencies, the weighting principle, the base period, etc., the REER has emerged as an important tool in tracking the trade competitiveness of a country (see Macejewski, 1983, Joshi 1984). By its construct, the REER does not pay adequate attention to capital mobility. Hence, a rigid adherence to a REER-rule would be impracticable, particularly in the context of an open capital account. Accordingly, the REER is normally viewed in conjunction with other forward looking indicators in judging the country's external competitiveness/overvaluation.

The second approach to assessing the appropriateness/ competitiveness is the macroeconomic balance framework (also called the fundamental equilibrium exchange rate (FEER) or desired equilibrium exchange rate (DEER)) that determines the exchange rate consistent with internal as well as external balance over the medium term. This school of thought, therefore, implicitly assumes that market exchange rates can be misaligned in practice and hence focuses on the need to quantify equilibrium levels although it is possible that the so-called misalignment in exchange rate could in fact be reflective of inappropriate policies. In a way, the macroeconomic balance approach complements the PPP-based REER approach by estimating reasonable ranges for real exchange rates from a medium term perspective. This approach recognises that deviation of exchange rates from their equilibrium rates could be reflective of cycles in economic activity across countries. While earlier applications of this approach attempted to find out the equilibrium rate as would be consistent with an external balance where current account balance was equated with *ad hoc* level of underlying normal capital account flows, recent approaches rely on models of equilibrium saving-investment balance by stressing on the national income accounting identity linking the current account to saving and investment. The recent approach examines as to whether the existing current account balance at existing real exchange rates is consistent with model-determined equilibrium saving-investment balances; the equilibrium exchange rate is then defined as the rate which equilibrates the underlying current account balance with the current account balance emerging from equilibrium saving-investment balances. Given the sensitivity of the entire methodology, the primary motivation behind this approach is to look for cases of badly misaligned exchange rates (roughly defined to be deviations of more than 15 per cent) rather than prescribing 'right' exchange rates.

Both the FEER approach and the REER approach as indicators of competitiveness are based on the assumption that the Marshall-Lerner (ML) condition is satisfied. The ML condition states that the sum of price elasticities of demand for exports and imports (measured in a common currency) should exceed unity. Empirical evidence indicates that the size of price elasticities is sufficient to generate the required correction in trade balance.

In the Indian context, available studies too support this condition with relative prices affecting trade flows in the predicted direction though with a lag. Furthermore, an initial adverse impact – the J-curve phenomenon – is also indicated since the long-run elasticities are significantly higher than the short-run elasticities. While the lagged impact of REER appreciation on export growth is evident (Graph IF.13), it needs to be pointed out that exchange rate is one of the factors governing the trade performance. Other factors like external demand, domestic demand and domestic infrastructure are equally important determinants of trade performance.

References

1. Isard, Peter and Hamid Faruqee, "Exchange Rate Assessment: Extensions of the Macroeconomic Balance Approach", *IMF Occasional Paper*, 167, 1998.

2. Joshi, Vijay, "The Nominal and Real Effective Exchange Rate of the Indian Rupee", *RBI Occasional Paper*, 5(1), June, 1984.

3. Macejewski, E B, "Real Effective Exchange Rate Indices: A Re-Examination of Major Conceptual and Methodological Issues", *IMF Staff Papers*, 30(3), September, 1983.

4. Wren-Lewis, Simon and Rebecca L Driver, *Real Exchange Rates for the Year 2000*, Institute for International Economics, May, 1998.

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Box IF.5: Appropriate Exchange Rate Regime: Lessons from East Asia

Recent changes in global international financial markets characterised by greater mobility and volatility of capital flows as evidenced by the turmoil in East Asia and Latin America have once again brought to the fore the issue of choice of an appropriate exchange rate regime, particularly in developing countries.

A choice between alternative exchange rate regimes could be based on alternative criteria. One important criterion could be the regime effect on key macroeconomic indicators. At the theoretical level, an ambiguous relationship exists between exchange rate regime and macroeconomic performance because of many off-setting and reinforcing links. Although empirically fixed exchange rate regime is associated with low inflation both on account of lower money supply growth (monetary discipline) and higher money demand/slower 'residual' velocity on account of lower uncertainty (credibility effect), the causation is subject to dispute. On the other hand, research indicates that determinants of growth, *viz.*, investment and trade, behave in off-setting manner under a pegged regime; pegged regimes, on balance, therefore, are associated with a lower, *albeit* only marginal, output growth and higher volatility. However, if one follows a more disaggregated approach to an exchange rate regime, evidence can be found for pure float regimes having lower inflation bias than that of single currency pegs. Similarly, difference in growth rates across regimes has been primarily on account of differences among poorer economies with no significant differences across regimes for high growth economies. Thus, differences in macroeconomic performance across exchange rate regimes are rather nebulous as the exchange rate regime itself could be endogenous. On the other hand, a fixed exchange rate, or even a flexible regime but with an *ex-ante* predictable depreciation provides an incentive to economic agents to go for excessive and unhedged foreign currency loans, in particular, short-term which could be damaging to medium- and long-run stability of the economy.

Country-specific factors could also determine the choice of a regime. Drawing from the literature on optimum currency area, fixed exchange rate regimes are more appropriate for smaller open economies with a higher degree of commodity diversification as they can reconcile internal and external balances more efficiently than flexible exchange rates. Diversification makes the country less vulnerable to terms of trade and other shocks and such a country does not need frequent changes in relative prices via the exchange rate. On the other hand, countries excessively dependent on a few commodities may need flexible exchange rates so as to effectively respond to changes in world prices, spreading thereby the spillover effect to other sectors of the economy.

Recent experience suggests that the extent of the openness of capital account could be a significant factor in the choice of exchange rate regimes. The level of foreign exchange reserves of the country in relation to its short-term liabilities could have a crucial bearing on the maintenance of an exchange rate regime. Without adequate reserves, the monetary authorities may not be able to defend an exchange rate peg unless monetary policy is clearly subordinated to the exchange rate objective by allowing interest rate to increase in the face of downward pressure on the domestic currency. The Asian crisis revealed that currency board systems and completely flexible exchange rates are appropriate alternative approaches to exchange rate policy in an open financial system. However, currency board systems are generally recommended as transitional arrangements for countries lacking credibility. Accordingly, an important lesson emerging out of Asian crisis relates to a growing consensus in favour of more flexibility, not necessarily a free float, in the exchange rate regime supported by strengthening of the financial sector and consistent and credible macro economic policies in the form of a sustainable current account deficit, fiscal prudence and a monetary policy committed to low inflation.

In brief, the choice of exchange rate regime is a complex issue and depends on specific circumstances to individual countries, *i.e.*, the structure of the economy, its inflationary history, the degree of vulnerability to shocks, the extent of trade diversification, the degree of capital account liberalisation and exposure to global capital markets [Aghevli (1991), Eichengreen *et al.*, 1998]. Although an important criterion on the appropriate exchange rate regime would be its expected performance on an average in the long-run, nonetheless, it is recognised that no exchange rate regime is optimal for any country in all circumstances and conditions. Therefore, while a regime transition from a fixed to a more flexible one would be successful and easier at normal times, the regime transition at times of speculative attack, although difficult, could be made smoother by strengthening macroeconomic policies and financial sector reforms. At the same time, regime changes have also been accompanied by surges in capital flows that impose upward pressures on the real exchange rate. This requires that the central bank should be equipped with adequate instruments and functional autonomy to regulate capital flows in relation to the economy's absorptive capacity. Moreover, there is merit in not offering speculators a target by refusing to defend any particular exchange rate, nominal or real.

The Indian approach to exchange rate regime reflects these concerns. The objective of exchange rate management has been to ensure that the external value of the rupee is realistic and credible as evidenced by a sustainable current account deficit and manageable foreign exchange situation. Subject to this predominant objective, the exchange rate policy is guided by the need to reduce excess volatility, prevent the emergence of destabilising speculative activities, help maintain adequate level of reserves, and develop an orderly foreign exchange market. In order to even out lumpy demand and supply in the relatively thin forex market and to smoothen jerky movements, the Reserve Bank makes sales and purchases of foreign currency. However, such intervention is not governed by a predetermined target or band around the exchange rate (Jalan, 1999).

References:

1. Aghevli, Bijan B, Mohsin S Khan, and Peter J Montiel, "Exchange Rate Policy in Developing Countries: Some Analytical Issues", *IMF Occasional Paper*, 78, 1991.

2. Eichengreen, Barry, *et al.*, "Exit Strategies: Policy Options for Countries Seeking Greater Exchange Rate Flexibility", *IMF Occasional Paper*, 168, 1998.

3. Ghosh, Atish R., *et al.*, "Does the Nominal Exchange Rate Regime Matter?", *NBER Woking Paper*, No.5874, January, 1997.

