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Charan Singh *Editor*

Public Debt Management

Separation of Debt from Monetary Management in India

Springer

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Charan Singh
Editor

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Preface

Debt management in India has been a concern for more than five decades and the focus, since 1971 has been on domestic debt. In view of the higher deficit in the last few years, stress on debt management has been high. In a number of countries, because of the global financial crisis and rising debt ratios, debt management has assumed importance in recent years. Debt management is a policy instrument used to minimize the cost of borrowings of the government over the medium-to-long term but considering the degree of risk. It also creates a fiscal space for economic development and develops an effective domestic debt market. Debt management impacts asset prices, interest payments, and interest rates in the economy. Government's debt management policy also impacts financial markets, and investment in the private sector can be crowded out. Therefore, public debt management is crucial for the economy.

This book contains papers presented at the debt management module (DMM) under the aegis of Ninth Annual International Conference on Public Policy and Management organized by Centre for Public Policy at the Indian Institute of Management, Bangalore, in August 2014. DMM was planned to generate interest and exchange of ideas among international scholars, academia, and policy makers related to debt management practices. DMM brought together experts in the field and led to a lively discussion of issues and future prospects related to public debt management.

I express my gratitude to all the participants for contributing to the discussions as chairs, discussants, and presenters.

I am thankful to Shri Harun Khan, Deputy Governor, RBI, for agreeing to give the keynote address at the conference and for his time and contribution. I am thankful to contributors to this volume—Peeyush Srivastava, Vijay Singh Chauhan, and Ritvik Pandey who are policy makers for the government; K. Kanagasabapathy, who was associated with debt management during his years at the Reserve Bank of India; Prof. Ranjit Pattnaik from the academia; and Benno Ferrarini and Arief Ramayandi, experts from Asian Development Bank. I am grateful to them for accepting the invitation to write papers on the subject and for taking time to travel to IIMB to attend the conference and engage in interesting discussions. I appreciate their patience

during the period of revisions of the papers. This volume would not have succeeded without their cooperation and interest.

I particularly thank Dr. G. Ramesh, Chairman, Centre for Public Policy for encouraging the module on debt management. I also thank the conference organizers for their proactive team effort in making the event a success. I am thankful to Sharada Shimpi, Jafar Baig, Anand B., Namratha, Shara Bhattacharjee, and Gyanoba Rao for their assistance in organizing the module. I am grateful to Ms. Sagarika Ghosh and Ms. Nupoor Singh for their support during the publication process.

Bengaluru, India Charan Singh

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Abbreviations

ADB	Asian Development Bank
ADM	Automatic deduction mechanism
AFC	Asian Financial Crisis
AIC	Average interest cost
CAG	Comptroller and auditor general
CCIL	Clearing Corporation of India Ltd
CCP	Central Counter Party
CDM	Cash and debt management
CIB	Capital indexed bonds
CMB	Cash management bills
CPI	Consumer price index
CROMS	Clearcorp Repo Order Matching System
CRR	Cash reserve ratio
DAAC	Debt Agency Advisory Council
DMC	Developing Member Countries
DMO	Debt Management Office
DMS	Debt management strategy
DSA	Debt sustainability analysis
DSPB	Debt-stabilizing primary balance
DvP	Delivery-versus-payment
EMC	Expenditure Management Commission
FC	Finance Commission
FCI	Food Corporation of India
FSLRC	Financial Sector Legislative Reforms Commission
FPI	Foreign portfolio investors
FRB	Floating rate bonds
FRBM	Fiscal Responsibility and Budget Management
GDP	Gross domestic product
GFC	Global financial crisis
GFD	Gross fiscal deficit

GOI	Government of India
GSDP	Gross state domestic product
G-Sec	Government Securities
IBRD	International Bank of Reconstruction and Development
IDA	International Development Association
IDMO	Independent Debt Management Office
IIB	Inflation-indexed bonds
IMF	International Monetary Fund
IP	Interest payments
IRGD	Interest rate–growth differential
LIC	Life Insurance Corporation
MoF	Ministry of Finance
MSS	Market Stabilisation Scheme
NABARD	National Bank for Agriculture and Rural Development
NCDC	National Cooperative Development Corporation
NDS-OM	Negotiated Dealing System—Order Matching
NSC	National Savings Certificates
NSSF	National Small Savings Fund
OD	Overdraft
OECD	Organization for Economic Cooperation and Development
OMO	Open-market operations
OTC	Over the counter
PD	Primary dealers
PDMA	Public Debt Management Agency
PDO	Public Debt Office
PPF	Public Provident Fund
PSE	Public sector enterprises
RBI	Reserve Bank of India
RE	Revised estimates
RIDF	Rural Infrastructure Development Fund
RR	Revenue receipts
RTGS	Real-time gross settlement
SDL	State development loans
SDM	Sovereign debt management
SLR	Statutory liquidity ratio
STRIPS	Separate Trading of Registered Interest and Principal of Securities
TSA	Treasury single account
USAID	United States Agency for International Development
WMA	Ways and means advances
WPI	Wholesale price index

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Chapter 1
Introduction

Charan Singh

The main objective of debt management is to minimize cost of borrowings over the medium to long run, consistent with a prudent degree of risk. To achieve this, promotion and development of efficient primary and secondary markets for government securities is also an important complementary objective for debt management. Hence, Public debt management can be explained as the process of executing a strategy for managing government's debt—to raise the required amount of borrowings, pursue cost/risk objectives, and also meet any other goal that the government might have set.

1.1 Separate Debt Management Office in India

Historically, the debt crises of 1982 and the East Asian financial crisis of 1997 had led many countries to assign priority to public debt management and then, a number of countries chose to separate debt from monetary management. As developments in the government securities market became mature and more sophisticated, a different institutional structure was considered to be better suited to achieve an appropriate balance between monetary policy and debt management objectives. Once the financial markets had developed, the role of the central bank in sustaining the stability of markets was considered minimal. Therefore, in many of the OECD

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countries, separation of debt and monetary management had been undertaken in the 1990s. A separation in responsibilities was considered a better solution that reduces the risk of policy conflicts in central bank actions.

There was a growing consensus among practitioners to treat debt management as a separate policy instrument from monetary policy until 2008. A number of countries with liberalized financial markets and high levels of government debt sought to adopt professional debt management techniques to save cost and provide policy signals to the market. The benefits of separation of the two functions were basically conditional upon the level of financial development. The trend started with New Zealand in the 1980s, with the government recognizing the need for proper policy assignment and accountability framework for debt management to meet fiscal targets set in the then adopted Fiscal Responsibility Act. In Europe, several countries that were heavily indebted in the late 1980s and early 1990s like Belgium, France, Ireland and Portugal, decentralized debt management to varying extent, in order to reduce the variability of debt service cost that could jeopardize the targets set by the Growth and Stabilisation Pact. In the UK, debt management responsibilities were taken out of the Bank of England in order to remove the perception of conflict of interest in conducting debt management and monetary operations.

In recent years, after the global crisis, the issue of separation of monetary management from fiscal and debt management operations has re-emerged. In many countries, during the period of crisis, scope of fiscal operations was expanded and debt-to-GDP ratios increased significantly. Consequently, debt management, in general, encountered difficulties and coordination between monetary management and debt management assumed greater significance.

In view of the financial crisis, in recent years, there has been a rethink on the issue of separation of debt management because of the following factors—(a) a sharp increase in government deficit and debt, because of the fiscal stimulus, in many countries; (b) the use of unconventional monetary policy in advanced countries involving large-scale purchase of government securities of varying maturities; (c) imposition of new liquidity requirements resulting in higher demand of government securities; and (d) increase in share of foreign ownership of government debt.

1.1.1 Debt Management in India

In India, presently, public debt management is divided between the Central and state governments, and the Reserve Bank of India (RBI). The RBI manages the market borrowing program of Central and state governments. External debt is managed directly by the Central government. The RBI acts as the debt manager for marketable internal debt, for the Central government as an obligation and for the state governments by an agreement, under the RBI Act, 1934. RBI decides about the maturity pattern, calendar of borrowings, instrument design and other related issues in consultation with the Central government.

In India, important watershed in the institutional arrangements of debt management was the setting up of the middle office in the Ministry of Finance in 2008, to formulate debt management strategy for the Central government. Again the Union Budget 2011–2012 had stated that the government was in the process of setting up an Independent Debt Management Office (DMO) in the Ministry of Finance. Similarly, the Union Budget for 2012–2013 had proposed to move the Public Debt Management Agency Bill in the Parliament.

However, an important rethink in the whole process was required because the RBI was not convinced that the separation would be useful for financial markets. Despite consistency in recommendations of separating debt from monetary management, there has been serious hesitancy on part of the RBI, as documented in speeches of the Top management and arguments offered in the annual reports of the RBI. The main arguments advanced are that there already is a separate department within the RBI and that during these critical economic years, need for coordination would be immense and that the government may not have the necessary experience or expertise to undertake debt management functions.

H.R. Khan in his inaugural address discusses the strategy adopted by the Reserve Bank of India (RBI) at length. He explores the historical background in which debt management was undertaken by the RBI and emphasizes that RBI has been successful in meeting the objectives of debt management. The key objectives of debt management have been cost minimization with a prudent limit of risk. He explained various risks that RBI was taking care of, like rollover risk, exchange rate risk and interest rate risk. He also mentioned that the RBI played a crucial role in developing government securities market.

In Chap. 2, Khan argues that in the case of institutional arrangements for debt management, the circumstances and particular requirements of a country should be taken into consideration. There could be possibility of conflict of interest between different roles of the government. Also, involvement of the central bank in managing market volatility and market expectations coming up due to government debt borrowing becomes necessary and the central bank's hands-on involvement is much better as evident in recent years. Therefore, continuation of existing institutional arrangement makes a strong case.

In Chap. 3, **Peeyush Srivastava** covers in detail the objectives and strategy of debt management of the government. He discusses the strategy of the government to keep debt levels within sustainable levels. The strategy of the government should be to ensure meeting the financing requirements in a sustainable pattern and cost-effective manner. After presenting the total liabilities of the government—Centre, states and combined—he then discusses various components separately. The profile of new issuances as well as ownership pattern reveals that commercial banks and the RBI continue to hold large amount of government securities. In the last decade, weighted average yield has increased whereas the weighted average maturity of fresh issuances has almost remained same. He discusses about some of the active debt management policies like debt restructuring, consolidation of securities, market management mechanism and management of government cash

surplus. Having discussed the components, trends and strategy, Srivastava then focuses on debt sustainability.

Ritvik Pandey in the chapter of Cash and Debt Management in States provides the legal framework wherein states can only borrow from within the country and not externally. In certain circumstances, a state cannot borrow without the consent of government of India. He presents analysis of the trend of state debt, as also discusses sources of states borrowing and the issue related to state debt. He points out that states are left with little flexibility to manage their debt. He also discusses at length, cash management of the state governments wherein Ways and Means Advances and Overdraft facilities are explained in detail. Finally, he discusses about key issues that concern the states, like debt cycles, inflexible sources of borrowing and interest rates on state government securities. He brings out the aspect of disparity between states, on factors such as, dependence for financial assistance, poor fiscal management, resource disability, differences in cost disability, etc., and considers this disparity among states as the most important area that needs consideration.

In Chap. 5, **Vijay Singh Chauhan** goes into historical facts and developments in the cash management system in India, along with developments during recent years and the changes in the way the government and the Reserve Bank of India deals with deficits and cash surplus. He traces the history in detail from 1997 onwards after the phasing out of automatic monetization of budget deficits. He explains the modalities of cash management including the deficit and surplus of the central bank. Thereafter, he discusses about the recent developments in cash management wherein he discusses about the auctioning of government cash balances. However, he observes that cash management in India has largely been passive due to lack of end-day balance management. In the section on assessing the Indian cash management system, he discusses about the flow of different types of receipts on a quarterly basis and then matching it with pattern of expenditure, both plan and non-plan.

In case of government, both tax receipts and expenditure are back-loaded, and that the highest quarterly inflows and expenditures happen in the last quarter, and specifically in the last month of the financial year. Accordingly, the intra-year fiscal deficit borrowing of the Central government needs to be front-loaded, and persistence of such front-loading programs has led to skewing in interest payments and debt repayment schedule. The Central government and RBI have to manage the issue of bunching of redemptions of government securities in the initial half of the subsequent few financial years.