4. Jalan, Bimal, "International Financial Architecture : Developing Countries' Perspective", *Reserve Bank of India Bulletin*, October, 1999.

spells of drying up of capital flows and the consequent speculative pressures necessitating correction in the exchange rate. The exchange market developments in terms of variations in demand and supply were allowed to be reflected in the behaviour of the exchange rate in line with the stance of exchange rate management policy to ensure orderly market conditions and to prevent sudden and disruptive changes in the exchange rate. While large inflows of foreign capital in excess of the absorptive capacity of the economy put upward pressures on the exchange rate, the monetary expansion resulting from the intervention purchases tends to exert upward pressure on domestic price levels. In either case, the competitiveness of exports would be open to question. In an increasingly open capital account, however, the price competitiveness of exports arising out of the exchange rate movements can not be the sole criterion of exchange rate management. The Reserve Bank's intervention, therefore, needs to be viewed against this perspective. The Reserve Bank has intervened in the market both ways through sales and purchases, both spot and forward, to signal the strength of the fundamentals and to ensure that market correction for overvaluation of the exchange rate was orderly and calibrated (Box IF.3). Exchange market interventions have been supported with monetary measures to curtail speculative activities and to correct demand-supply mismatches. These measures include operating on levers of cash reserve requirements (CRR) and short-term interest rates such as the Bank Rate and repo rates. Apart from operating on monetary instruments, discretionary changes in export credit rates and the interest rate surcharge on import finance were resorted to under exceptional circumstances.

The Reserve Bank's intervention has also to be seen in the context of limited and narrow market. Accordingly, efforts have been made to enhance the depth of the market by providing flexibility to market operators. The market was deepened by introduction of interest rate swaps, currency swaps and forward rate agreements for the ADs to hedge their asset-liability portfolio and enhance the foreign exchange turnover. ADs were also permitted to provide forward cover to FIIs in respect of their fresh investments in India in equity. Furthermore, aggregate gap limits and open position of ADs have been freed of quantitative ceilings and have been related to capital, risk taking capacity, balance sheet size and other relevant parameters.

Exchange Rate Developments in Recent Years

Against this background, exchange rate developments in recent years are discussed in the following paragraphs. Reflecting the investor confidence in the Indian economy and robust export growth, the Indian economy experienced surges of capital inflows during 1993-94, 1994-95 and the first half of 1995-96, which imposed upward pressures on the exchange rate. In the face of these inflows, the Reserve Bank intervened in the market by purchasing excess supplies of foreign exchange. In the process, while the nominal exchange of the rupee *vis-a-vis* US dollar remained virtually unchanged at around Rs. 31.37 per US dollar over the extended period March 1993-August 1995, the cross-currency movements and the inflation differential had resulted in an appreciation of 36-country export-based REER index by 10.7 per cent in August 1995 (over its March 1993 level). This order of appreciation induced a market correction over the second half of 1995-96; with a view to ensuring orderly conditions in the foreign exchange market, the Reserve Bank made tactical intervention sales although simultaneously letting the market forces operate to a level consistent with the fundamentals. With the restoration of normalcy in the market, there was a resumption of capital flows in 1996-97, continuing into early parts of 1997-98 when the contagion of the East Asian crises was felt.

By August 1997, the export based REER had appreciated by almost 14 per cent over its March 1993 level. The extent of appreciation coupled with nervous reactions to the possible spillover of the East Asian crisis induced a correction in the exchange rate in stages. While allowing market corrections, orderly conditions were ensured through appropriate monetary measures in December 1997 and January 1998. The positive response of exchange market to these measures enabled rolling-back of tight monetary measures. The appreciation of REER was also reduced to about 9 per cent (on 36-country

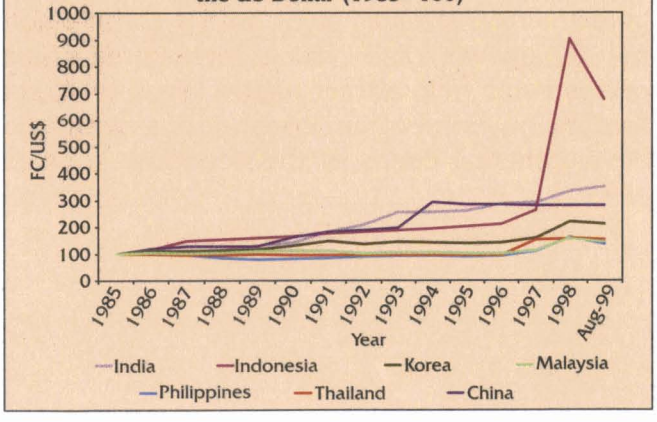
index) and 6 per cent (on 5-country index) by December 1997 as compared with 14 per cent (on 36 country index) during August 1997.

In this context, it may be noted that the appreciation of the domestic currency as reflected in the 36-country REER index is higher in comparison with the 5-country index because the 36-country index includes currencies of the crisis hit South-East Asian economies which have experienced a higher order of depreciation. It may be pertinent to note that the movements in nominal exchange rates of these countries and that of China and India *vis-à-vis* the US dollar indicate that, with 1985 as the base period, the Indian rupee seems to have retained its relative position against the crisis affected countries (except for Indonesia, which clearly is an outlier) (Graph IF.11). Due to the unusual conditions in some of these countries and the wide spread disruptions in their banking and trading sectors, the 5-country index has performed well (Graph IF.12).

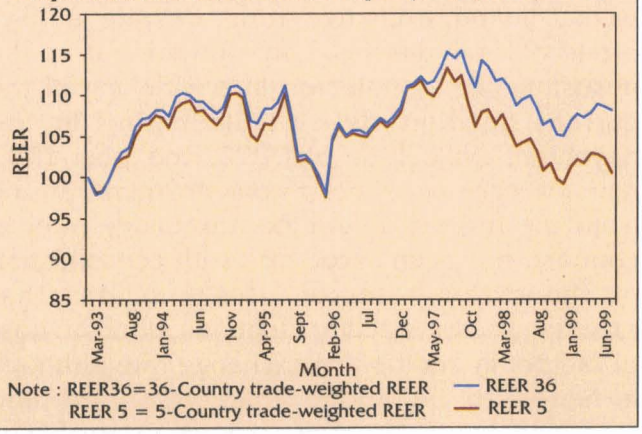
Reflecting the impact of economic sanctions, the exchange rate depreciated to Rs 42.38 per US dollar in the second week of June (i.e., on June 11, 1998). In order to arrest volatility and restore orderly market condition in the forex market, the Reserve Bank announced a set of monetary and related policy measures on June 11, 1998.

The deepening of the Russian financial turmoil and the fear of Chinese renminbi devaluation exacerbated the turbulence in the foreign exchange market and further weakened the rupee. The monetary measures undertaken by the Reserve Bank on August 20, 1998

Graph IF.11: Exchange Rate of Asian Currencies vis-a-vis the US Dollar (1985=100)



Graph IF.12: REER of the Indian Rupee (March 1993=100)



Note : REER36=36-Country trade-weighted REER
REER 5 = 5-Country trade-weighted REER

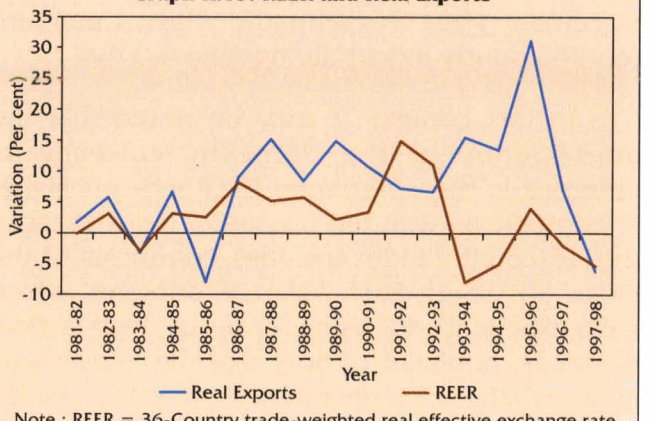
coupled with the success of Resurgent India Bonds induced confidence in the rupee. The Rupee consequently traded around the level of Rs.42.73 per US dollar till April 1999 reflecting an appreciation of less than 2 per cent (5-country index) over its March 1993 level. In response to political uncertainty, nervous reactions pushed the exchange rate down during June 1999 to Rs. 43.39 per US dollar as on June 25, 1999. With the Reserve Bank reiterating its policy stance of meeting temporary demand-supply gaps to maintain orderly conditions in the market, the rupee recovered. As the demand-supply mismatch resurfaced in August 1999 on account of prevailing uncertainty, the Reserve Bank indicated its readiness to meet partly/fully foreign exchange requirements on account of crude oil imports and government's debt service payments in addition to its market intervention operations aimed at orderly conditions.

It is noteworthy that the corrections in the exchange rate during 1997-98 and 1998-99 occurred despite the overall balance of payments surpluses in both the years. This was due to the exchange rate policy which made tactical interventions supported by appropriate monetary and other policy measures. The markets responded positively to these measures.

A highlight of the post-1993 exchange rate position has been the tendency of a slight upward trend in real exchange rate in contrast to a significant downward trend over the latter half of the 'eighties. This could be attributed to strong capital inflows and improved economic

fundamentals following reforms. While the basket-linked exchange rate, despite a high order of real depreciation, turned out to be unsustainable as reflected in a widening of the current account deficit culminating in the payments difficulties of 1990, the post-1993 real appreciation, although only marginal, arising from the market-determined exchange rate, in contrast, has been associated with consolidation of the external sector. This indicates that external sector viability depends upon a host of factors in addition to exchange rate although it needs to be added that significant and sustained appreciation may be unsustainable.

Graph IE.13: REER and Real Exports



Note : REER = 36-Country trade-weighted real effective exchange rate

Concluding Observation

The broad snapshot of external sector developments following structural reforms and macroeconomic stabilisation since 1991 reveals a number of positive features pointing towards the consolidation of external sector. Robust export growth during 1993-96, emergence of technology related services, resurgence of private transfers, containment of current account to sustainable levels despite officialisation of gold imports and acceptance of obligations under Article VIII of the IMF (current account convertibility), increasing inflows under foreign investment particularly direct investment and policy induced de-emphasis on debt flows in favour of non-debt creating flows have been the major highlights of the period. In the process, the overall balance of payments has been marked by surpluses in the recent period, resulting in a healthy accretion to the Reserve Bank's foreign currency assets. At the same time, consolidation of external debt with a cautious approach to short-term debt, end-use restrictions on external inflows in to real estate/ stock markets and a phased capital account liberalisation along with a flexible exchange rate policy have helped to avoid some of the problems that led to crises in East Asia and other countries in the recent period.

The external sector consolidation notwithstanding, a few issues of concern have emerged in the recent past. First, the sluggishness/decline in exports over 1996-99 reflects in part the unfavourable external conditions in the aftermath of East Asian crisis; it however also points, as the Reserve Bank's Annual Report, 1998-99 has noted, to lack of competitiveness as well as the absence of adequate economic diversification to cater to the changing tastes and preferences of international economy. This would, *inter alia*, call for a change in the export structure geared towards services and better infrastructure facilities in the country. Secondly, given the country's requirements, the CAD/GDP ratio which has averaged just over 1 per cent in the 'nineties so far appears to be rather modest which may, perhaps, be reflective of infrastructural and other bottlenecks in the economy that hamper higher levels of investment. Finally, direct investment inflows although significant as compared to earlier periods pale into insignificance in comparison to inflows received by other small emerging economies like Chile, Poland and Venezuela. Investment in human capital and other infrastructural facilities along with a competition policy framework and cutting down bureaucratic delays could help attract higher levels of direct foreign investment in consonance with the developmental needs of the economy in years ahead.

APPENDIX TABLE IF.1: KEY INDICATORS OF INDIA'S EXTERNAL SECTOR

Item	98-99	97-98	96-97	95-96	94-95	93-94	92-93	91-92	90-91	85-90 (Avg.)
Balance of Payments										
(As per cent of GDP)										
Current Account										
Exports	8.2	8.5	8.6	8.9	8.1	8.1	7.8	7.3	6.2	5.1
Imports	11.4	12.2	12.3	12.0	10.9	9.6	10.2	8.3	9.4	8.2
Invisible receipts	6.2	5.5	5.4	4.9	4.7	4.0	3.8	3.8	2.5	2.8
of which										
Private transfers	2.5	2.8	3.1	2.4	2.5	1.9	1.6	1.5	0.7	1.0
Travel	0.7	0.7	0.7	0.8	0.7	0.8	0.9	0.8	0.5	0.5
Invisible Payments	4.0	3.2	2.8	3.4	3.0	3.0	3.2	3.1	2.6	2.0
of which										
Investment income	1.3	1.2	1.1	1.3	1.3	1.3	1.6	1.6	1.4	0.8
Invisible Net	2.2	2.4	2.6	1.5	1.7	1.0	0.6	0.7	-0.1	0.8
Current Account Deficit	1.0	1.3	1.2	1.6	1.0	0.4	1.8	0.4	3.2	2.3
Capital Account										
Foreign Investment	0.6	1.3	1.5	1.3	1.5	1.5	0.2	0.1	0.03	0.1
of which										
Direct	0.6	0.9	0.7	0.6	0.4	0.2	0.1	0.1	0.03	0.1
Portfolio	0.0	0.4	0.8	0.7	1.1	1.3	0.1	0.0	0.0	0.0
Debt Flows	1.3	1.2	1.9	0.7	0.6	0.7	0.7	1.3	2.0	2.0
of which										
Commercial borrowings	1.1	0.9	0.7	0.4	0.3	0.2	-0.2	0.6	0.8	0.6
External assistance	0.2	0.2	0.3	0.3	0.5	0.7	0.8	1.2	0.7	0.7
Short-term credit	-0.2	0.0	0.2	0.0	0.1	-0.3	-0.4	-0.2	0.4	-
NRI deposits	0.4	0.3	0.8	0.3	0.1	0.4	0.9	0.2	0.5	0.7
Other capital flows @	0.1	-0.1	-0.5	-0.8	0.7	1.3	0.7	0.2	0.4	0.2
Total Capital Account Surplus	2.0	2.4	2.9	1.3	2.8	3.5	1.7	1.5	2.4	2.3
Overall Balance	**1.0**	**1.1**	**1.7**	**-0.3**	**1.7**	**3.1**	**-0.1**	**1.2**	**-0.8**	**0.0**
Reserves and External Debt										
(end-period)										
Foreign Exchange Reserves (US $ million)	32490	29367	26423	21687	25186	19254	9832	9220	5834	5616
of which:										
Foreign Currency Assets (FCA) (US $ million)	29522	25975	22367	17044	20809	15068	6434	5631	2236	5022
Import cover of foreign exchange reserves (no. of months)	8.2	6.9	6.5	6.0	8.4	8.6	4.9	5.3	2.5	3.4
Total External Debt (US $ million)	98231	94320	93470	93730	99008	92695	90023	85285	83801	—
Short term debt (as % of reserves)	13.3	17.2	25.5	23.2	16.9	18.8	64.5	76.7	146.5	—
Debt/GDP ratio (%)	23.7	23.8	23.8	26.3	30.0	33.1	39.8	41.0	30.4	—
Debt Service Ratio (%)	18.0	19.1	21.2	24.3	26.2	25.6	27.5	30.2	35.3	—
Exchange Rate										
Rupees per US dollar										
Period Average	42.0706	37.1648	35.4999	33.4498	31.3986	31.3655	30.6488	24.4737	17.9428	13.8220
End-year / End-period	42.4350	39.4950	35.9150	34.3500	31.4950	31.3725	31.2354	31.2256	19.6429	17.3248#
NEER (% change)										
5-country index	-11.6	0.1	-1.5	-8.7	-3.9	-15.1	-10.4	-24.9	—	—
36-country index	-9.2	2.6	-1.9	-8.4	-3.0	2.8	-17.2	-21.9	-6.9	-6.5
REER (% change)										
5-country index	-6.3	2.8	2.6	-3.8	4.5	-11.0	-3.6	-17.8	—	—
36-country index	-4.4	5.4	2.0	-4.0	5.1	7.9	-11.1	-15.1	-3.6	-4.9

-: not available

@ : including errors and omissions

: end-March 1990.

Note: (i) Exchange rates from 1992-93 onwards are based on FEDAI Indicative rates.

(ii) NEER: Nominal Effective Exchange Rate (trade-weighted).
REER: Real Effective Exchange Rate (trade-weighted).

TOWARDS REFORMS OF THE INTERNATIONAL MONETARY AND FINANCIAL SYSTEM

CHAPTER XI

TOWARDS REFORMS OF THE INTERNATIONAL MONETARY AND FINANCIAL SYSTEM

The number of financial turmoils experienced during the 'nineties have demonstrated the limitations of both the national authorities and the existing international financial system in anticipating, managing and containing them and in securing an equitable distribution of the burden of adjustment. In view of the ramifications of financial crises, a wide debate has been initiated especially by the multilateral institutions, and the private sector, in both the developed and developing countries, regarding the international financial architecture (IFA) required to correct the deficiencies in the existing structure and incorporate new institutional arrangements to handle financial crises more effectively in the future.

On the basis of a comprehensive review of the existing architecture, seven key elements of the emerging IFA can be identified at this stage of the debate i.e., an appropriate exchange rate regime, strengthening of domestic financial systems along the lines of international best practices and codes, establishment of safety nets including the adequacy of international reserves, management of capital flows and the approach to capital account liberalisation, transparency and dealing with information asymmetries, empowerment of existing international financial institutions and finally new institutional arrangements for a greater degree of participation of the private sector. These issues and the various inflexions around each central theme are addressed in the following paragraphs.

The Existing International Arrangements

The discontent with the existing institutional framework of the international financial system stems from the perceived inadequacies in the timing, size and content of the adaptation response of the international financial institutions, particularly the International Monetary Fund (IMF), to the recent global crises. There is general agreement that the IMF should continue to play an important role in providing international liquidity with *(i)* greater resource empowerment, *(ii)* enhancement of the early warning properties of multilateral surveillance through greater transparency, information dissemination and shorter reaction time, and *(iii)* greater accountability, participation and equity in the decision making process in the IMF. The lack of jurisdiction of the IMF over financial flows and the inadequate emphasis on financial stability in Fund prescriptions/advice hitherto, the absence of dynamism in the standard IMF programmes and conditionality to face the problems associated with market failures, the political economy in the voting process for authorising IMF support to crisis-affected countries, the moral hazard of private sector bail-outs in acting as lender-of-last-resort, and the unclear demarcation of roles between the Fund and the World Bank are some of the contentious issues which have come up in the debates for reform of the present institutional apparatus for efficient functioning of the international financial system.

The architecture for the international monetary and financial system has evolved around the Bretton Woods institutions since 1944. While the World Bank (and its group) institutionalised the recycling of global saving for development, the IMF, invested with the supervision of the international exchange rate regime under the par value system, qualified most closely to bear the responsibility for global financial stability. With the abandonment of the par value system, the Fund's effective mandate shifted to multilateral surveillance over orderly exchange rate and payments regimes to promote the stability of the international financial system. Reflecting an international environment in which foreign trade was the engine of growth, the Fund enforced its responsibility predominantly through surveillance over current international payments without any jurisdiction over the underlying i.e., foreign trade, which came under the regulation of the GATT/WTO. The Fund did not have full mandate to extend its jurisdiction to capital

transactions. In the area of exchange rate regimes, the Fund's surveillance has taken the form of advice to members against multiple currency practices, monitoring of transitional exchange arrangements as part of overall reviews and since the seventies, the Fund has encouraged developing countries to adopt flexible exchange rate arrangements. A key instrument of the Fund's mandate for international order has been the availability of its resources with conditionality clause, to correct for temporary disequilibria in members' balance of payments without posing a threat to global financial stability.