Charan Singh in Chap. 6 provides a basic history on debt management. He discusses the traditional view which emphasizes that debt management is a separate policy instrument from monetary policy and thus the two should be segregated. He argues that a number of countries with liberalized financial markets and high level of public debt adopted professional debt management techniques to save the cost and provide policy signal to the market. Though the trend started with New Zealand, in 1980s it quickly spread across Europe and other countries. In fact in the UK, debt management facilities were taken out of Bank of England in order to

resolve the perception of conflict of interest in conducting debt management and monetary operations.

In fact, on the basis of empirical evidence it can be argued that separation of debt management from monetary policy is justified to preserve the integrity and independence of central bank, to shield debt management from political interference, to ensure transparency and accountability, and to improve debt management by entrusting it to portfolio managers. It has also been discussed in literature that separation of debt management and monetary management positively affects expectation in the market. Singh discusses the need for active coordination between monetary authority, debt management agency and the respective government. In the current scenario, the RBI plays an important role, but that is only restricted to raising market loans. The total liabilities of the government include, in addition to market loans, small savings, provident funds, reserve funds and deposits and other accounts of the government.

The perusal of data reveals that market loans constitute nearly half of total domestic liabilities, and therefore, the rest of the liabilities are managed by different governments and departments, both at the Centre as well as states. In case of separation of debt management from monetary management, such functions of debt management can be brought under jurisdiction of a single office and economies of scale can be reaped. Therefore, he argues that separation of debt management from monetary management is in the interest of the economy as it grows, and facilitates the development of financial markets.

K. Kanagasabapathy in Chap. 7 highlights lack of holistic approach to debt management across governments and across instruments, and mentions requirement of such approach to debt management of Centre and states. He suggests Independent Debt Management Office (IDMO) should evolve into a policy-oriented institution, leaving the operational part to RBI as a banker and fiscal agent to government. He suggests the IDMO should manage both Central government debt and also state loans. He argues that the advantage in a separate debt management office lies essentially in integrating the debt management functions across governments and linking cash and investment management on behalf of the governments. He also critically reviews the recommendations made by the Financial Sector Legislative Reforms Commission (FSLRC) and identifies the drawbacks in its powers and functions. He argues that a separate debt management office structured on the basis of FSLRC would make debt management totally subservient to Ministry of Finance, without any independent status.

He argues that, setting up a statutory corporation with equal participation from Central and state governments, and the RBI, with independent goals and objectives would be a perfect arrangement. As an alternative, he suggests creating the Debt Management Corporation, as a subsidiary of the RBI with shareholding of Central and state governments, to deal with debt management of both. Suggestions have also been made about assigning various debt management activities to different authorities, and that the shift to a separate debt office can be planned out to be a gradual one. The overarching role of the debt management office should include market loans of state government, cash and investment functions, external debt and

other liabilities—in effect, all components of government liabilities should be brought under one organization.

R.K. Pattnaik in Chap. 8 discusses about the historical evolution of Fiscal Responsibility and Budget Management Act. He elaborates on the three budget principles of accountability, transparency and stability. Pattnaik discusses about the fiscal rules in detail, domestic as well as cross-country experience. He then reviews fiscal developments under the FRBM Act and provides a comparison between the pre-FRBM and post-FRBM performance. He presents the fiscal consolidation practices adopted by India over time. According to the author, the authorities were unsuccessful in adhering to the golden rule of elimination the revenue deficit. The author finds that though the quality of fiscal adjustments has been poor in case of both Central and state governments, under the fiscal legislation, the state governments were more responsible than the Central government in sticking to the objective of eliminating revenue deficit. He suggests a comprehensive approach for cash management of state governments and government of India.

Pattnaik examines the relevance of the concept of effective revenue deficit and argues that this concept should not be permitted in fiscal discussions in India. According to him, effective revenue deficit is a classic case of *counter acting* and is against any norm of fiscal prudence.

In Chap. 9, **Benno Ferrarini and Arief Ramayandi** discuss the evolution of fiscal balances and public debt ratios in developing economies of Asia. The analysis is based on five geographical subregions—Central Asia; East Asia; The Pacific; South Asia; and Southeast Asia—covering 24 economies that have consistent annual data. The study takes into account fiscal indicators over five key periods—1994–1997 to cover the Asian financial crisis; 1993–1999 and 2000–2006 to capture the effect of the Asian Financial crisis on fiscal performance of Asia; and finally 2007–2008 and 2009–2010 to compare fiscal positions before and after the global financial crisis. They review the historical evolution of public debt indicators under alternative macroeconomic and fiscal policy assumptions. The study highlights that the prudent measures and rapid economic growth along with low interest rates has helped these countries keep debt ratios under control.

Historical evidence suggests that countries in this region have reacted responsibly to increasing debt ratios through fiscal tightening when necessary and such prudent fiscal policy was the cornerstone for long-term fiscal sustainability. It was also found that fiscal policy has a strong degree of inertia causing the sign and magnitude of primary budgeting in one year to substantially depend on previous year's budgetary outcomes. The evidence emerging from the paper shows that debt dynamics are strongly centered on the assumption of low interest rate and high growth rate which erode debt ratios over time. In the case of India, fiscal discipline significantly changes the prospects of its medium-term debt dynamics. According to them, structural changes that will bring about a positive interest rate-growth differential will be a challenge in maintaining fiscal sustainability and during these times fiscal prudence becomes a very crucial element in policy.

Finally, the round table brings forth a much focused attention on the issue of separation of debt and monetary management. Views on debt sustainability and its

separation from monetary policy authority are discussed. Also, the feasibility of FRBM restrictions in an emerging market like India is debated. The round table discussion at the end of the conference was a clear demonstration of differing opinions on separation of debt from monetary management. While HR Khan and RK Pattnaik held the view that debt management should continue with the RBI, Peeyush Kumar observed that debt management is purely an executive function of the government and therefore it makes little sense in talking of independent authority. Similarly, if separation of debt management would make monetary policy more independent, Peeyush Kumar observed that close coordination between the two would still be required and the policy would have to be synchronized between the government and the debt manager. HR Khan and RK Pattnaik consider that the RBI, with its knowledge and experience, has been successful in efficiently managing the government borrowing program and therefore the separation may not result in efficient monetary policy. In the discussion, it emerged that traditional argument of debt management operating in the long end of yield curve while monetary management at the short end does not hold true in the current context of many central banks. The monetary policy in India is now operating through the repo rates, and therefore, the relevance of the arguments of short-end intervention does not arise. It also merged that debt management is an agency function of the government, a principal, a fiscal authority of the country, and therefore, separating debt function to a separate agency would not matter in debt management. Finally, Ritvik Pandey and Peeyush Srivastava rationalized the introduction and use of effective revenue deficit in government finances.

Chapter 2
Public Debt Management: Reflections on Strategy and Structure

Harun R. Khan

2.1 Introduction

I am thankful to the Centre for Public Policy, Indian Institute of Management, Bangalore, and Prof. Charan Singh in particular for inviting me to this conference. As suggested by the organizers, I would like to share some thoughts on the strategy and structure of public debt management in India with the experts and enthusiasts gathered here.

Globally it is a well-recognized fact that countries need efficient and effective public debt management as public debt portfolio is the largest portfolio in the economy, and its impact could be felt across generations. This prompted Herbert Hoover to remark "*Blessed are the young for they shall inherit the national debt*". Policy makers need to bestow special attention on debt management as debt sustainability has implications for financial stability as well as well-being of future generations.

The debt management in India has come of age from the phase of administered interest rates and high pre-emptions in the pre-reform period prior to 1990s. The reforms undertaken both in the debt management framework and in the Government securities (G-Sec) market have resulted in successful management of large borrowing program with least market distortions or disruptions. From central bank funding budget deficits, we now have a system where all government

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borrowings are funded through auctions at market determined rates. Statutory pre-emptions were brought down significantly. The annual gross market borrowing of the Government of India and the state governments increased from Rs. 122.83 billion in 1991–92 to Rs. 7602 billion in 2013–14. The amount of outstanding Government of India securities increased from Rs. 780.23 billion in 1991–92 to Rs. 35,141 billion in 2013–14. Policy action was taken on fiscal front by passing the Fiscal Responsibility and Budget Management (FRBM) Act in 2003, firmly setting targets for fiscal correction. Fiscal consolidation has both political and administrative commitment. G-Sec market has been developed through series of developmental measures. It is reasonably liquid and deep with diverse investor base and instruments. Reforms, such as introducing new instruments, expanding the investor base and strengthening market infrastructure, have further strengthened the G-Sec market. As a result, we have a yield curve that spans for 30 years, world-class trading and settlement infrastructure and keen foreign investor interest. On the sustainability front, the debt ratios are reasonable. Debt-to-GDP ratio has declined in the past decade and stands at 39 % of GDP for the Central Government (49 % of GDP for the total Central Government liabilities) in 2013–14 (Revised Estimates). Interest payments to revenue receipts ratio of the Central Government at 37 % in 2013–14 (RE) was significantly lower than 51 % in 2002–03. In line with the renewed move towards fiscal consolidation from 2012 to 13, GFD declined to 4.6 % of GDP in 2013–14 (RE) from 4.8 % in 2012–13. It is budgeted to decline further to 4.1 % in 2014–15.

In this backdrop, I will share my thoughts on the debt management operations of the Reserve Bank of India with special emphasis on management of the Government of India debt.

2.2 Role of Reserve Bank and the Government in Public Debt Management: Legal and Institutional Framework

It is a sound practice to have appropriate legal framework and institutional structure/organizational arrangements in place for public debt and the entities given powers to borrow must be entrusted with clear responsibility and transparency. The Constitution of India gives the executive branch of government the powers to borrow upon the security of the Consolidated Fund of India. Reserve Bank as an agent of the Government (both Union and the States) implements the borrowing program. The Reserve Bank draws the necessary statutory powers for debt management from Section 21 of the Reserve Bank of India Act, 1934. While the management of Union Government's public debt is an obligation for the Reserve Bank, the Reserve Bank undertakes the management of public debt of various State Governments by agreement. The procedural aspects in debt management operations are governed by the Government Securities Act, 2006 and rules framed under the Act.

External debt (bilateral and multilateral loans) is managed by the Department of Economic Affairs in the Ministry of Finance (MoF). All debt management functions for marketable internal debt are undertaken in the Reserve Bank. These functions comprise formulation of a calendar for primary issuance, deciding the desired maturity profile of the debt, size and timing of issuance, designing the instruments and methods of raising resources, etc. taking into account government's needs, market conditions, and preferences of various segments while ensuring that the entire strategy is consistent with the overall macroeconomic policy objectives. Reserve Bank also undertakes the conduct of auctions and manages the registry and depository functions.

Decisions on the implementation of the borrowing program, based on proposals made by the Reserve Bank, are periodically taken by the monitoring group on cash and debt management. This is a standing committee of officials from the MoF and the Reserve Bank. While this represents a formal working relationship between the MoF and the Reserve Bank, it is further complemented by regular discussions between the ministry and the Reserve Bank.

With regard to accountability and reporting, the operations of the debt management functions in Reserve Bank are subject to the statutory audit, internal audit and concurrent audit. Recently, the Comptroller and Auditor General (CAG) has started a performance audit of debt management operations in the MoF and the Reserve Bank focusing on three 'E's of process excellence viz. Economy, Efficiency and Effectiveness. While the internal debt management activities are reported in the annual report of the Reserve Bank, which is a statutory report and is placed before the parliament (through MoF), the external debt management functions are reported in the Annual Status Report on External Debt presented to the parliament by the finance minister. Further, the MoF is publishing an annual report on Government Debt, and the Middle Office in the Budget Division is publishing quarterly reports on the debt issued. Therefore, a robust reporting of debt is in place in our country.

As can be seen, we have sound institutional mechanism with roles and responsibilities clearly entrusted to the Reserve Bank and the Government. This has helped in discharging our mandate effectively.

2.3 Debt Management Strategy

2.3.1 Policy Objectives

The main objective of debt management is to ensure that the Government's financing needs, and its payment obligations are met at low cost over the medium to long run consistent with a prudent degree of risk. Prudent degree of risk ensures that no problems exist in rollover of debt. Further, the debt structure must be sustainable to ensure financial stability across time periods. Another important objective is to promote deep and liquid financial markets to minimize long-term borrowing cost

markets. The debt management policy must also be consistent with other macroeconomic policies including monetary policy.

Debt management strategy (DMS) comprising objectives, various benchmarks and portfolio indicators and yearly issuance plan (external and domestic funding, instruments, maturity structure, etc.) provides requisite direction to debt management operations. Its articulation imparts information, transparency and certainty and enables market participants (investors) to chalk out their investment strategy in the G-Sec market. Our DMS revolves around three broad pillars viz, cost minimization, risk mitigation and market development.