The oil shocks of the 'seventies drew forth specific Fund facilities to mitigate terms of trade shocks. In the face of chronic balance of payments difficulties in developing countries, it was evident by the late seventies that the Fund was being increasingly called upon to perform a function that was never intended at its creation. At the same time, momentous changes in the international financial system were underway which were rapidly overtaking the institutional framework envisaged until then. The emergence of the Eurodollar market in the 'sixties and the recycling of petrodollars in the 'seventies resulted in a tremendous expansion of the financial system essentially purveying private capital flows to the developing countries. The second oil shock brought stagflation in industrial countries and the international debt crisis to the developing world. For the first time in the post-War history, the global financial system was exposed to a grave crisis (the 'debt crisis' as it is known) that had roots in the third world with systemic implications. The response to the crisis expanded beyond the ambit of the existing institutional framework. Besides the liquidity support of the IMF, BIS, the US and other developed countries, private creditors, mainly commercial banks were bailed into the rescue package, marking a resolution of the issue of moral hazard inextricably mixed into the function of international lender of last resort. In the second half of the 'eighties, alongside the preoccupation with the deepening debt crisis, attention shifted to the need for appropriate exchange rate alignments in view of the strong US dollar, resulting in the Plaza Agreement, 1985, and discussion at the Tokyo Summit, 1986, the Louvre Accord and Venice Summit, 1987. Attention also had to be paid to the proliferation of financial innovations which integrated the markets as also raised the levels of risk. Over the 'eighties, the Fund's conditionality imbibed the flavour of supply side economics into its classical demand management stance. The World Bank increasingly emphasised structural and sectoral adjustments in its funding for developing countries and there was a progressive evolution of the 'Washington consensus' through co-ordinated lending and surveillance. Nevertheless, the prolonged delays in negotiations over identification of the source of imbalance in the external accounts, the size of the balance of payments requirements, the setting of prior action commitments and performance criteria-linked disbursements have been matters that were often subjected to strong criticism in many academic and official circles.

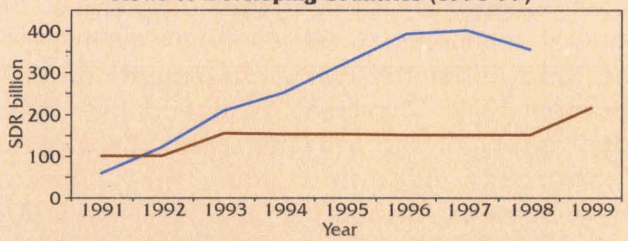
The dissonant notes have been particularly sharp in the context of liquidity mismatches, disorderly debt workouts and market seizures which dominated the financial panics of the 'nineties. The ERM crisis of 1992-93, the Mexican crisis of 1994-95, the Asian crisis of 1997 and the Russian and Brazilian crises of 1998 belong to the genre of what may be called the second generation currency crisis models where apparent policy inconsistencies are tolerated in the face of strong fundamentals until the point at which the policy stance is perceived as unsustainable and a reversal of sentiment builds into herd behaviour. The institutional architecture is faced with the impossible trinity of open capital accounts, independent monetary policy and managed exchange rates.

The capital flows to emerging market economies rose from 1.9 per cent of GDP in the 'eighties to 3 per cent of GDP in the 'nineties. Portfolio flows rose from 0.2 per cent of GDP to 1 per cent of GDP over this period. The flows to the ASEAN countries and Korea doubled. Efforts to manage the policy conflicts posed by capital flows generally assumed a standardised approach across a wide range of countries. Sterilisation through open market operations, reserve requirements, foreign currency swaps, stabilisation bonds usually issued as short-term central bank instruments, foreign currency deposits with central banks, taxes, capital controls and easing restrictions

on outflows have all been implemented with varying degrees of success and side-effects. In contrast, there has been a meagre increase in the Fund's resources, mainly due to the absence of a consensus on means to augment these resources (Graph IA.1).

Despite these measures, host countries have experienced serious macroeconomic problems associated with capital inflows such as real appreciation of the exchange rate, loss of autonomy in the conduct of monetary policy, volatile fluctuations in financial asset prices and impairment in the ability of financial institutions to intermediate in the face of asset price volatility. The high burden of social safety nets in these economies which have simultaneously undertaken structural reforms has led to deterioration in their fiscal positions. More fundamentally, rising capital flows exposed economies to large risk return exposures and increased the vulnerability to sudden reversals of capital flows and the contagion (Box IA.1).

Graph IA.1 Fund Resources and Reversible Capital Flows to Developing Countries (1991-99)



Note: Cumulative reversible net private capital flows to developing countries comprise all private flows excluding FDI (Source, WEO, 1999, Sept.). Fund resources relate to the end March balances in GRA plus SDA. Fund resources increased in 1999 due to the increase in Quotas under the 11th general review and cumulative reversible flows declined in 1998 due to negative net inflows recorded in the aftermath of the Asian crises. End Dec. 1999 figures are not available.

— Cumulative reversible net capital flows to developing countries — Fund resources

The Fund's Resources

The financial resources of the IMF are constituted from its members' quota subscriptions, which could be supplemented by borrowed resources. Allocation of SDRs is another means to meet demand for international liquidity; so far, however, the cumulative allocation has amounted to only SDR 21.4 billion. Even though the IMF is authorised to borrow from private sources, it has borrowed so far since its inception only from national governments, central banks and the BIS. The two borrowing agreements i.e., the General

Box IA.1: Capital Reversals and Contagion

A notable feature of the crises in the nineties has been the transmission of financial market instability to countries with apparently sound fundamentals. As a consequence, the possibility of a local crisis getting magnified into a global crisis in a very short time span has emerged as a key challenge to the existing international framework. Three broad channels for transmission of contagion are identified in the literature. The most common channel i.e., "monsoonal effects", focuses on major economic upheavals in the developed countries triggering a crisis in the developing world. The role of sharp increase in the US interest rates in the Latin American Debt crises of the 1980s and the considerable appreciation of the US dollar against the Yen between mid-1995 to 1997 exemplify this channel. The second channel operates through linkages of countries through international trade and cross border capital movements. A devaluation in one country leads to deterioration in external competitiveness of other countries with similar export baskets/ markets. Similar effects are obtained when portfolios are managed on a global level. Liquidity in one market could prompt liquidation of assets in other markets. The third channel, generally referred to as "pure contagion" relates to herd behaviour impelling global fund mangers to join the bandwagon due to asymmetric information. Readjustment of overweight country exposures propels a flight to quality and safe havens.

Increasing positions held by hedge funds in global financial markets have added another dimension to the analysis of currency reversals and contagion. Hedge funds are generally perceived to be a source of financial market instability. Hedge fund activity has witnessed substantial growth since the second half of the eighties to nearly US $ 300 billion in terms of volume of funds at the end of 1997. The impact of hedge funds on financial markets is direct i.e., taking or unwinding large positions, and indirect i.e., leading the market. Empirical evidence on the operation of both direct and indirect channels is scanty and inconclusive. However, markets in which hedge funds unwind large positions become volatile. To the extent that hedge funds identify mispricing, they enhance information and transaction cost efficiency and help to improve price formation. Furthermore, as the Long Term Capital Management (LTCM) episode has shown, insolvency of hedge funds could entail significant systemic risks for the global financial system.

The case for regulating hedge funds has come into sharp focus in the nineties. The mandatory reporting of certain financial transactions by hedge funds has been introduced in the UK and the USA. Regulations to address systemic risk management include margin/collateral requirements, limits on exposure to counter parties and restrictions on imprudent extension of credit. Indirect regulation of hedge funds via tighter banking supervision has been envisaged by the Basle Committee on Banking Supervision in January, 1999.

References

1. Eichengreen B., et al (1998), 'Hedge Funds and Financial Market Dynamics', IMF Occasional Paper No.166, May.
2. Deutsche Bundesbank Monthly Report (March 1999), 'Hedge Funds and their role in the financial markets'.
3. Brown S.J., W.N. Goetzmann and R.G. Ibbotson (1998), 'Offshore Hedge Funds : Survival and Performance 1989-1995').

Arrangements to Borrow (GAB) and the New Arrangements to Borrow (NAB) supplement the general resources. Total resources available to the Fund under the two arrangements amount to about SDR 34 billion. As at end July 1999, total assets of the IMF (as under the General Resources Account and the Special Disbursement Account) stood at around SDR 216 billion. Of this, the Net Uncommitted Usable Resources amounted to SDR 57.7 billion which account for only 26.7 per cent of the total assets. Thus, at the end of July 1999, the Fund's liquidity ratio, i.e., the ratio of net uncommitted usable resources to liquid liabilities, stood at 96.2 per cent (Table IA.A). In response to the recent crisis in East Asia, the Fund has undertaken efforts to mobilise significant bilateral/multilateral resources to supplement its own resources (Table IA.B).

Table IA.A: Liquidity position of the IMF at end-July 1999 (in SDR billion)

Usable Resources	88.9
Commitments under arrangements	17.1
Working balances	14.1
Net uncommitted usable resources	57.7
Liquid liabilities	60.0
Liquidity ratio (in percentage)	96.2

Table IA.B: Commitments for new financing to the crises affected members

Countries	Commitments (in billion US $)			
	IMF	Multilateral	Bilateral	Total
Indonesia	11.2	10.0	21.1	42.3
Korea	21.1	14.2	23.1	58.4
Thailand	4.0	2.7	10.5	17.2
Brazil	18.1	9.0	14.5	41.6
Philippines	1.4	..	..	1.4
Russia	11.2	..	..	22.6

The conventional approach has been to enlarge quotas with some emphasis on its redistribution in favour of developing countries. Under the eleventh general review of quotas, total quota payments of the 183 member countries amounted to SDR 212.029 billion (about US $ 290 billion). Notwithstanding these resource enhancements, there is growing concern that quota reviews are regressive, as the evolution of India's quota in the Fund reflects (Appendix Table IA.1). Revising the quota determination formula, delinking access to Fund resources and issue of SDRs by the Fund to itself subject to pre-determined cumulative limits and other appropriate considerations are some of the proposals being mooted to enhance the Fund's role as international lender of last resort.

In the aftermath of the recent crises, there is a broad agreement that sudden reversals of capital flows require rapidly deployable and relatively large financial packages, with upfront disbursement facilities. The recent proposal in the IMF to provide Contingent Credit Lines (CCL) to member countries with strong macroeconomic policies but potentially vulnerable to contagion, embodies this consensus. The CCL, intrinsically, is a preventive financing facility, though inadequate to deal with large scale contagion. There is, however, the need to consider the possibility of a request for CCL triggering or accentuating a crisis.

Crisis Management

Recurrent episodes of financial turbulence in the past, more notably the recent South-east Asian crises, have triggered a variety of crisis management initiatives which not only aim to correct the macroeconomic/financial imbalances that generally characterise a crisis situation, but also intend to quell adverse sentiments and restore (investor and depositor) confidence in the system. The pertinence and efficacy of such crisis management mechanisms which typically include a combination of: *(i)* macroeconomic stablisation measures; *(ii)* liquidity support to financial institutions; *(iii)* blanket guarantee on the liabilities of financial institutions; *(iv)* capital controls, and *(v)* immediate closing of financial institutions, have, however, been the subject of an on-going debate.

Macroeconomic stabilization measures have usually centred around monetary and fiscal policy initiatives. Following (and sometimes accompanying) exchange market interventions, an archetypal monetary policy response to relatively protracted reversals of capital flows and the sharp depreciation of the domestic currency, particularly in the case of economies

with sizable current account deficits and high levels of external debt, has been an increase in interest rates. A high interest rate environment, however, also has its costs in terms of pressures on the profitability of (otherwise solvent) corporations and non-performing assets of financial institutions which exacerbate the overall crisis-induced recessionary tendencies. The timing and appropriate duration of an interest rate hike is, therefore important, particularly because monetary management becomes more difficult during a (banking) crisis (given the instability that is usually engendered in monetary relationships in such situations). Similarly, policy-induced fiscal contractions have been sometimes criticised for posing an impediment to a faster recovery, particularly in the case of economies such as those of South-east Asia which had built-up appreciable fiscal surpluses prior to the onset of the financial crisis. It must be recognized in this context that an appropriate fiscal response to a crisis situation needs to factor in the usually substantial (quasi-) fiscal costs of financial sector bailouts and restructuring.

Central bank liquidity support via overdraft and loans, usually in terms of domestic currency and sometimes in foreign currency, was extended to financial institutions in order to offset the large-scale withdrawal of deposits during a financial crisis. The magnitude of such liquidity support was as much as 13-20 per cent of GDP in the case of some of the South-east Asian economies. Such an order of liquidity injection necessitated simultaneous sterilization measures to restrain the overall monetary growth and prevent further downward pressure on the domestic currency.

Countries which did not have a or had a limited deposit insurance system introduced blanket guarantees to honour the claims of the depositors and creditors in financial institutions. The objective of such guarantees was to restore confidence and integrity of the banking and payments systems in order to prevent bank runs. For the system of extending blanket guarantees to be effective, credible reforms in the economy in general and the financial sector in particular, and a belief in the authorities' ability to honour its commitments are, however, essential. Blanket guarantees, like any other system of deposit insurance, are associated with problems of moral hazard which could be addressed by measures such as 'fair' pricing of insurance (an appropriately priced government guarantee scheme which reflects the nature of the risks being insured could, in fact, greatly contribute towards crisis prevention), overt declarations about their temporary nature and limiting the guarantee to cover only the excess over a specified level of the principal. Further, blanket guarantees entail potential fiscal costs since these form part of the government's contingent liabilities and such costs need to be judged against the alternative scenario of financial sector disruption.

Capital controls, in the form of limits to or prohibition of forward sales of foreign currency/ repatriation of portfolio capital to non-residents, etc. were imposed in a number of South-east Asian countries in order to stem the adverse fallout of the financial crisis. In an increasingly integrated global economy that is conductive to (near) perfect capital mobility, controls on capital outflows not only fend off speculative forays and provide a 'breathing space' for organizing appropriate policy initiatives, but also facilitate the downward revision of interest rates to promote growth prospects in a crisis-affected economy (without engendering downward pressures on the domestic currency and inflating the level of external debt). In fact, notwithstanding the long term costs of capital controls i.e. higher inflation, higher risk premium and dead-weight losses associated with distortions in resource allocations, some economists have observed the absence of any correlation between long-term performance and capital controls. The proponents of capital account liberalization argue that the imposition of capital controls does not address the underlying structural infirmities of the crisis-affected economies; instead, they emphasise initiatives for improvements in the financial system. Moreover, the experience of Latin America subsequent to the debt crisis of the 1980s highlighted the association of capital controls with financial repression and negative real interest rates which eventually aggravated capital flight. In addition, the anticipation of capital controls may precipitate a crisis and

result in a faster transmission of financial panic across borders. Finally, there are possibilities of political misuse of capital controls. In the aggregate, the benefits of imposing capital controls to address a crisis situation are perhaps best realised with a credible announcement regarding their interim tenure.

Closure of *(nearly)* insolvent financial institutions has been yet another form of policy response to a financial crisis which stalls the further build-up of losses and minimizes costs to depositors/creditors, precludes the need for additional liquidity support, prevents moral hazard and adverse selection consequences of propping up insolvent institutions and conveys a positive signal to the market participants as well as the international community. The experience in respect of the South-east Asian crisis reveals that while such closures were fairly successful in the case of Thailand and Korea, these led to runs on solvent banks in Indonesia. The failure of closures in Indonesia, however, has been mainly attributed to an improper identification/selection of insolvent institutions.

Strengthening Multilateral Surveillance

In recognition of the fundamental structural changes in the global financial system and the enhanced role of multilateral surveillance, the Fund has been devising methods of surveillance which encompass financial sector issues, capital account and governance within its standard framework. Precautionary arrangements under which members undertake Fund programmes without recourse to resources, and informal staff monitoring are some of the new vistas of Fund surveillance. The Fund also intends to conduct a Financial System Stability Assessment (FSSA), which may draw on country specific periodic joint Fund-Bank Financial Sector Assessment Programme (FSAP) reports. With regard to multilateral surveillance, the World Economic Outlook assessments have already been supplemented by International Capital Markets surveys which offer a comprehensive review of developments in the global financial markets and their possible implications for the world economy.

The need for strengthening the international monetary and financial system to meet the emerging challenges has rekindled a long-standing debate relating to the strengthening and/or transforming the Interim Committee of the Fund. The objective of this exercise is essentially to bestow decision-making powers to the Interim Committee as well as to enhance its political accountability.

Choice of the Exchange Rate Regime

Since the demise of the Bretton Woods par values, the issue of the appropriate exchange rate regime has received very high attention in the light of the financial crisis in Asia in 1997-98 and the introduction of the Euro in 1999.

In the post par value period, exchange rate co-ordination among the G-7 has been a process of trial and error. The Plaza Agreement to 'talk the dollar down', the collective review of consensus indicators in the aftermath of the Tokyo Summit of 1986 and the intervention grid for G-7 currencies following the Louvre Accord of 1987 exemplify this process. By 1993, the Louvre accord was virtually dead as domestic objectives took priority over internationally agreed targets. The G-7's approach has since been one of low-frequency activism and the focus shifted from the level of the exchange rate to exchange rate volatility. In the 'nineties, industrial countries have tended to favour monetary policy with domestic price stability as the single main objective, with exchange rate management being given far less weight than in the past. In part, this has been predicated by the dramatic developments in the foreign exchange markets: a three fold surge in turnover in the 'nineties to US $ 1.5 trillion a day, proliferation of derivatives and forward markets, and market concentration.

For developing countries, the experience has been varied over the spectrum. While a few relatively open economies have chosen relatively fixed regimes under currency boards (Hongkong, Singapore, Argentina) with exchange rate as a nominal anchor, leaving the monetary policy to be determined chiefly by the balance of payments, exogenous of the national authorities, others have adopted more flexible arrangements (Table 1A.C).

Table IA.C: Exchange Rate Arrangemnets of IMF Members

	No. of Countries
Pegged to	
Single currency	48
Composite of currencies	18
Limited flexibility	17
More flexible arrangements	
Managed floating	55
Independent floating	46*
TOTAL	**184**

* : Indian exchange rate system is classified under independent floating by the IMF.