2.3.2 Cost Minimisation

Cost minimization is sought to be achieved over medium to long run by formulating appropriate issuance strategy and developing financial markets. The borrowing needs are estimated and amounts are borrowed in timely fashion thereby minimizing opportunity cost. Proper demand estimation, planned issuance and offer of appropriate instruments would aid in lowering costs. In India, the issuance calendar for market borrowings is announced in advance for each half year with details of the quantum to be borrowed each week, maturity buckets, etc. A week prior to the auction, individual securities along with their issuance size are notified to public. This strategy of sharing information about debt management has enhanced transparency of debt management operations. The borrowings are planned keeping in view the investment preferences/horizons of various investors. As commercial banks are large investors in G-Sec and are interested in short-/medium-tenor bonds, substantial issuance is in this tenor. Longer-tenor bonds are issued keeping in view demand from insurance companies and provident funds. It may be noted that cost minimisation objective refers to the planning horizon of debt management as minimizing costs at any point in time is different from minimizing costs over a longer time horizon. What might seem cost-efficient today may prove rather costly over a number of years. It is exactly the acknowledgement of this distinction that would help mitigate the alleged "dilemma" of minimizing costs while containing risks. The cost minimization exercise attempted over short term by debt managers may create sub-optimal debt structures, which may create stress for issuer by enhancing refinancing risks as was seen during the recent European sovereign debt crisis. Recognizing the need for appropriate debt portfolio structure, we have desisted from issuance in short tenors as debt maturing in ten years constitutes nearly 60 % of total debt.

2.3.3 Risk Mitigation

The sovereign debt portfolio is exposed to rollover risk, currency/exchange rate risks, sudden-stop risks and interest rate risks which need to be managed.

2.3.4 Rollover/Refinancing Risk

Elongation of maturity of the portfolio is preferred strategy to limit rollover risk. DMS in India has stressed on elongation of maturity whenever possible and, in turn, cost minimization over the medium term (Table 2.1). This is achieved by limiting issuances in short-tenor bonds and increasing issuance of medium-/long-tenor bonds taking into account the investor preferences and shape of the yield curve. Though we have issued short term bonds to meet the needs of market borrowings for fiscal stimulus in wake of global financial crisis, we have adopted a conscious strategy of elongating maturity to lessen rollover risk. This is achieved by non-issuance in maturity of 1–5 years, moderating issuance in 5–9 years and increasing issuance in 10–14 year tenor which sees robust demand from banks and other market participants. We have also increased issuance of bonds in tenors more than 15 years to cater to needs of insurance companies and provident funds. Presently, weighted average maturity of India's debt portfolio at 10 years is one of the longest in the world. With an objective to smoothen redemptions, switching of short-tenor bonds maturing at proximate years with long-tenor bonds is also being attempted and is expected to reduce rollover risks.

2.3.5 Exchange Rate Risks

Achieving appropriate and stable mix of domestic and foreign currency debt in portfolio is essential. Raising debt in foreign currency could be cost effective and

Table 2.1 Central government market borrowing through dated securities

Year	Borrowings		Outstanding stocks	
	Weighted average maturity (years)	Weighted average yield (%)	Weighted average maturity (years)	Weighted average coupon (%)
2001–02	14.30	9.44	08.20	10.84
2002–03	13.80	7.34	08.90	10.44
2003–04	14.94	5.71	09.78	09.30
2004–05	14.13	6.11	09.63	08.79
2005–06	16.90	7.34	09.92	08.75
2006–07	14.72	7.89	09.97	08.55
2007–08	14.90	8.12	10.59	08.50
2008–09	13.80	7.69	10.45	08.23
2009–10	11.16	7.23	09.82	07.89
2010–11	11.62	7.92	09.78	07.81
2011–12	12.66	8.52	09.60	07.88
2012–13	13.50	8.36	09.67	07.97
2013–14	15.05	8.45	10.00	07.99

Source Reserve Bank of India

provide a wide and varied investor base. A country with large foreign currency denominated liabilities is, however, exposed to "currency/exchange rate risks" which could impact macroeconomic stability. Further, dependence on foreign currency bonds could mean sharp volatility in interest rate and market volumes linked to the uncertainty of external sovereign ratings. Hence, no sovereign foreign currency bonds have been issued so far by India. Sizeable domestic currency bond issuances are necessary to ensure supply of bonds in the domestic bond market which is a very critical ingredient for development of the domestic bonds market. As a conscious strategy, issuance of external debt (denominated in foreign currency) is kept very low in India and external debt as percentage of Central Government's public debt has come down from 6.4 % in 2005–06 to 5.2 % during 2011–12 (Chart 2.1). The external debt in Indian context is entirely bilateral and multilateral loans.

Almost entire internal debt (i.e. more than 90 %) of the Central Government (Chart 2.1) and all the market loans (which form more than 90 % of internal debt [Chart 2.2]) have been raised from the domestic bond markets. An important feature of investor profile of the G-Sec market is the dominance of domestic investors and limited foreign investor participation. The ability of domestic markets to finance government operations is a source of strength of the debt portfolio which is insulated from the currency risk. This is a consciously adopted policy framework. Investment limits for the foreign portfolio investors (FPIs) have been enhanced in a phased manner to US$ 30 billion in G-Sec. The limits are apportioned to different categories of investors with preference towards long-term stable investors and investments in longer maturities keeping in view the sensitivity of foreign investors to global macroeconomic factors and possible sudden reversals which could potentially impact the systemic stability. Participation of foreign investor in the domestic bond markets also needs to be examined in the light of our policy stance relating to calibrated approach to capital account convertibility and the possibility of interest rate and exchange rate volatility due to large scale reversal of capital flows.

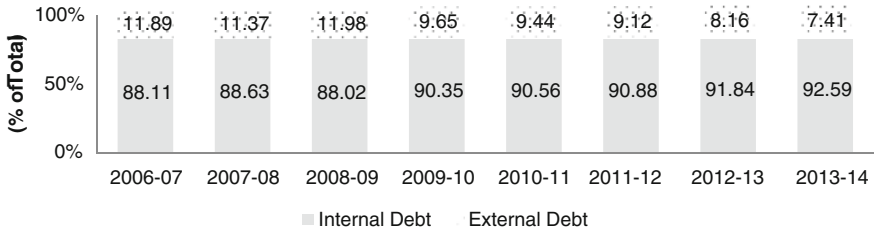

Chart 2.1 Composition of the central government's public debt. Sudden-stop risk: stable investor base. *Source* Reserve Bank of India

Chart 2.2 Share of market loans in internal debt. *Source* Reserve Bank of India

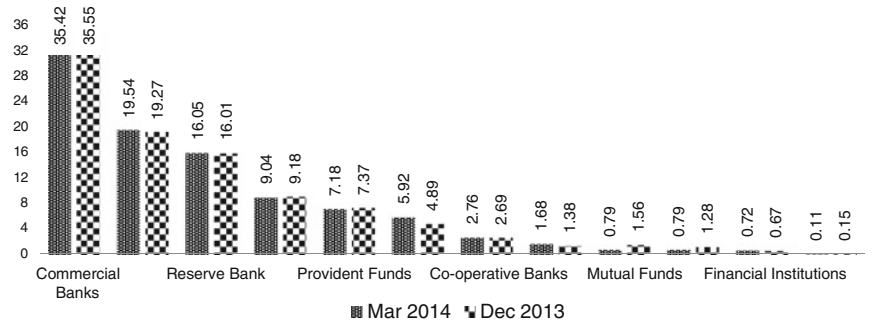

Chart 2.3 Investor profile of G-Sec market. *Source* Reserve Bank of India

The domestic investor base is dominated by banks in short-to-medium-tenor securities and by insurance companies and provident funds at the long end. With the entry of cooperative banks, regional rural banks, pension funds, mutual funds and non-banking finance companies, the institutional investor base has been reasonably diversified (Chart 2.3). There is very little retail participation in the G-Sec market as the G-Sec market has traditionally been an institutional market.

For diversifying the investor base, especially in context of calibrated reduction in mandated investments in form of statutory liquidity ratio (SLR), there is need to focus on new investors, such as, pension funds and retail investors. Reserve Bank has taken several steps to promote retail participation, such as, enabling non-competitive bidding in primary auctions to enable non-institutional investors to participate in auction, introducing odd lot trading, permitting trading of G-Sec on stock exchanges, mandating retail/mid-segment targets for primary dealers and web-based trading access to gilt account holders. The process of developing the retail and mid-segment investor base will be continued.

2.3.6 Interest Rate Risk

DMS involves issuance of variety of instruments of varying maturities to cater to the preferences of different investors. For example, some investors (banks and financial institutions) like to invest in floating rate bonds (FRBs) for their duration management. Similarly, institutional investors, such as, insurance companies, provident funds, pension funds, etc. would prefer to buy long-term bonds, zero-coupon bonds and inflation indexed bonds (IIBs) for their liability management. Floating rate instruments carry interest rate risks on re-fixing. In India, although we have been raising funds by issuing variety of instruments, such as, fixed rate conventional bonds, FRBs, Zero Coupon Bonds, CIBs, the contribution of linkers (FRBs, IIBs, etc.) has remained small, thereby limiting interest rate risk in the debt portfolio. There is, however, a need to increase the share of variable rate bonds to further improve the breadth and width of the G-Sec market and enable market participants to diversify their portfolio. Towards this end, IIBs have been issued linked to the wholesale price index (WPI). A new series is being planned which is linked to consumer price index (CPI).

2.4 Developing the G-Sec Markets

Reserve Bank, as regulator of G-Sec market, has taken several steps to create a deep and liquid market for facilitating price discovery, reducing the cost of government debt and serve as a benchmark for other debt instruments. Reserve Bank through carefully and cautiously sequenced measures within a clear cut agenda for primary and secondary market design, development of institutions, enlargement of participants and products, dissemination of market information, prudential guidelines on valuation, accounting and disclosure. Consequently, the G-Sec market has witnessed significant transformation in various dimensions, viz., market-based price discovery, widening of investor base, introduction of new instruments, establishment of primary dealers and electronic trading and settlement infrastructure.

For development of bond markets, Reserve Bank of India adopted a strategy for creation of an efficient market infrastructure to enable safe trading. State-of-the-art primary issuance process with electronic bidding and straight-through processing capabilities, an efficient, completely dematerialized depository system within the central bank, delivery-versus-payment (DvP) mode of settlement, real-time gross settlement (RTGS), electronic trading platform (Negotiated Dealing Systems-Order Matching) (NDS-OM) and a separate Central Counter Party (CCP) in the Clearing Corporation of India Ltd (CCIL) for guaranteed settlement are among the steps that were taken by the Reserve Bank over the years towards this end. The system makes G-Sec trading practically risk free and efficient.

The system of primary dealers (PDs) was established to provide support to the market-borrowing programs of the Government and also to impart liquidity in the

secondary markets. Subsequent to the withdrawal of the Reserve Bank of India from the primary market, as mandated by FRBM Act 2003, the PD System has been underwriting the entire Government of India market borrowing.

To meet the diverse funding and hedging needs of the participants, there is need for a wide array of instruments and products which would also offer benefits of diversification in the portfolio. Over the years, several instruments like zero-coupon bonds, capital-indexed bonds, floating rate bonds, Separate Trading of Registered Interest and Principal of Securities (STRIPs), bonds with call and put options, cash management bills (CMBs), IIBs have been introduced after wide consultations with market participants. Plain vanilla fixed coupon bonds, however, remain the mainstay of issuances.

Reserve Bank has always focused on improving liquidity in the debt markets. Reserve Bank has constituted a working group (Chairman: Shri. R Gandhi) to examine ways to improve liquidity in government securities and interest rate derivatives market which made several recommendations including suggestions for consolidation of debt. Many of the working group recommendations are being implemented. The recommendations, such as, truncating the time window for bidding in the primary auction; changing the settlement cycle of primary auctions in Treasury Bills (T-Bills) from T+2 to T+1; conduct of primary auctions in G-Sec as a mix of both uniform-price and multiple price formats; re-issuances of existing securities in state development loans; and migration of secondary market reporting of OTC trades in G-Sec (outright and repo) from PDO-NDS to NDS-OM and CROMS, respectively, have been implemented. Work is in progress with regard to recommendations on consolidation of public debt.