Source: Exchange Arrangement and Exchange Restrictions Annual Report 1998, IMF.

Under freely floating exchange rate systems, the monetary base is determined exogenously. The majority of developing countries have chosen to operate with managed exchange rate regimes under which the monetary base contains both domestic and foreign components and the monetary authorities attempt to set both the monetary base and the exchange rate. As recent events have shown, sterilizing capital inflows by a reduction of the domestic component of the monetary base, or increasing the domestic part of the monetary base to compensate for a reduction of the foreign component due to currency outflows are susceptible to speculative attacks since the contradiction between the monetary and the exchange rate policy would become unsustainable.

The exchange rate policy in India has evolved from the rupee being pegged to a market related system (since March 1993). The exchange rate, presently, is largely determined by the market, i.e., demand and supply conditions. The objective of exchange rate management has been to ensure that the external value of the rupee is realistic and credible as evidenced by a sustainable current account deficit and manageable foreign exchange situation. Subject to this predominant objective, the exchange rate policy is guided by the need to reduce excess volatility, prevent the emergence of destabilising speculative activities, help maintain adequate level of reserves, and develop an orderly foreign exchange market. The Indian market, like other developing countries' markets, is not yet deep and is characterised by uneven flow of demand and supply over different periods. The market is also characterised by a few major players, and lumpy public sector demands, particularly on account of payments for oil imports and servicing of public debt. In this situation, the Reserve Bank of India has been prepared to make sales and purchases of foreign currency in order to smoothen out the demand and thereby volatility in the forex market. However, such intervention is not governed by a predetermined target or band around the exchange rate. While it is not possible for any country to remain completely unaffected by developments in the international exchange markets, India has been able to keep the spillover effects of the Asian crisis to a minimum through constant monitoring and timely action, including recourse to strong monetary measures, whenever necessary, to prevent the emergence of self-fulfilling speculative activities.

The Fund's mandate is loosely structured around overseeing orderly exchange rate arrangements with a focus on easing of exchange restrictions and multiple currency practices. While there is a general favour in recent Fund advice to members for more flexible exchange rate arrangements, there is a preference for country-specific choices. The short-run trade-off between external competitiveness and domestic price stability, the adequacy of reserves, the strength of the financial system and the consistency of macroeconomic objectives have a determining influence in this choice. Greater flexibility is not perceived as a policy of 'benign neglect' but rather a policy stance to ensure orderly corrections of misalignments through a combination of market interventions and monetary policy. In such a situation the adequacy of reserves becomes a critical issue. The optimal size of the reserves is no longer viewed in terms of months of import cover but more frequently as reserves free of charge as cover for capital account transactions, particularly short-term liabilities, volatile capital flows ('hot money') and debt service obligations by residual maturity.

There has always been a continuous but inconclusive discussion on the optimum level of reserves. Traditionally, the adequacy of

reserves of a country has been mainly linked to import requirements. Recent experience has, however, shown that countries, which were holding large levels of foreign currency reserves in relation to imports, did not necessarily escape the crisis. These countries had large reserves, but these reserves disappeared quickly as they tried to defend their currencies. Some part of the reserves could not be accessed when it was most required by these countries since they were invested in illiquid assets. Further, there was no transparency with regard to the precise figure of unencumbered reserves.

In India, reserves have been steadily built up by encouraging non-debt creating flows and de-emphasising debt creating flows, particularly short-term debt. In fact, this strategy, coupled with the maintenance of an acceptable level of current account deficit and market determined exchange rate regime were cornerstones of the policy of external sector management recommended by the Report of the High Level Committee on Balance of Payments (Rangarajan Committee) in April 1993. In the context of the changing interface with the external sector, and the importance of the capital account, reserve adequacy is now evaluated by the Reserve Bank in terms of several indicators and not merely through conventional norms, such as, the import cover. As a matter of policy, as far as possible, foreign exchange reserves are kept at a level which is adequate to withstand both cyclical and unanticipated shocks.

Capital Controls and Capital Account Liberalisation

Capital controls are essentially a short-term response to movements in capital which pose threats to financial stability. While capital controls are explicitly designed to shape the volume and composition of capital flows - in the case of sterilised intervention, for instance, such effects are largely unintended - it is not clear whether capital controls simply bring about a substitution of domestic short term debt for foreign short term debt, which does not ameliorate the liquidity problems associated with capital reversals.

In the absence of an appropriate architecture to bring about an orderly resolution of crises, capital controls have been employed to breach the mutually reinforcing vicious circles which characterise financial panics. In the aftermath of the Asian crisis, an extensive debate on the desirability and form of capital controls continues mainly due to a weak consensus that the short term banking flows are a major source of vulnerability for the entire international financial system and these need to be controlled. The debate has, however, swung between two country experiences, i.e., Chile and Malaysia which represent two polarities in the choice. While the Chilean type of controls in the form of taxes, unremunerated reserve requirements, foreign currency deposits with the Central Bank, etc., have been regarded as market based and therefore, virtuous, the empirical evidence on the effectiveness of the Chilean approach is not entirely conclusive. On the other hand, there is the Malaysian type of capital controls which take the form of exchange restrictions and are considered severe. These measures reflect an effort to beat off speculative attacks from offshore currency markets and hedge fund activity. The Chilean type of controls essentially operate by raising the cost of capital transactions and minimising their monetary impact, whereas the Malaysian type of controls respond to the potential for contagion in one segment of the market spreading to others by disconnecting market segments.

Over the medium term, developing countries could draw significant benefits from liberalisation of capital transactions and capital account liberalisation has therefore come to be regarded as a process that should be inherent in financial sector reforms. While several countries in the 'nineties have preferred to liberalise capital transactions early in the reform process, the broad majority of views support external financial liberalisation as the culmination of financial sector reforms. It is now generally acknowledged that each country would need to decide on its path, timing and sequencing depending on country specific circumstances. One approach, recommended by the Committee on Capital Account Convertibility in India (1997), is to establish macroeconomic preconditions to liberalisation of capital account transactions and to modulate and sequence the move to opening the extent of capital account depending on the achievement of the preconditions.

India's policy on the capital account has been predominantly influenced by the recommendations of the Rangarajan Committee (1993). The Committee's recommendations with regard to discouraging short-term flows stand vindicated by the current international consensus on the need for controlling short-term debt. In India, short-term debt is carefully monitored with differential treatment between trade and non-trade related debt and is subject to a quantitative ceiling. As a result of these efforts, the average maturity of external commercial borrowing of India is about six to seven years.

India has cautiously but systematically moved, over a period of time, from a comprehensive control framework to current account convertibility and market-determined exchange rate. India has managed the capital account to ensure growth with stability, while consistently adding to the foreign currency reserves. Like several other developing countries, India also experienced, and managed, phases of excessive capital movements. There were periods of capital surge during 1993-95, and also two major episodes of volatility in flows in the second half of 1995-96 and again during 1997-98. During periods of exchange rate volatility in the wake of the East Asian crisis, there were major imponderables involved, both externally and internally, and contagion and herd behaviour had to be guarded against. In these situations a co-ordinated policy framework and careful calibration of policy instruments resulted in an effective management of capital flows without intolerable shocks to the performance of the economy.

Strengthening of Financial Market Supervision/Regulation

The recent East Asian experience has highlighted the role played by financial fragility in amplifying currency crises. There is unanimity in opinion that a sound financial system is a necessary condition for sustainable growth. Financial stability itself depends on a number of factors. Firstly, the financial system should be robust so that it does not itself generate vulnerabilities. Secondly, the financial system should be sound so that it can absorb external shocks flexibly. Thirdly, there is a need for efficient oversight, as "asymmetry of information" in the financial markets may not fully guarantee the safe and sound operation of the financial system. It is in this regard that supervision and regulation assume importance.

Supervision and regulation are intended to work in tandem with market discipline, and aim primarily at addressing market failures. One of the early initiatives to establish international best practices was the 1988 Capital Accord which established a minimum level of capital for banks. The 1988 Accord focused mainly on credit risk, but has since been amended to address market risk. However, interest rate risk and other risks, such as operational, liquidity, legal and reputational risks, are not explicitly addressed. In June 1999, the Basle Committee on Banking Supervision (BCBS) issued a proposal for a new capital adequacy framework to replace the Capital Accord of 1988. The new framework is designed to align regulatory capital requirements with underlying risks, and to recognize the improvements made in the meantime in risk measurement and control. It consists of three pillars – (a) *minimum capital requirements*, which seek to develop and expand on the standardized rules set forth in the 1988 Accord; the BIS Consultative paper, for the first time incorporates internal control models and credit ratings in the determination of minimising capital levels and imposition of risk weights (b) *supervisory review* of an institution's capital adequacy and international assessment process (c) effective use of *market discipline* as a lever to strengthen disclosure and encourage sound banking practices. The BCBS had also initiated a number of steps for effective banking supervision and in 1997, 25 Core Principles were developed for the purpose.

In the securities market, the 1998 Objectives and Principles of Securities Regulation have been prepared by the International Organisation of Securities Commission (IOSCO), a forum for co-operation between national securities regulators. The IOSCO Principles comprise thirty core principles for securities market regulation and supervision that member countries are encouraged to adopt. Similarly, the International Association of Insurance Supervisors (IAIS) issued a series of principles and guidelines in 1997 and 1998

covering internationally accepted standards and best practices for insurance supervision. Separate norms and standards for banking, securities and insurance may not be able to address the problems that may be faced by conglomerates that are engaged in all the three areas, and may not therefore be able to meet the requirements of respective supervisors. Lack of harmony in national bankruptcy laws is another area where attention is given and only partial success has been achieved in promoting harmonisation in the treatment of cross-border bankruptcy problems under the auspices of the United Nations Commission on International Trade Law (UNCITRAL), the International Bar Association and the European Union.