As a result of the DMS, all sustainability indicators, viz., level of debt, ratio of interest payments to revenue receipts, average cost and few floating rate instruments point towards long term sustainability. To take the process further and improve stability of debt portfolio, Reserve Bank has been striving towards consolidation, both passive and active methods. Passive consolidation is achieved through re-issuances and nearly 95 % of the bond issuance is through reissuance. We have also embarked on active consolidation through switches and buy-backs, which is expected to reduce rollover risks significantly.

It is against this backdrop, I would like to make some comments on an issue that is engaging attention of policy makers for a decade and half: the issue of separation of debt management from the central bank in India.

2.5 Institutional Arrangements for Sovereign Debt Management

To put the debate in its historical context, with regard to the location of sovereign debt management functions multiplicity of arrangements exist around the world: in the MoF, central bank or autonomous debt management agency. Cross-country

experience shows that there is no international best practice and the adoption of any particular model could depend on country specific circumstances. In the nineties, several OECD countries entrusted debt management to separate agencies with the objective of providing monetary policy independence to central banks so that they could concentrate on inflation management and not impacted by the conflicting objective of raising debt for the sovereign at low cost. It was also perceived that independent debt management office (DMOs) would improve operations of debt management through improved accountability and specialization. Many developed nations have followed suit.

In India, the genesis of the proposal could be traced back to various committees/ working groups, such as, Committee on Capital Account Convertibility (1997); Review Group of Standing Committee on International Financial Standards and Codes (2004), Percy Mistry Committee, Internal Working Group on Debt Management, MoF and finally Financial Sector Legislative Reforms Committee, which suggested separation of debt management from monetary management. During this phase the Reserve Bank, while suggesting separation, has made it conditional on attainment of three milestones: development of the Government securities market, durable fiscal correction and an enabling legislative framework. It is argued that separate DMO will help to establish transparency, and assign specific responsibility and accountability on the debt manager and could lead to an integrated and more professional management of all government liabilities, with a focused mandate.

The public discourse also focused on three kinds of conflict in sovereign debt management being done by the central bank:

- The objective of the Reserve Bank as a public debt manager may conflict with the prevailing monetary policy stance and the market participants; the central bank may not be increasing interest rates to keep borrowing costs low and thereby compromising on inflation management;
- The central bank, being also a debt manager, could take government debt on its balance sheet to ensure successful government borrowing; and
- The imperatives of the Government borrowing program may influence the decision of the Reserve Bank, as regulator of banks, to reduce the SLR requirements.

In my view, the institutional arrangements for debt management must take into view the country specific context and requirements. To set the context for this debate, we can examine the conflict of interest argument in Indian context. Even as the Government's borrowings had gone up both in absolute and in proportional terms, Reserve Bank has raised policy rates several times during the past five years, clearly indicating its commitment to price stability. In spite of a sixfold increase in the size of the net market borrowing of the Central and State Governments during the decade 2000–10, the average weighted cost of borrowing declined by over 450 bps compared to the previous decade. In 2009–10, during the global financial crisis, Reserve Bank carried out government borrowing of about Rs. 4 trillion

without disrupting the debt market or elbowing out private sector's credit requirement. In spite of rising interest rate scenario, the Reserve Bank was able to complete the Government's borrowing program in a non-disruptive fashion at a reasonable cost.

The FRBM Act, 2003 which precluded the Reserve Bank from participating in the primary auction of the Government bonds has resolved the conflict of interest with the monetary policy. Monetary signalling in India is now done by the repo rate (policy rate) under the liquidity adjustment facility (LAF) and not the bond yields.

As regards the SLR issue, it needs to be appreciated that the SLR has been used by the Reserve Bank as an instrument of prudential regulation. This has ensured that at any given point of time, all the banks have a specific percentage of their liabilities in the form of risk-free, liquid instruments. In fact, such requirement for banks to hold a certain percentage of their assets in cash and cash like instruments is one of the key corrective instruments being discussed internationally, and formed integral part of liquidity risk management under Basel III capital framework. In any case, pre-emptive mandated investments are being scaled down as can be seen from SLR reduction from peak levels of 38.5 % of NDTL of banking system to the present level of 22 %.

While theoretical formulations can conjecture conflicts of interest; the validity of assumptions need to be tested by evaluation of experience/performance and on that count, conflict of interest cannot be established with regard to Reserve Bank.

Another point that merits attention is that the proponents of separation, while citing examples from countries which differ significantly with regard to institutional milieu from India, pay little attention to nuances of debt management operations. For instance, domestic debt in the UK is managed by DMO, whereas external debt is the responsibility of the Bank of England. The whole concept of an 'all-in-one debt office' is a theoretical construct than a real organization.

It is also important to note that sovereign debt management (SDM) is much more than a mere resource raising exercise especially in a developing country context like ours. The size and dynamics of government market borrowing has a much wider influence on interest rate movements, systemic liquidity. An autonomous DMO, driven by specific objectives exclusively focusing on debt management alone, may not be able to manage this complex task involving various trade-offs.

With regard to autonomous DMOs focusing on specific responsibilities, the experience of European debt managers is instructive. The experience of DMO in the Euro area (especially Greece, Portugal and Ireland) has been less than satisfactory. The independent DMOs seemed to have been guided by perverse incentives and issued short-term/foreign debt in a disproportionate fashion, intensifying roll-over risk, sovereign risk and financial instability. The DMS and operations have resulted in a skewed maturity profile with balloon payments. For instance, Greece has bunched maturities during 2010–19 with interest payments on public debt constituting nearly 40 % of Greece's budget deficit during 2009. Large proportion (above 70 %) of debt of Portugal, Greece and Ireland was held by non-residents. As foreign investors turned risk averse and started withdrawing investments, rating agencies downgraded the debt of these countries. The DMS has jeopardized the

fiscal situation and financial stability. Therefore, autonomous DMO focusing on specific objectives, such as, cost minimisation in isolation and not in conjunction with other macroeconomic policies may result in sub-optimal debt management outcomes.

Persistent fiscal deficit warranting huge borrowings, often at the cost of flow of reserves to the private sector, has been the predominant feature of the Indian economy. Increasing borrowings by the Government, both the Central and State Governments, have to be strategically planned and tactically executed keeping in view the market conditions, liquidity situation and macroeconomic implications. Thus, given the persistently large size of market borrowings, there is a strong case for confluence of interest between monetary policy and debt management in India. On the other hand, government's ownership of majority stake in public sector banks (which own 70 % of banking sector assets) could be a source of conflict of interest with its role as debt manager, either directly or through an agency controlled by it.

In a situation of excess capital flows requiring forex intervention from the Reserve Bank and the consequent sterilization through issuance of government securities under the Market Stabilisation Scheme (MSS), the coordination of SDM with these operations needs to continue. In 2007–08, the volume of MSS issuance was comparable to that of the SDM issuance. With the reversal of capital flows in 2008–09 and the large increase in government's market-borrowing program, there was significant unwinding of the MSS and the Reserve Bank could manage the situation non-disruptively as both the functions were entrusted to it and it could undertake the necessary liquidity management measures seamlessly. During second half of 2013, the Reserve Bank of India used CMBs as a measure to contain the volatility in the foreign exchange market. Separation of SDM from the Reserve Bank will make it very difficult to harmonize these operations as is done at present.

2.5.1 Post-crisis Lessons

In the pre-crisis phase, the functions of monetary policy, financial stability and SDM used to be looked upon as an 'impossible trinity'. Post-crisis, their interdependence is increasingly being recognized. Unlike in the past, central banks' operations are not currently confined to the shorter end but are carried out across the yield curve. Similarly, government debt managers, opportunistically or under compulsion, are increasingly operating at the shorter end. This has intensified the interaction between monetary policy and SDM, warranting greater coordination in the interest of policy credibility and financial stability. Internationally, there has been a rethinking on the issue of debt management by central banks, with scholars like Charles Goodhart articulating that debt management being a critical element in the overall conduct of macroeconomic policy, central banks should be encouraged to revert to their role of managing the national debt.

In this context, the cause of coordination is always better served under the same roof than by a separation from central bank, accompanied by a closer

inter-institutional coordination. There could be an argument that coordination mechanism could be designed between the central bank and the DMO, either by statute or executive order. The experience of coordination mechanisms between DMO and central bank, which are vital for economic management, is, however, far from satisfactory and impacted debt management. There has been instances of failed auctions, e.g. in the UK (March 2009), causing reputation risk for both the authorities. In the above backdrop, it is strongly felt that given the large size of the market borrowings, there is a confluence of interest between monetary policy and debt management in India.

The significant impact of the Government borrowing on the broader interest rate structure in the economy and, therefore, on the monetary transmission process in financial markets, makes it a critical component of the macroeconomic management framework. In such a scenario, central bank involvement in managing the market volatility and market expectations arising out of government debt borrowing becomes necessary. The past experience, reinforced by the recent developments regarding huge market borrowing of the Government, has shown the necessity of this approach. Such will be the case even if the central bank is disassociated from the operational aspects of debt issuance. This being so, it is much better for the central bank to have a hands-on involvement.

It is, therefore, imperative that future course of action needs to be decided based on ground realities of our country rather than from an ideological perspective, emerging post-crisis international experience and the fact that the separation of debt management from the central bank could compromise the effectiveness of monetary policy, efficiency of debt management and stability of financial markets. Therefore, there is a strong case for continuance of present system of central bank-managing debt management in India. In case, however, a decision is taken to move the debt management function to a separate unit, it needs to be preceded by well thought out strategy on timing of commencement of its operations, selection of personnel, their incentive structure, performance evaluation benchmarks from the long term debt sustainability points of view and arrangements for perfect institutional and operational coordination among the debt management unit, the MoF and the Reserve Bank of India.

2.6 Concluding Thoughts

I would like to conclude by adding that the process of managing public debt is an onerous responsibility, with implications for financial stability in the short-to-medium term and inter-generational equity in the long run. Our debt portfolio is reasonably stable and sustainable and due to our conscious strategy of elongation of maturity, low level of foreign currency debt, large domestic investor base, risks are at low level. There is, however, an unfinished agenda of consolidation of public debt and we are moving towards this goal by active debt management through re-issuances, buybacks and switches. More efforts are needed to

develop a deep and liquid G-Sec market that allows the Government to borrow more efficiently, different classes of investors to enter and exit the market freely and private sector issuers to price their offerings transparently. We are, therefore, committed to improving liquidity. Reserve Bank has discharged its mandate of managing the public debt in an efficient and effective manner. There is merit in continuance of present institutional arrangement. If at all, separation of debt management from central bank has to be effected, it should be preceded by well thought strategy focussing on perfect coordination among the Debt Management Office, the MoF and the Reserve Bank of India.

Chapter 3
Debt Management of the Government

Peeyush Srivastava

3.1 Introduction

The debt management imperative and strategy have emanated from the requirement of phasing out monetization of budget deficit (*ad hoc* treasury bills) and its financing through market borrowing. The switchover happened in the middle years of the last decade of twentieth century, from 1994 to 1997.

The Monitoring Group of Cash and Debt Management (CDM) was constituted in April 1997 with the objective of estimation of monthly fiscal deficit and borrowing requirement. CDM has led the debt management strategy of the Government. Accordingly, a borrowing calendar is announced on a biannual basis, with weekly schedule of market borrowing in the two half-yearly period.

This paper introduces the objectives and strategy of the debt management in Sect. 3.2. Section 3.3 gives the composition of public debt in the country for the Central Government. Section 3.4 discusses the features of active debt management. The debt positions of the state governments are highlighted in Sect. 3.5. Sustainability of debt and combined liabilities are discussed in Sect. 3.6. Finally, conclusions are presented in Sect. 3.7.

3.2 Objectives and Strategy of Debt Management

The debt management strategy of the Government is based on the principle of keeping the level of public debt within sustainable limits and follows prudent debt management practices. This objective is to contain debt service burden and create fiscal space for economic development, while minimizing risk of rollover.

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An effective borrowings and debt management strategy need to establish a balance in minimization of cost of borrowings and risk, particularly the rollover risk. The achievement of this balance requires a continued focus on enabling environment through developing the market for government securities, effective cash management, active debt management and institutional development.

The medium-term market borrowings strategy of the Government is based on the need for ensuring that the Government is able to meet its financing requirements in a sustainable and cost-effective manner. Another related, and important, objective of debt management policy is to develop a liquid and well-functioning domestic debt market.

3.2.1 Strategy

In India, debt policy is driven by the principle of gradual reduction of public debt to GDP ratio so as to further reduce debt servicing risk and create fiscal space for developmental expenditure. Indian debt profile is characterized by reliance on domestic market borrowings, with market-determined rates rather than administered rates.

Developing a liquid and vibrant secondary market for government securities and broadening the investor base are key factors to ensure that debt is raised in a cost-effective manner. Primary issuance strategy of the Government remains focused on issuing new securities under benchmark maturities and building volumes under existing securities to improve liquidity in secondary market. At the same time, to manage liquidity risks, there are internal ceilings on outstanding amount of individual securities. Similarly, while floating rate instruments are being issued from time to time to meet requirements of diverse investors, to manage interest rate risk the major portion of market borrowings are of fixed coupon. Broadening of investor base is another key factor in stability of demand for government securities. The Government introduced inflation-indexed bonds based on WPI for institutional category in the beginning of FY 2013–2014 for market development and price discovery.

Apart from greater focus on market borrowings, the Government is also moving towards alignment of administered interest rates with market rates. Interest rates on small savings are now linked with yields in secondary market for dated securities.

Another aspect of debt management strategy is to manage rollover risk. The Government is continuing its efforts to elongate the maturity profile of its debt portfolio for lower rollover risk. The increased maturity of primary issuances without a substantial increase in borrowings cost reflects greater demand for longer tenor securities. There are internal annual ceilings on outstanding debt. Further, government is adopting active debt management strategies, in terms of buyback and switches of outstanding debt, for a prudent debt maturity profile.

A key feature of country's debt profile is diminishing proportion of external debt as percentage of total borrowing. External borrowing is limited to

bilateral/multilateral loans from select development partners for financing development projects. A low share of external debt in total debt insulates debt portfolio from external sector shocks and currency risks. With gradual decline in net inflow from multilateral institutions in next few years, government would have the option of exploring other sources of external debt, for example, in the form of sovereign bond issuance to maintain a reasonable mix of domestic and external debt in its portfolio.

3.3 Debt Profile

Public debt made up 87.9 % of total liabilities at end of March 2014 as against 87.0 % as at end of March 2013. Public debt is further classified into internal and external debt. Internal debt, constituting 91.9 % of public debt at end of March 2014, largely consists of fixed tenor and fixed coupon dated securities (81.8 % of internal debt) and treasury bills (8.1 % of internal debt) which are issued through auctions.

3.3.1 Central Government Liabilities

Central Government liabilities include debt contracted in the Consolidated Fund of India (defined as public debt) as well as liabilities in the public account.

3.3.1.1 Public Debt

Internal Debt

The following sections provide details of various components of internal debt:

- Market loans—dated securities:
- Floating rate debt
- Inflation index bonds
- Treasury bills
- 14-Day intermediate treasury bills
- Cash management bills
- Securities issued to international financial institutions
- Market stabilization scheme (MSS)
- Compensation and other bonds
- Securities against small savings (National Small Saving Fund).

Internal debt of the Central Government (42.5 trillion, 37.4 % of GDP at end of March 2014) largely consists of fixed tenor and fixed rate market borrowings, viz.

dated securities and treasury bills. As at end of March 2014, dated securities (35.15 trillion, 31 % of GDP) accounted for 76 % of public debt, while treasury bills (3.4 trillion, 3 % of GDP) accounted for 7.4 %.

The remaining items in internal debt are securities issued to National Small Savings Fund (NSSF) (2.3 trillion), securities issued to international financial institutions (0.3 trillion) and compensation and other bonds (0.15 trillion) which together constituted 5.9 % of public debt.

Central Government also issues 14-day intermediate treasury bills to state governments for providing them an avenue to invest their surplus cash. At end of March 2014, outstanding amount under these bills was 0.98 trillion or 0 % of GDP accounting for 2.1 % of public debt.

While treasury bills are issued to meet short-term cash requirements of the Government, dated securities are issued to mobilize longer-term resources to finance the fiscal deficit.

All marketable debt is issued through auctions. Issuance of securities is planned and conducted keeping in view the debt management objective of cost-efficiency, prudent levels of risk and market development. Assessment of the market structure and market appetite for various maturities of debt influences and facilitates scheduling of debt issue.

The weighted average maturity of dated securities stood at 13.5 years in 2012–2013. Floating rate instruments constituted 1.1 % of public debt, while short-term debt constituted 12.9 %. Table 3.1 shows the composition of internal debt of the Central Government.

External Debt

External debt (3.3 trillion, 3.3 % of GDP as at end of March 2013) constituted 8.2 % of the public debt of the Central Government. As State Governments are not empowered to contract external debt, all external debt is contracted by the Central Government and those intended for state government projects are on-lent to states. Most of the external debt is from multilateral agencies such as IDA, IBRD and ADB. A small proportion of external debt originates from official bilateral agencies.

There is no borrowing from international private capital markets. The entire external debt is originally long term, and a major part is at variable interest rates. Table 3.2 presents the composition of external debt of the Central Government.

3.3.1.2 Public Account Liabilities

Liabilities in the public account (6.4 trillion, 5.6 % of GDP at end of March 2014) include National Small Saving Fund (NSSF), provident funds, reserve funds and deposits and other accounts.

NSSF liabilities account for 16.6 % of public account liabilities, while reserve funds and deposits account for 24.1 % and state provident fund for 22.5 %. NSSF

Table 3.1 Composition of internal debt

Item	At end of March 2014	At end of December 2014	At end of March 2014	At end of December 2014
	(Crore)		(% of total)	
Internal debt	4,240,766.93	4,641,491.6	91.1	91.8
Marketable	3,853,395.3	4,267,395.2	82.8	84.4
(a) Treasury bills	339,134.3	397,443.0	7.3	7.9
(i) Cash management bills	–	–	–	–
(ii) 91-day treasury bills	125,760.6	185,122.9	2.7	3.7
(iii) 182-day treasury bills	76,417.4	70,069.2	1.6	1.4
(iv) 364-day treasure bills	136,956.3	142,250.9	2.9	2.8
(b) Dated securities	3,514,261.0	3,869,952.2	75.5	76.6
Non-marketable	387,371.6	374,069.4	8.3	7.4
(i) 14-day treasury bills	86,815.8	71,212.8	1.9	1.4
(ii) Securities issued to NSSF	229,165.4	228,276.1	4.9	4.5
(iii) Compensation and other bonds	36,209.4	36,005.2	0.8	0.7
(iv) Securities issued to international financial institutions	35,181.1	38,602.3	0.8	0.8
(v) Ways and mean advances	–	–	–	–

Note NSSF National Small Savings Fund
Source GoI, MoF

Table 3.2 Composition of external debt

Item	At end of March 2014	At end of December 2014	At end of March 2014	At end of December 2014
	(Crore)		(% of Total)	
2. External debt	412,691.0	413,312.6	8.9	8.2
(i) Multilateral	268,487.3	279,194.1	5.8	5.5
(ii) Bilateral	105,345.9	96,997.3	2.2	1.9
(iii) IMF	38,211.0	36,502.0	0.8	0.7
(iv) Rupee debt	646.9	619.3	0.0	0.0

Source GoI, MoF

liabilities in the public account represent total borrowings under small savings less the borrowings of Central Government from NSSF (which is reckoned in public debt) and of State Governments. That is, it represents the net gain/loss in the NSSF.

Liabilities under other accounts include special bonds issued to oil marketing companies, fertilizer companies and Food Corporation of India (FCI). At end of March 2014, these liabilities accounted for 36.8 % of public account liabilities.

Adjustment to Reported Central Government Debt

Total liabilities reported in the budget documents of the Central Government need to be adjusted so that the outstanding debt truly reflects the outcome of fiscal operations of the Central Government. The details of these adjustments are briefly explained below.

- **Market stabilization scheme (MSS)**—Securities are issued under MSS (bonds as well as bills) with the objective of sterilizing the exchange market intervention of the Reserve Bank of India (RBI). The proceeds of the issuance are not used to fund the Central Government budget, but sequestered in an account maintained with the RBI. The sequestered funds are used to redeem MSS securities on maturity. The interest/discount burden on these securities is, however, borne by the Central Government. Thus, MSS securities are purely monetary instrument and not the consequence of fiscal operations. Besides, their redemption requirement is fully provided for in cash. Therefore, debt raised under MSS is netted out of Central Government debt.
- **External debt**—External debt is reported at historical exchange rates in the budget documents which do not capture the impact of exchange rate movements on liabilities reported in domestic currency. Therefore, external debt is revised at current (end of year) exchange rates.
- **Liabilities under National Small Savings Fund (NSSF)**—The accumulated balance in NSSF (collections net of withdrawals) is invested in special securities of States and the Central Government as per prevailing norms. The borrowing from NSSF by the Central Government for financing its deficit is shown under public debt. The borrowing from NSSF by states is shown under public account liabilities of the Central Government. The latter is netted out so that total liabilities of the Central Government reflect the outcome of its own fiscal operations.

3.3.2 General Government Debt

General government debt represents the indebtedness of the Government sector (Central and State Governments). This is arrived at by consolidating the debt of the Central Government and the state government, netting out inter-governmental transactions, viz.

- Investment in treasury bills by states which represent lending by states to the Centre and
- Centre's loans to states.

Table 3.3 shows the trend in liabilities of Central and State Governments.

Table 3.3 Outstanding liabilities of the government (as per cent to GDP)

Year	Centre		State[a]		Combined[a]	
	Outstanding liabilities[b]	Outstanding liabilities[c]	Outstanding liabilities[b]	Outstanding liabilities[c]	Outstanding liabilities[b]	Outstanding liabilities[c]
1990–1991	53.7	59.6	21.9	21.9	62.9	68.9
1995–1996	49.4	57.3	20.3	20.3	59.4	67.3
2000–2001	53.9	59.4	27.3	27.3	68.2	73.7
2007–2008	56.9	58.9	26.6	26.6	69.5	71.4
2008–2009	56.1	58.6	26.1	26.1	69.7	72.2
2009–2010	54.5	56.3	25.5	25.5	68.8	70.6
2010–2011	50.5	52.1	23.5	23.5	64.0	65.5
2011–2012	50.0	51.7	22.1	22.1	63.5	65.2
2012–2013	50.1	51.7	21.7	21.7	63.9	65.4
2013–2014 RE	49.2	50.9	21.5	21.5	63.7	65.4
2014–2015 BE	48.3	49.8	21.3	21.3	63.4	64.9

Source RBI Annual Report (2013–2014)

[a]Data from 2013 to 2014 onwards are provisional, *RE* revised estimates. *BE* budget estimates

[b]Includes external liabilities of the Centre calculated at historical exchange rates

[c]Includes external liabilities of the Centre calculated at current exchange rates

3.3.3 Status

The total liabilities for Government of India include debt and liabilities accounted in the Consolidated Fund of India (technically defined as public debt) as well as liabilities accounted in the public account. Total liabilities of the Central Government at end of March 2014 were placed at 46.3 % of GDP (external debt at current exchange rate) as against 46.6 % as at end of March 2013 and 67.2 % as at end of March 2003.

3.3.4 Public Debt—Central Government

Public debt, which stood at 40.7 % of GDP as at end of March 2014, had shown a steady decline from 48.1 % of GDP in 2002–2003 to 37.1 % in 2007–2008. This reduction in public debt was on account of both fiscal consolidation and high rate of GDP growth. This trend reversed marginally during 2008–2009 and in 2009–2010 as fiscal deficit went up due to measures to counter the adverse impact of the global financial crisis. As growth slipped to 6.7 % in 2008–2009, and borrowings spiked up, public debt to GDP ratio increased from 37.1 % in 2007–2008 to 39.9 % in 2009–2010. In 2010–2011 growth recovered and fiscal deficit dipped to 4.8 %, leading to a decline in public debt to 37.9 % of GDP at end of March 2011.

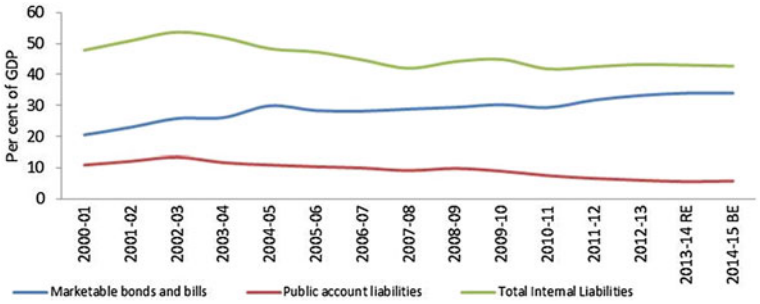

Chart 3.1 Composition of internal debt of the Centre. *Source* GoI, Ministry of Finance

Subsequently, fiscal deficit widened again in 2011–2012 to 5.7 % of GDP and moderated to 4.9 % in 2012–2013. Apart from widening of GFD, a deceleration in GDP growth to 6.2 % in 2011–2012 and 4.5 % in 2012–2013 led to increase in ratio of public debt to GDP at end of March 2013 to 40.6 %. However, the long-term trend of decline in the ratio of public debt to GDP continues. With the current phase of fiscal consolidation under the new FRBM regime, the sharp correction affected in fiscal deficit in last two fiscal years led to resumption of declining trend in the public debt. It was expected to improve 39.9 % by end of March 2015. If the fiscal consolidation phase is fully implemented, as announced by the government in recent budget, the public debt is expected to improve 37.1 % by the end of the consolidation phase.