In India, liberalization measures for the financial sector were undertaken in the early stages of economic reform, pursuant to the recommendations of the Committee on Financial Sector Reforms (Narasimham Committee, 1991). This was followed by another Committee on Banking Sector Reforms (Narasimham Committee II, 1998). As a result of measures taken pursuant to the recommendations of these Committees, the adoption of prudential norms relating to capital adequacy, income recognition, asset classification, provisioning standards and valuation of investment portfolio in India are now close to international best practices. Asset-liability management is being put in place in the banking system. Supervisory practices by the Reserve Bank of India have been closely patterned on the lines of BIS Core Principles of Bank Supervision. In some aspects, the Indian standards are stricter than the international ones.

The supervision of Non-Bank Financial Companies (NBFCs) is also conducted by the Reserve Bank of India. The prudential norms applied for the NBFCs closely resemble those of commercial banks. The capital adequacy ratio for NBFCs is currently 12 per cent. Asset classification, provisioning and income recognition norms have also been prescribed. Both off-site and on-site supervision methods have been adopted, and CAMELS (Capital Adequacy, Asset Quality, Management, Earnings, Liquidity and System) pattern is used to rate and evaluate NBFCs. All NBFCs are required to publish their audited balance sheets.

However, there is a lot more work that needs to be done in order to make the financial system deeper and more vibrant in India. A number of specialised Committees have been set up to advise the Reserve Bank and Government on further steps. A Technical Advisory Committee on Money and Government Securities Markets has been established as a consultative forum to advise the Reserve Bank of India on an on-going basis. Similarly, a Technical Advisory Committee has been set up to advise on the legal infrastructure. An RBI committee is working on the weak banks issue. The urban cooperative structure is also being reviewed. Another area of work relates to the review of deposit insurance system. A national debate is also taking place on the desirability and other aspects of movement towards universal banking.

Transparency and Information Disclosure

In the evolving debate on the international financial architecture, transparency has come to be accepted as a golden rule, the key to the rational behaviour of global financial markets. Considerable effort has already been undertaken in the direction of developing uniform transparency codes encompassing the official sector, the private sector, corporates and financial institutions, and market players so that the vulnerability of economies to sudden shifts in market sentiment can be reduced.

Alongside the Basle process, the Fund has undertaken initiatives to develop voluntary standards of transparency and disclosure. At the macro level i.e., covering the real, fiscal, financial, monetary and external sectors, international standards have emerged under the Special Data Dissemination Standards (SDDS)/ General Data Dissemination Standards (GDDS). The focus of the SDDS/GDDS is on four key dimensions i.e., coverage, periodicity and timeliness, public access, integrity and quality. In the recent period, it has enhanced transparency recommendations with regard to certain external transactions particularly usable foreign exchange reserves, contingent liabilities and short term debt.

A Code of Good Practices on fiscal transparency was approved by the Fund in 1998.

Fiscal transparency was defined as being open to the public about the structure and functions of the government, fiscal policy intentions, public sector accounts and fiscal projections. The main principles of the Code are *(i)* clear delineation of the roles and responsibilities of the monetary, fiscal and public enterprise sectors, and between the public and private sectors; *(ii)* public availability of fiscal information including quasi-fiscal activities on a comprehensive basis; *(iii)* open budget preparation, execution, reporting and harmonisation of international statistical and accounting standards for government spending; and *(iv)* independent assurances of integrity through external audit and independent scrutiny.

A Code of Good Practices on Transparency in Monetary and Financial Policies was approved by the Interim Committee of the Fund in September, 1999. The Code requires that the goals and institutional framework of monetary policy, the institutional relationship between monetary and fiscal operations and the responsibilities of the central bank including its agency functions on behalf of the government should all be clearly defined, legally endorsed and publicly explained. Other important aspects of the Code include *(i)* periodic public statement by the central bank towards achieving monetary policy objectives, *(ii)* public consultations for substantive, technical changes to the structure of monetary regulation, *(iii)* public disclosure of the central bank's balance sheet and selected information on its aggregate market transactions on a pre-announced schedule and after a pre-determined interval, *(iv)* public disclosure of information on foreign exchange reserves, liabilities and commitments by the monetary authority, consistent with the SDDS and *(v)* public disclosure of audited financial statements of the operations of the central bank on a pre-announced schedule.

The Bank for International Settlement (BIS) is also in the process of expanding its coverage to record and disseminate maturity, sectoral and geographical distribution of international bank lendings. The OECD, the Basle Committee, the World Bank and the European Bank for Reconstruction and Development (EBRD) are involved in developing certain core principles and good practices in the area of corporate governance. A series of International Accounting Standards (IAS) have been released by the International Accounting Standards Committee (IASC) that aim at achieving uniformity in the accounting principles used by business and other organisation for financial reporting across the world. The basic objective behind such standards is to ensure that information contained in the financial statements are accurate, timely and comprehensive. The Committee on Payments and Settlement Systems (CPSS) seeks to develop practices that foster efficient and robust payment and settlement systems.

So far as India is concerned, an impressive degree of transparency in the provision of information is already in place. India is one of the early members of the Special Data Dissemination Standards (SDDS) of the IMF. Commercial banks in India are also required to maintain disclosure standards on par with those of international banks. This has been achieved by mandating disclosure of some of the essential strength indicators and performance related parameters as part of commercial banks' balance sheets. In fact, since April 1997, even before the onset of the Asian crisis, Indian banks have been disclosing capital adequacy ratios (both Tier I and Tier II separately), the percentage of NPAs to net advances, the provisions made towards NPAs, and the gross and net value of investments. Since March 1998, banks in India have been asked to disclose further information regarding interest and non-interest income as a percentage of working funds, operating profit as a percentage of working funds, and information on the financial position of subsidiaries. The Reserve Bank of India has also advised banks to disclose the maturity profile of loans and advances, investments, and lending to sensitive sectors with effect from April 2000.

Involving the Private Sector in Crisis Resolution

In order to limit the moral hazard problem associated with Fund bail outs and also to ensure more equitable sharing of the burden of adjustment between the creditors and debtors, there have been recent initiatives to 'bail in' the private sector to co-operate with the national

authorities in preventing and resolving the crises. The private sector's involvement could increase through creation of market based incentives and instruments while at the same time providing avenues for co-operative/collective action to address distressed debt. The Fund has already experimented with a variety of methods to involve the private sector which include influencing international banks to lengthen credit lines in Korea and to maintain credit lines in Brazil and requiring the Ukrainian authorities to renegotiate its bonds as precondition for Fund resources. Given the diversity of international lenders, a cooperative response is needed but it would come only over time. Recently the Fund agreed that it could "lend into arrears" to private bondholders on a case-by-case basis and this has already been implemented in case of Russia and Ukraine. The Fund also continues to support debt reduction/rescheduling measures, particularly with regard to debt owed to commercial banks, on a case by case basis. The Fund-Bank joint HIPC initiative is also designed to resolve the debt problems of poor countries that follow sound policies but for which conventional debt-reduction mechanisms are not enough to reduce their debt to sustainable levels.

New Arrangements

A number of new proposals for the international financial architecture have also emerged. They range from strengthening of the existing framework to setting up of a new Bretton Woods (Appendix Table IA.2). The proposal for Contingency Credit Line in the IMF essentially emanated from the US to extend credit to countries not yet experiencing a crisis but whose stability is potentially threatened. The UK has proposed a permanent Standing Committee for Global Financial Regulation encompassing the World Bank, the IMF, the Basle Committee and other regulatory organisations. With a view to improving the arrangements for surveillance of global vulnerabilities, the G-7 have set up the Financial Stability Forum which would meet regularly to assess risks to global financial system and to identify and oversee actions that are needed to overcome any crisis. The Stability Forum does not favour sweeping institutional changes to improve the global surveillance. Proposals have also been put forward to create a World Financial Authority and various models have been envisaged for the Authority. All these proposals have represented the desire to strike at the problem outside the envisaged role of the IMF.

In order to enforce emergency standstill and orderly debt workouts, the UNCTAD has suggested establishing an independent panel to determine whether the country concerned is justified in imposing exchange restrictions with the effect of standstill. A weaker alternative is to introduce self-supervision within the banking system by mandating each bank to issue subordinated debt to other banks the yield on this debt being capped. Debt holders then face only a downside risk of losses, inducing them to be more vigilant about the performance of the bank whose debt they hold.

Among the diverse crisis management strategies undertaken in the recent period, particular emphasis has come to be placed on domestic safety nets to mitigate the welfare losses of market failures. This emphasis draws from the experience that the cost of market failures ultimately devolve on sovereign governments and the international institutional framework is incapable of resolving the burden of crisis (Box IA.II).