Over time, there is a compositional shift towards marketable debt, while public account liabilities have seen a commensurate decline (Chart 3.1). The share of marketable debt to total internal liabilities which was about 30 % in 1991 and about 43 % in the beginning of 2000s increased to 78.9 % at end of March 2014 and budgeted to increase further to 79.5 % by end of March 2015. The share of public account liabilities on the other hand has declined to 13.0 % in 2013–2014 (RE) from about 24 % in 2001–2002 and about 46 % in 1990s.

3.3.5 External Debt

The debt in India is mostly held domestically and denominated in domestic currency. The share of external debt in total Central Government debt (at current exchange rate) has been gradually declining and stood at 8.1 % at end of March 2014 as compared with 8.2 % at end of March 2013 and 11.5 % as at end of March 2003. Going forward, it is expected that the share of official development assistance will continue to contract further as India hits the drawing limits in official assistance, in keeping with its growing stature. It is expected to shrink to below 6 % level by 2016–2017.

3.3.6 Maturity Profile of Debt

Dated securities constitute a major proportion of Central Government debt. Outstanding dated securities show a favourable and fairly stable maturity profile. An analysis of the proportion of debt (dated securities) maturing under various maturity buckets indicates a relatively low rollover risk in debt profile. Approximately, 30 % of the debt is maturing within 5 years which implies that over the next five years, on an average, about 6.0 % of outstanding stock needs to be rolled over every year. The proportion of debt maturing in less than one year continues to be low (Table 3.4).

As discussed below, the weighted average maturity of outstanding dated securities at around 10 years provides cushion to the public debt management in India. The Union Budget 2013–2014 had provided 50,000 crore for buyback/switching of government securities. In this regard, switch operations wherein swapping of securities from 2014 to 2015 and 2015 to 2016 maturity buckets for amounts of face value of about 27,000 crore and about 4400, respectively, was successfully switched to longer tenor security with institutional investor in last week of January 2014 and on 13 March 2014.

The Government also repurchased its securities through reverse auction for aggregate amounts of 15,590 crore (face value) during March 2014 to prematurely redeem the Government Stocks by utilizing its surplus cash balances.

3.3.7 Profile of New Issuances

Maturity profile of primary issuances is consciously modulated to optimize response so that Government borrowing is completed in a cost-effective and non-disruptive manner. Accordingly, the weighted average maturity of primary issues was lengthened during the middle of current decade. It was reduced post-financial crisis to improve response to enhanced levels of borrowings by the Government. During 2013–2014, while weighted average maturity of primary issuances increased to 14.28 years from 13.5 years in the previous year, this increase was without substantial increase in borrowing costs. The weighted average

Table 3.4 Maturity profile of GoI outstanding dated securities (per cent to total)

Maturity buckets	End of March 2012	End of March 2013	End of March 2014	End of December 2014
Less than 1 year	3.5	3.1	4.0	4.6
1–5 years	26.7	27.9	26.0	21.9
5–10 years	34.7	35.0	31.5	33.8
10–20 years	22.0	22.9	25.2	26.8
20 years and above	13.12	11.2	13.3	12.9

Source GoI

yields of primary issuances during 2013–2014 saw only moderate increase to 8.48 % from 8.36 % in the previous year which may be seen in the backdrop of hardening of interest rates due to global factors and monetary tightening by RBI during the year. Trend in weighted average coupon of outstanding dated securities over time indicates a stable cost structure of debt portfolio (Tables 3.5 and 3.6; Chart 3.2).

Table 3.5 Central Government's market loans—a profile[a]

Year	Range of YTMs at primary issues			Issues during the year
	Under 5 years	5–10 years	Over 10 years	Tenor of securities (range) (Years)
2008–2009	7.71–8.42	7.69–8.77	7.77–8.81	6–30
2009–2010	6.09–7.25	6.07–7.77	6.85–8.43	5–15
2010–2011	5.98–8.67	7.17–8.19	7.64–8.63	5–30
2011–2012	8.21–8.49	7.80–10.01	8.25–9.28	7–30
2012–2013	8.82–8.21	7.86–8.76	7.91–8.06	5–30
2013–2014	7.22–9.00	7.16–9.40	7.36–9.40	6–30

Source RBI (Annual Report 2013–2014)
YTM yield to maturity
[a]Excludes issuances under MSS

Table 3.6 Maturity and yield of Central Government's market loans

Year	Issues during the year		Outstanding stock	
	Weighted average yield (%)	Weighted average maturity (years)	Weighted average yield (%)	Weighted average maturity (years)
2003–2004	5.71	14.94	9.30	9.78
2004–2005	6.11	14.13	8.79	9.63
2005–2006	7.34	16.90	8.75	9.92
2006–2007	7.89	14.72	8.55	9.97
2007–2008	8.12	14.90	8.50	10.59
2008–2009	7.69	13.81	8.23	10.45
2009–2010	7.23	11.16	7.89	9.67
2010–2011	7.92	11.62	7.81	9.64
2011–2012	8.52	12.66	7.88	9.60
2012–2013	8.36	13.50	7.97	9.66
2013–2014	8.48	14.28	7.98	10.00
2014–2015	8.86	14.28	8.05	10.16

Source GoI, Ministry of Finance

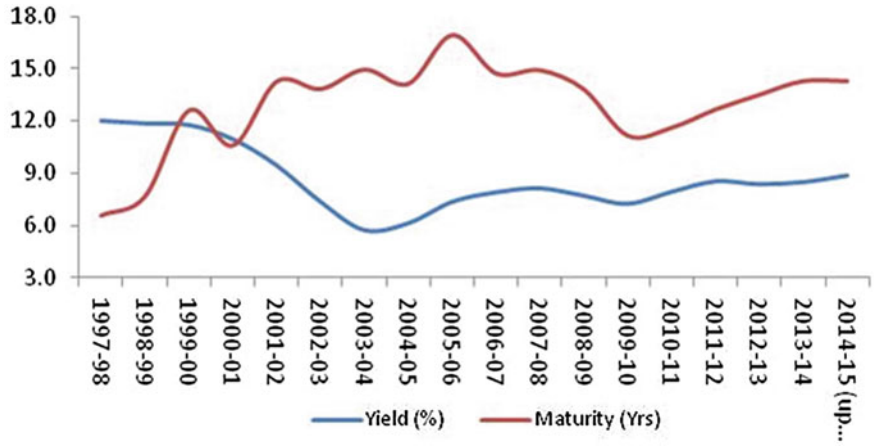

Chart 3.2 Yield and maturity of primary issuances. *Source* GoI, Ministry of Finance

3.3.8 Investor Profile

Information on holding pattern of government securities by various investor categories is given in Table 3.7. A stable holding pattern with a relatively diversified investor base indicates stability in the demand for government debt. The increased maturity of primary issuances without a substantial increase in borrowings cost reflects greater demand for longer tenor securities by insurance companies and

Table 3.7 Ownership pattern of Government of India dated securities (per cent outstanding)

Category	2012		2013			2014	
	Sep	Dec	Mar	Sep	Dec	Mar	Sep
1. Commercial banks	33.91	33.98	34.50	36.34	35.55	35.42	33.63
2. Bank PDs	10.63	9.98	9.36	8.36	9.18	9.04	9.32
3. Non-bank PDs	0.10	0.15	0.11	0.04	0.15	0.11	0.20
4. Insurance companies	21.30	19.54	18.56	19.27	19.27	19.54	20.55
5. Mutual funds	0.55	1.20	0.68	1.61	1.56	0.78	1.26
6. Cooperative banks	3.03	2.89	2.81	2.73	2.69	2.76	2.71
7. Financial institutions	0.37	0.64	0.75	0.71	0.67	0.72	1.44
8. Corporates	1.61	1.62	1.14	1.19	1.27	0.79	1.06
9. FIIs	1.10	1.24	1.61	1.40	1.38	1.68	3.37
10. Provident funds	7.19	7.12	7.37	7.20	7.37	7.18	7.13
11. RBI	16.02	15.95	16.99	16.83	16.01	16.05	14.33
12. Others	4.20	5.68	6.12	4.32	4.89	5.92	4.99
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note The data are provisional in nature and subject to revisions
Source RBI bulletin, December 2014

provident funds which continue to support government efforts to elongate maturity profile in medium term.

3.3.9 *Average Interest Cost*

Average interest cost (AIC) is arrived at by dividing interest payments during a year with average debt stock. A continuously declining AIC augurs well for the stability of government debt. Trend in Centre's AIC showed a downward movement over 2000s. Centre's AIC declined to 6.9 % in 2013–2014 (RE) from 8.1 % in 2000–2001 (Chart 3.3). A comparison of AIC with nominal GDP growth rate reinforces the sustainability of public debt. Nominal growth rate in GDP has been well above the AIC, implying that the growth in revenue generation through GDP is likely to exceed the growth in interest obligations. This is likely to further push down the IP/RR ratio providing more fiscal space for developmental expenditure.

3.4 Active Debt Management

At present, debt management operations in India largely pertain to pre-issuance and issuance operations. Post-issuance market operations like buyback of securities and active debt restructuring are not predominant in the Indian context, although they have been resorted to on a few occasions. Active operations by a debt manager could be undertaken with the following objectives:

- **Consolidation of securities**: Buying back of illiquid securities and reissuing liquid securities to augment stock with the objective of enhancing liquidity in benchmark securities.

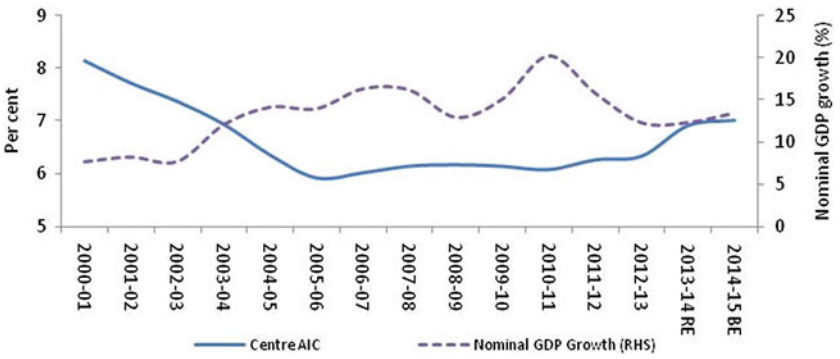

Chart 3.3 Average interest cost (AIC) of Centre and nominal GDP growth. *Source* GoI, Ministry of Finance

- **Debt restructuring**: These operations are conducted to restructure the maturity profile of outstanding stock to manage rollover/refinancing risk or smooth the redemption profile.
- **Management of Government' Cash Surplus**: When the Government runs surpluses, the same could be used to buyback securities maturing in the short run (generally within the same fiscal year) in the market to reduce interest cost. Surplus funds can also be used to reduce bunched redemption obligations in the near term.
- **Market Management Mechanism**: Under extreme conditions of excess/shortfall in demand in a particular stock or maturity segment, debt managers may buy/sell securities or even lend securities with a view to stabilize debt markets. These operations may also be aimed at promoting primary dealer (PD) system.

3.4.1 Impact on Fiscal

Conceptually, in the case of a Government running fiscal deficits, switches/buybacks are funded by fresh borrowing. They do not affect, except to the extent discussed later in this para, either the fiscal deficit or debt stock. As coupon rates on repurchased securities are likely to be different from market yields at the time of buyback, Government is likely to either receive a premium or pay a discount while purchasing the securities. Depending on current yields, government could either receive a net income or incur a net expenditure in the transaction. Fiscal deficit will be affected to that extent. Also, a budget provision is required to be made to enable payment of the gross amount of discount paid as well as for the face value of securities to be repurchased. In case debt manager lends securities to PDs for market management, Government is likely to earn interest/fee.