Box IA.2: The Role of Safety nets in Crisis Management and Prevention

Domestic safety nets broadly comprise of all those national mechanisms that aim at achieving the dual objectives of *(a)* containing the disruptive consequences of financial market disturbances (i.e. to manage the crisis), and *(b)* instilling confidence in the financial system to limit the probability of unjustified strains in the financial system (i.e. to prevent crisis). Three key elements of a well-structured safety net system include at least *(a)* emergency liquidity assistance - often in the form of lender of last resort, *(b)* deposit protection schemes - which generally revolve around national deposit insurance schemes, and *(c)* exit options for orderly resolution of insolvent domestic financial institutions. Emergency liquidity assistance is aimed at primarily illiquid institutions whereas the exit policies, which may include closures or mergers, are essentially to address the problem of insolvency.

Operationally, safety nets essentially deal with 'liquidity crises' and 'insolvency externalities', apart from pure depositor/ investor protection considerations. Some of the main considerations in designing safety nets relate to: *(a)* appropriate pricing of the 'assistance/insurance' which needs to reflect the underlying risks so as to discourage moral hazard; *(b)* proper identification of the 'recipients' and putting in place 'operating' procedures/legal infrastructure (particularly bankruptcy law) essentially to limit forbearance and expedite orderly resolution; *(c)* their applicability in normal times and times of systemic crisis, and *(d)* extent of public sector involvement in terms of resource requirements as well as to check the socialization of (private) risks.

Some of the alternative forms of safety net mechanisms typically are *(i)* emergency liquidity assistance from central banks and contingent credit lines from commercial banks which ensures continued inter-bank funding, provides essential trade finance and prevents a credit crunch; *(ii)* deposit insurance/ protection schemes which are intended to provide a level-playing field between smaller and larger banks (considered 'too big' to fail), attenuate the risk of bank runs and limit contagion as well as protect "unsophisticated" depositors who are unable to assess the soundness of banks; *(iii)* structured early intervention programmes that ensure 'a consistent, timely and graduated response by supervisors' and 'a set of explicit rules, procedures and options to allow owners and managers to assess in advance the consequences (including costs) of alternative courses of action, and *(iv)* insolvency procedures which facilitate the quantification of risks and consequences of bankruptcy.

Development of best practices, particularly with regard to the deposit insurance system, focuses on an "incentive – compatible" mechanism that induces economic agents to keep the financial system sound. For example, a system of deposit insurance that is backed by transparency and clearly laid out easily understood laws and regulations could contain the moral hazard problem considerably because the bank customers can take actions to protect their interests. When the authorities establish credibility in their commitment to discipline problem banks with appropriate timely exit strategies or measures to restore financial health, the moral hazard and agency problem is further contained. Compulsory membership, insurance coverage only up to a limit for any deposit account, risk-adjusted insurance premia, accountability of the deposit insurance mechanism to the public, coordination and sharing of information between the lender of last resort, the financial market supervisors, and the insurer, non-appointment of bankers in the board of deposit insurance institutions, etc. also form part of the recent debate on best practices.

The International experience with regard to the operation of safety nets has thrown up a number of issues. Firstly, it is increasingly recognized that the operation of the safety nets should not "subsidise risk" and create "incentive problems" and thereby become a source of "destabilizing influence" on the financial system (*a la* Savings and Loans Crisis in U.S. in the early 1980s). Secondly, given the different objectives of safety nets and the nature of interaction between them, the operation of different safety nets like Lender of Last Resort (LOLR) and deposit insurance could lead to conflict not only between instruments but also between organizations (such as the monetary authority, insurers and supervisors). Hence the design of safety nets could be better addressed by considering these elements as a whole rather than in isolation. Thirdly, in the majority of countries, safety nets are operated by central banks/governments and/or affiliates of central banks/ governments. The financial crises in recent times have forced agencies involved in safety nets to widen their area of operation (e.g., Deposit Insurance Corporation in Japan also acts as an Asset Management Company and restructuring agency). The appropriate allocation of responsibilities in the design and operation of safety nets should be based on the acceptable level of the 'socialisation' of risk. While the LOLR function has to be with the central bank, the private sector could be involved in the ownership of deposit insurance agencies. World-wide, however, most of the deposit insurance agencies are fully/ partially owned subsidiaries of central bank/government. By assuming the role of LOLR and deposit insurer, central banks face considerable "moral hazard" problems. One solution to these problems could be the promotion of "co-insurance" and self-regulatory agencies as in the U.K. Fourthly, large institutions are perceived to be "too big to fail" in many countries, mainly because the public (including rating agencies) assume that "large" institutions are likely to receive some form of external support in the event of distress (a recent episode being the Long Term Capital Management case). One way to solve such incentive problems is to subject these institutions to more stringent regulation and supervision. Finally, it has been pointed out that striking an appropriate balance in safety nets between transparency and ambiguity and between rules and discretion is difficult. In this context, the FDIC "Prompt Corrective Action" is an example of rule-based approach for closing weak banks. This approach has the advantage of anchoring expectations and instilling certain amount of discipline in the financial entities. But in many countries, forbearance is practiced widely and this has added to resolution costs. Given the social costs and externalities involved, it is thus appropriate to have a 'flexible' approach towards the operation of safety nets.

References:

1. Calomiris, C.W. (1997), "The postmodern bank safety net : Lessons from developed and developing economies", American Enterprise Institute, Washington D.C.
2. Garcia, Gilian G.H. (1999), "Deposit Insurance: A Survey of Actual and Best Practices", IMF Working Paper No.54, April.
3. (1998), "Report of the Working Group on Strengthening Financial Systems" BIS, October.

APPENDIX TABLE IA.1: DISTRIBUTION OF IMF QUOTAS FOR INDIA IN GENERAL REVIEWS

Review of Quotas	Date of Adoption of Resolution	Increase In Quotas (per cent of Fund Size)	Total Resulting Quotas (SDR Million)	India's Quota (SDR Million)	India's Share in Total Quotas (per cent)	India's Rank
1	2	3	4	5	6	7
1st Quinquennial	No increase proposed	—	8,036.5	400	4.98	5
2nd Quinquennial	No increase proposed	—	8,750.5	400.0	4.57	5
1958-59	Feb.2, 1959 April 6, 1959	60.7	14,640.3	600.0	4.10	5
3rd Quinquennial	No increase proposed					
4th Quinquinnial	March 31, 1965	30.7	20,932.0	750.0	3.58	5
5th General	February 9, 1970	35.4	28,776.0	940.0	3.27	8
6th General	March 4, 1975 March 22, 1976	33.6	38,976.0	1,145.0	2.94	8
7th General	December 11, 1978	50.9	59,605.5	1,717.5	2.88	8
8th General	March 31, 1983	47.5	89,236.3	2,207.7	2.47	11
9th General	June 28, 1990	50.0	1,41,404.3	3,055.5	2.16	13
10th General	No increase proposed	—	1,44,737.8	3,055.5	2.11	13
11th General	February 6, 1998	45.0	2,12,029.0	4,158.2	1.96	13

APPENDIX TABLE IA.2: ALTERNATIVE SUGGESTIONS FOR A NEW BRETTON WOODS

Suggestion	Available views on the suggestion
Global lender of last resort – i.e. a global central bank with a global currency (by Richard Cooper)	Lender of last resort function does not require a global central bank with a global currency. The existing architecture with enough resources could stem panic even without any ability to create money (by Stanley Fischer)
Global markets require global regulators (by Herry Kaufman, Lance Taylor and John Eatwell)	To whom should these global regulators be accountable ? Would the national regulators accept the subordination ?
Creation of an international bankruptcy court – to deal with countries rather than companies (by Jeffrey Sachs).	Unlike a national court that could punish fraudulent companies, an international court cannot punish a national government. No national authority would agree on this proposal.
Mandatory insurance issued by an international credit insurance corporation – the IMF could set ceilings for external finance for each country beyond which access to private capital would remain uninsured (by George Soros)	This would mean that it is the IMF – not the market – which will decide the sustainable level of capital flows for every country. Hence, anti-market suggestion. Insurance up to a limit could mean speculators' paradise. This could accentuate the moral hazard problem.
Creditors must pay a price for their reckless lending. Instead of trying only to cut their losses they must cooperate in restructuring. International banks which do not cooperate and desert the authorities during crisis must be subjected to a "hair cut" – say reduction of the principal. The IMF may also be given powers to declare debt moratorium in the absence of credit cooperation. (By Robert Litan)	Highly unacceptable to creditors. May encourage reckless behaviour by debtors. Will be possible only when national authorities agree to accept stringent conditionality in exchange of temporary moratorium. If the authorities fail to implement the conditionality then the country may be declared ineligible for IMF resources for at least five years period.
Discourage short-term capital flows (by Barry Eichengreen). Reintroduce capital controls as a "least bad response" to a crisis (by Paul Krugman)	Longer term flows could be equally volatile as the short-run flows and any distinction between stable and unstable flows disappear in the midst of severe crises. Reintroduction of capital controls may work – as evidenced recently in Malaysia. But a general trend in the direction of large scale capital controls is unlikely to emerge. During the debt crisis of 1980s, many Latin American countries also reinstated controls but with little success. International opinion is still highly divided on the issue of capital flow.
Banks should police themselves instead of relying excessively on external supervisors, whether domestic or international. Each bank should finance a small proportion of its assets by selling subordinated debt to other banks/financial institutions. Yield on such bonds must be capped at close to Treasury Bill rates, so that banks holding the debt would be only exposed to the downside risk, enforcing thereby automatic rigorous monitoring of other bank's behaviour. (by Charles Calomiris)	Not feasible across banks with international operations, unless capital accounts of all countries are convertible. Market based supervision across banks operating within the borders of one country is feasible, and countries like Argentina have even started some variant of market based cross-monitoring of banks.