With the increasing redemption pressure in coming years, the imperative to undertake active debt management through switching and buybacks has led to renewed interest in the Indian context.

3.5 Debt Position of State Governments

3.5.1 Composition of State Government Debt

Outstanding liabilities of state governments (at the consolidated level) as a proportion of GDP have been on a declining trend from 2004 to 2005, reflecting the combined impact of favourable macroeconomic conditions and fiscal consolidation at the state level, complemented by debt relief and interest relief provided by the Central Government. In recent years, efforts by state governments to adhere to the

debt ceilings stipulated under their amended FRBM Acts also resulted in a reduction in its debt/GDP ratio.

As per RBI's report on '**State Finances: A Study of Budgets 2014–15**' the consolidated debt/GDP ratio of state governments was placed at 21.5 % in 2013–2014 (RE) and is budgeted to decline further by 0.3 % points to 21.4 % in 2013–2014, which is much lower than 24.9 % stipulated by Thirteenth Finance Commission for the year (Table 3.8). The overall debt position of the states has improved over the years, as reflected in the indicator of interest payments to revenue receipts (IP-RR), which declined steadily from 26.0 % in 2003–2004 to 11.5 % in 2012–2013 (RE) and is budgeted to decline further to 11.4 % in 2013–2014.

The composition of states' debt reveals increased reliance on market borrowings (Table 3.9), whose share accounted for 43.1 % at end of March 2014, while the share of liabilities to NSSF stood at 20.1 % at end of March 2014 and has been steadily declining since end of March 2007 (34.3 %). Similarly, the states' dependence on loans from the Centre continued to decline and its share stood at 6.2 % at end of March 2014. The share of public account items, which had risen at end of March 2011, has been declining since, although moderately.

The weighted average cost of market borrowings of state governments increased marginally to 8.84 % in 2012–2013 from 8.79 % in 2011–2012. Weighted average interest rate softened to 8.58 % in 2014–2015 from 9.03 % in 2013–2014. Up to 2011–2012, state government securities were issued for 10-year maturity only. Deviating from the normal issuance practice, some states were permitted to issue new State Development Loans (SDL) securities of 4–5 years tenor from July 2012,

Table 3.8 Debt position of state governments (billion)

Year (end of March)	Amount (billion)	Annual growth	Debt/GDP
		(Per cent)	
1991	1281.5	–	21.9
1997	2859.0	14.6	20.1
1998	3308.2	15.7	21.0
1999	3995.8	20.8	22.2
2000	5095.3	27.5	25.3
2004	9031.7	14.8	31.8
2008	13,283.0	7.0	26.6
2009	14,702.0	10.7	26.1
2010	16,486.5	12.1	25.5
2011	18,289.8	10.9	23.5
2012	19,939.2	9.0	22.2
2013	22,102.5	10.8	22.0
2014 (RE)	24,375.6	10.3	21.5
2015 (BE)	27,336.4	12.1	–

Source Budget documents of state governments

Table 3.9 Composition of outstanding liabilities of state governments (per cent)

Item	2010	2011	2012	2013	2014 RE	2015 BE
Total liabilities (1–4)	100.0	100.0	100.0	100.0	100.0	100.0
1. Internal debt	65.1	65.4	66.3	65.9	67.1	68.5
Market loans	31.3	33.0	37.2	39.6	43.1	46.8
Special securities issued to NSSF	27.6	27.0	24.4	22	20.1	17.8
Loans from banks and FIs	5.1	4.5	4.2	3.9	3.6	3.7
2. Loans and advances from the Centre	8.7	7.9	7.2	6.6	6.2	6.0
3. Public account (i–iii)	26.0	26.5	26.3	27.4	26.5	25.3
(i) State PF, etc.	12.2	12.5	12.7	12.6	12.5	12.1
(ii) Reserve funds	5.7	5.6	4.6	6.0	5.5	5.1
(iii) Deposits and advances	8.2	8.4	9.0	8.8	8.5	8.0
4. Contingency fund	0.1	0.2	0.2	0.2	0.2	0.2

Source RBI State Finances Report (2014–2015)

Table 3.10 Interest rate profile of outstanding stock of state government securities

Range of interest rate	Outstanding amount (billion)				Percentage to total			
	2009	2011	2013	2014	2009	2011	2013	2014
5.00–5.99	348.3	348.2	347.3	336.1	8.7	5.7	3.9	3.2
6.00–6.99	746.1	746.1	549.4	240.4	18.6	12.3	6.1	2.3
7.00–7.99	1139.0	1510.7	1397.3	1642.3	28.3	24.9	15.6	15.5
8.00–8.99	1257.5	3244.3	6047.0	6160	31.3	53.5	67.4	58.0
9.00–9.99	123.7	121.2	632.2	2210.6	3.1	2.0	7.0	20.8
10.00 and above	290.0	88.2	0.0	30.0	10.0	1.5	0.0	0.3
Total	4019.2	6058.7	8973.3	10,619.4	100.0	100.0	100.0	100.0

Source RBI State Finances Report (2014–2015)

which attracted lower cut-off yields than that for the normal 10-year SDLs. The maturity profile of outstanding SDL stocks as at end of March 2013 reveals that a majority of SDLs (around 77 %) were in the remaining maturity bucket of five years and above. Table 3.10 reveals that the major share of outstanding debt is raised at interest rates in the range of 8–9 %.

3.6 Sustainability of Debt and Combined Liabilities

3.6.1 Sustainability Indicators of Debt

Traditionally, debt sustainability is assessed in terms of primary deficit and interest cost, relative to nominal GDP growth rate. There is little consensus with regard to a level of debt that may be considered unsustainable. There are instances of countries

with debt/GDP ratios close to or higher than 100 % without doubts on their ability to service debt. A secularly rising debt/GDP ratio can nonetheless be considered as leading towards unsustainability. Symmetrically, a secularly falling debt/GDP ratio can be considered as leading towards stability.

Apart from the magnitude of debt itself, other characteristics of public debt like currency composition, maturity pattern and debt servicing at fixed or floating rates also contribute significantly to determining sustainable level of debt (Kaur and Mukherjee 2012).

The trend in level of debt is the first such indicator which points towards long- and medium-term sustainability of the public debt. The level of debt reflects the cumulative effect of Government borrowings over time, which tends to be higher for a developing economy due to the need for creating adequate infrastructure. India's debt level went up consistently during 1980s and 1990s, and the combined debt/GDP ratio of the Centre and States reached a peak of 83.3 % by the end of 2003–2004. Thereafter, debt/GDP ratio has recorded a secular decline.

The marginal increase during 2008–2009 was mainly on account of global factors. General government debt/GDP ratio stood at 66.0 % at end of March 2013 compared to 65.5 % at end-March 2012. Reduction in debt took place at both the Central and State level. The ratio stood at 46.7 % for the Central Government and 22.2 % for state governments.

Sustainability of State Debt

A study (RBI 2013) using indicator analysis on sustainability of state government debt reveals that while the fiscal position during the period 1998–1999 to 2003–2004 was unsustainable in terms of most indicators, there has been a substantial improvement in indicators during the fiscal consolidation period of 2004–2005 to 2007–2008. Higher growth of GDP than debt growth and higher real output growth than real interest rate in this period fulfilled necessary conditions for sustainability in this period. Also, primary balances for the consolidated state governments were in surplus during 2006–2007 and 2007–2008.

The study involving various fiscal and policy variables in the determination of debt for the pre-debt consolidation and post-debt consolidation periods suggests that during the pre-debt consolidation phase, fiscal variables, such as own revenue, central transfers and different components of expenditure, had a significant impact on debt. The growth in nominal GSDP did not play an important role. But, during the post-debt consolidation phase, growth in nominal GSDP assumed significance in reducing the debt/GSDP ratio of the states, while capital outlay and net lending lost some of their significance.

3.7 Summary and Conclusion

The strategy of debt management is to establish a balance in minimization of cost of borrowing and the risks. In this context, developing a liquid and vibrant secondary market for government securities and broadening the investor base are important

factors. In India, in recent years, floating rate instruments are being issued as well as inflation index bonds. The government has also ensured a low share of external debt, and external borrowings are being limited to bilateral/multilateral loans from select partners. The government has also been following active debt management policy by undertaking debt restructuring, consolidation of securities, using surplus to reduce bunching in redemption and developing financial markets, including the PD system.

India's debt level in terms of combined debt/GDP ratio of the Centre and States has shown a secular decline since 2003–2004. There has been a substantial improvement in fiscal indicators of states during the fiscal consolidation period of 2004–2005 to 2007–2008. Higher growth of GDP than debt growth coupled with higher real output growth in this period fulfilled necessary conditions for sustainability in this period.

The overall debt position of states has improved over the years, and the composition reveals an increased reliance on market borrowings and a steady decline in share of liabilities to NSSF and loans from the Centre. Maturity pattern and debt servicing at fixed or floating rates have played a vital role in determining the sustainable level of debt. Managing maturity bucket of securities and buybacks has helped in smoothening the redemption profile and avoiding rollover risks.

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Chapter 4
Cash and Debt Management in States

Ritvik Pandey

4.1 Introduction

State finances have seen many cycles of ups and downs since independence and states have adopted different strategies to cope with the financial challenges that they faced from time to time. The states' capacity to deal with the challenges differs widely from state to state, while some states are largely self-reliant, others heavily rely on Central financial assistance. While some face resource disability due to structural issues, some others have been facing problems due to poor fiscal management over long term. Similarly, cost disabilities faced by each state also differ from each other. These disparities have led to each state being in different status when it comes to debt and deficit management.

While the state finances have been primarily guided by factors such a composition of economy, demography, social development, geography, etc., there even have been certain one-off events that have had lasting or even permanent impact on one or few states. For example, terrorism in Punjab has had almost a permanent impact on debt levels that the state has been into and probably never has been able to come out from. There are certain events that have impacted the debt levels of all states but have had different impact on different states depending on their fiscal capacity, like pay commissions. Overall, states have evolved their own strategies for debt and deficit management depending on their strengths and challenges. However, there has been some uniformity in their approaches.

This paper discusses the legal framework of debt of states governments in Sect. 4.2. Trends analysis of state debt is discussed in Sect. 4.3. Sources of states borrowing are discussed in Sect. 4.4. Section 4.5 presents issues pertaining to state debt. Section 4.6 presents states performance of debt management. Finally conclusions are discussed in Sect. 4.7.

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4.2 Legal Framework

India has been defined in Article 1 of the Constitution as Union of the States. In the Constitutional scheme of things, states enjoy a great degree of freedom in their functioning within the subjects allotted to them and the Central control over states is very delicate. The financial provisions in the Constitution of India, with respect to states, are almost same as that for the Union. The Constitution provides for a consolidated fund for the state and vests the powers to appropriate from the Consolidated Fund with the State Legislature, like it vests the power to appropriate from the Consolidated Fund of India with the Parliament. Similarly, it vests the power to levy taxes in the state list with the State Legislature like it vests the power to levy taxes in the Union list with the Parliament.[1]

Therefore, each state has its own budget, with its own receipts, its own expenditure, and its own deficit and debt. While, as explained above, the provisions for revenues into and appropriations from the consolidated fund are same for States as that for the Centre, the same is not the case for debt.

Market borrowings have emerged as the most important source for financing resource gaps of state governments in recent years (Table 4.1). Loans from the Centre, state provident fund, small savings, and special securities issued to NSSF also increased over the years but not to that extent in which market loans increased.

The provisions for debt of the state are governed by Article 293 of the Constitution which reads as follows:

293. (1) Subject to the provisions of this article, the executive power of a state extends to borrowing within the territory of India upon the security of the Consolidated Fund of the State within such limits, if any, as may from time to time be fixed by the Legislature of such State by law and to the giving of guarantees within such limits, if any, as may be so fixed.
(2) The Government of India may, subject to such conditions as may be laid down by or under any law made by Parliament, make loans to any state or, so long as any limits fixed under article 292 are not exceeded, give guarantees in respect of loans raised by any state, and any sums required for the purpose of making such loans shall be charged on the Consolidated Fund of India.
(3) A state may not without the consent of the Government of India raise any loan if there is still outstanding any part of a loan which has been made to the State by the Government of India or by its predecessor Government, or in respect of which a guarantee has been given by the Government of India or by its predecessor Government.
(4) Consent under clause (3) may be granted subject to such conditions, if any, as the Government of India may think fit to impose.

[1]The division of taxation powers is slightly more complicated and is not dealt in detail here separately. The distribution of revenues between Union and States is primarily governed by Sections 268–281 of the Constitution of India.

Table 4.1 Pattern of major capital receipts of state governments (rupees billion)

Year	Market loans (gross)	Loans from Centre (gross)	State provident fund, small savings, etc. (net)	Special securities issued to NSSF	Recovery of loans and advances	Total capital receipts
1970–71	2	10	–	–	2	17
1975–76	3	13	1	–	4	24
1980–81	3	30	3	–	4	55
1985–86	14	84	10	–	8	131
1990–91	26	140	31	–	15	247
1995–96	64	188	49	–	35	428
2005–06	228	89	105	786	89	1646
2010–11	1048	95	278	536	50	2382
2011–12	1578	99	267	105	172	2694
2012–13	1989	157	228	130	115	2950
2013–14	2488	195	240	160	67	3386

Note Capital receipts include public accounts on a net basis
Source Reserve Bank of India

The provisions of clause (1) of this Article are same as that under Article 292 that provides for borrowing by the Union, but it is primarily clause (3) that provides for explicit control of Centre over States' borrowings. Prima facie, it appears that clause (3) has been provided only to safeguard the repayment of central loans to states, practically, since there is always some central loans outstanding in the books of the states, this provision has been used by the Centre and Finance Commissions in regulating state debt.

4.3 Trends in State Debt

While the state debt has been at relatively steady level of around 20–22 % of GDP till the year 1997–98, it started increasing sharply after that. The fiscal deficit also remained below 2.76 % of GDP till 1997–98, but increased to 4.48 % by 1999–2000 (Chart 4.1). The main reason for this sharp increase was implementation of Fifth Pay Commission Report by states and their poor revenue performance. Consequently, by end of 2003–04, debt levels touched almost 32 % of GDP.

To give a historical perspective, debt-to-GDP ratio in 1971–72 was 20 % compared to 4 % in 1951–52. It came down to 18 % by 1983–84 and increased back to 20 % by 1988–89. Therefore, debt stress witnessed by states during first few years of this century was unprecedented and took its toll on delivery of public services by states. The states found difficult to even pay salaries and repeatedly faced cash crunch.

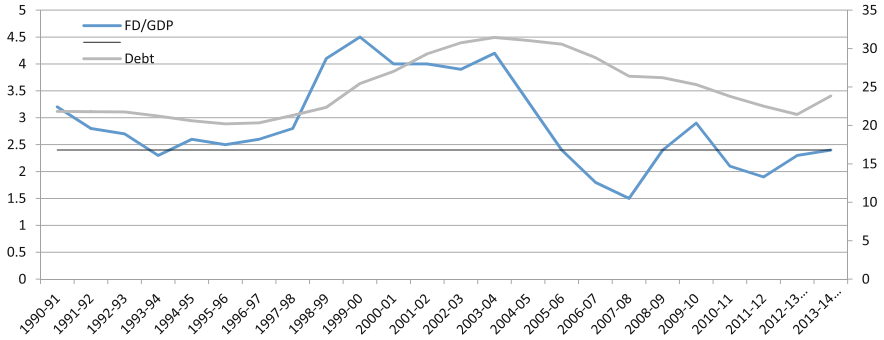

Chart 4.1 Trends in deficit and debt states. *Source* Reserve Bank of India

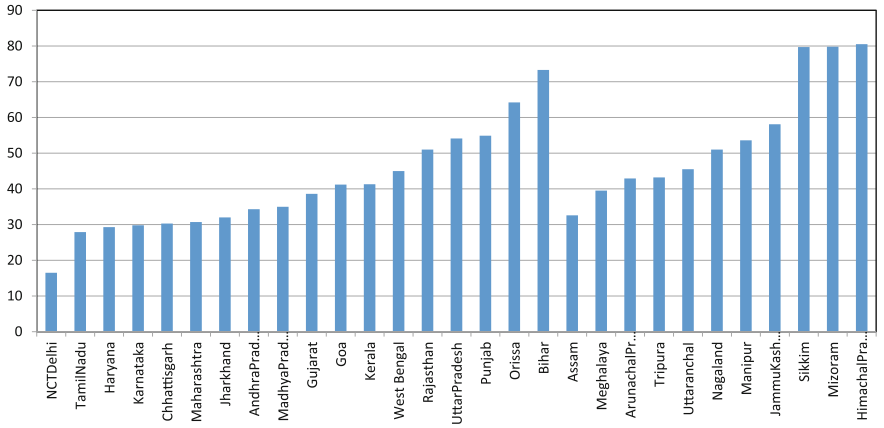

Chart 4.2 Average debt–GSDP of states during 2001–04. *Source* Reserve Bank of India

Another disturbing trend was disparity between stress levels that states were facing during this period. The average debt-to-GSDP ratio of Bihar during the period 2001–04 was more than 73 % compared to 28 % in Tamil Nadu (Chart 4.2). However, this declined in recent years; the debt-to-GSDP ratio of Bihar and Tamil Nadu in 2012–13 was 23 and 20 %, respectively (Table 4.2).

State-wise debt–GSDP ratio shows that in 2013–14, 15 of 28 states recorded lower debt–GSDP ratios than they did in 2012–13, whereas in 2013–14, six states (Chhattisgarh, Punjab, Tamil Nadu, Assam, Jammu and Kashmir, and Uttarakhand) recorded greater debt–GSDP ratio than they did in 2012–13 (Table 4.2). West Bengal continued to have the highest debt–GSDP ratio, followed by Punjab, Uttar Pradesh, and Kerala. On the other hand, Chhattisgarh continues to have lower debt–GSDP ratio than other states. However, most of north-eastern (NE) states generally show a higher debt–GSDP ratio trend than other states. The main reason of this high trend of debt–GSDP ratio is cost disadvantage and geographic location. NE states are not able to use their resources efficiently and reduce cost disadvantage.

Table 4.2 State-wise debt–GSDP position (per cent)

States		2004–08 (avg.)	2008–09	2009–10	2010–11	2011–12	2012–13	2013–14 (RE)	2014–15 (BE)
1	Andhra Pradesh	30.9	26.5	26.0	23.7	22.5	23	22.7	25
2	Bihar	51.2	37.0	34.0	29.8	27.9	26.4	25.1	24.3
3	Chhattisgarh	22.3	15.5	16.4	14.5	12.4	13	14.1	15.2
4	Goa	35.0	28.1	28.9	29.4	23	26.5	25.6	29.4
5	Gujarat	32.9	29.9	28.8	27.9	25.3	25.7	24.6	23.7
6	Haryana	23.2	18.3	18.3	17.5	19	19.8	20	20.0
7	Jharkhand	25.9	27.5	28.0	25.5	23.1	23.1	22.3	21
8	Karnataka	25.0	21.2	24.5	24.5	23.3	21.7	23.5	22.9
9	Kerala	34.8	33.3	32.5	30.3	30.3	31.6	31	29.7
10	Madhya Pradesh	37.5	32.3	31.3	27.8	26.5	24.8	21.7	20.9
11	Maharashtra	28.0	24.7	22.6	21.6	20.9	21.3	20.9	20.5
12	Odisha	43.4	30.8	28.2	24.1	21.7	19.6	18.7	20
13	Punjab	43.1	35.4	34.2	33.2	32.3	32.4	32.2	31
14	Rajasthan	43.7	37.4	35.9	30.7	25.7	25.2	24.9	24.9
15	Tamil Nadu	23.4	21.5	21.5	22.1	19.6	20.5	20.1	20
16	Uttar Pradesh	50.4	43.5	39.8	40.0	35.6	31.3	30.3	30.1
17	West Bengal	47.3	44.0	44.0	40.7	40.4	39.1	36.2	35
18	Arunachal Pradesh	60.3	103.2	46.2	42.6	36.6	36.1	30.8	28.1
19	Assam	30.4	28.1	27.7	25.4	22.2	21.4	19.2	19.1
20	Himachal	62.5	52.8	54.9	48.3	43.5	39.9	40.5	39.3
21	Jammu and Kashmir	61.2	63.9	69.7	58.7	53.8	52.2	49.3	45.9
22	Manipur	67.3	66.0	67.2	64.7	58.7	53.7	48.9	44.1
23	Meghalaya	34.6	31.7	30.8	30.8	31.2	27.7	26.6	25.7
24	Mizoram	105.1	90.6	67.0	77.0	71.3	66.1	55.5	49.9
25	Nagaland	44.9	45.1	52.3	53.0	48.7	47.5	43.7	36.8
26	Sikkim	66.0	62.5	52.4	43.4	31.3	28.5	26.4	24.8
27	Tripura	47.5	34.7	35.5	35.0	32.8	33.8	31.9	30.8
28	Uttarakhand	7.3	30.7	29.5	28.1	25.4	24.8	24.5	24.8
	All states #	29.5	26.1	25.5	23.8	22.6	22.1	21.5	21.2

Note # Data for all states are expressed as per cent to GDP
RE Revised estimates, *BE* budget estimates
Source Reserve Bank of India

4.4 Sources of State Debt

As per the legal provisions, the states can run a deficit and incur debt. The question arises that how the states normally raise their debt. The primary sources of debt for states are loans from the Centre, market, loans from National Small Savings Fund (NSSF), loans from other Financial Institutions and public account. These sources are explained below.

4.4.1 Loans from the Centre

This source of borrowing is governed by Article 293(2) as explained earlier. The Central Government used to be an important source of borrowing for state governments. The Central loans came as a part of central assistance for state plans. The central assistance for state plans used to be in the ratio of 30 % grant and 70 % loan for general category states and 90 % grant and 10 % loan for special category states. However, the Twelfth Finance Commission (12th FC) observed that system of Centre borrowing this amount from the market and onward lending to states is not efficient. On the one hand, it prevents states from taking advantage of lower market rates when the rates fall and on the other hand, it prevents exposure of states to the market which, 12th FC felt, was desirable for states to become prudent in debt management.

Following the recommendations of 12th FC, the loan component of central assistance to state plans has been discontinued since 2005–06. As of now, central loans to states are restricted to external loans (from multilateral institutions like World Bank and Asian Development Bank or Bilateral assistance like USAID) negotiated on behalf of states.

4.4.2 External Loans

As per the Constitution, State Governments cannot raise external loans. Therefore, any external assistance to states is routed through the Central Government. Before the disintermediation in 2005–06, even this assistance used to flow in 70:30 loan–grant ratio. But after 2005–06, these loans are passed on to the states on a back-to-back basis and therefore, although these loans on the books are not strictly loans from external sources but from central government, from debt management perspective, they are in the nature of external debt and the risks and benefits are borne by the states now. External debt to states is mainly project or programme based and there are no loans, as of now, that are given to simply finance deficit.

4.4.3 Loans from National Small Savings Fund

The NSSF receives investments from people in form of savings in certain small savings instruments like National Savings Certificates (NSC), Public Provident Fund (PPF) and Senior Citizens' Savings Schemes. The proceeds of this fund are invested in State and Central Government securities in the ratio of 50:50.

It can be easily appreciated that the flows from this source of financing are totally out of control of the State Government and depend on net subscriptions to small savings schemes. The rates on these instruments are administratively determined,

and therefore when the market rates fall below the administered rates, the collections would go up and vice versa.

4.4.4 Loans from FIs

Loans from Financial Institutions (FIs) like banks, National Bank for Agriculture and Rural Development (NABARD), Life Insurance Corporation (LIC), National Cooperative Development Corporation (NCDC) are part of states' overall borrowings. Like external loans, these loans are also mainly in the form of project funding. The most prominent example is Rural Infrastructure Development Fund (RIDF) of NABARD that is used to finance rural infrastructure projects.

4.4.5 Public Account

Public account of the state is a fund that receives money which the state holds as a trustee. The most important component of this fund is the General Provident Fund, in which the government employees contribute as monthly subscription and receive a return. There are other interest and non-interest bearing liabilities of the state within the public account that finance the deficit of the state, but mostly in accounting terms. It can be seen the financing of deficit from public account is also not in total control of the Government.

4.4.6 Market Loans

Market loans form the most important component of borrowings of the states. There is a huge increase in market borrowing of state governments over the years. Net market borrowings of state governments increased from ₹10 billion in 1985–86 to ₹2185 billion in 2013–14 (Table 4.3). Maximum increment of market borrowings of state governments occurred at nearly 55 % between 2010–11 and 2011–12.

For market loans, RBI acts as debt manager, as it does for the Central Government. The total amount of market loans that each state government would raise is decided from the total debt ceiling approved for the state and is incorporated in the borrowing calendar of the RBI. The RBI then raises these loans through a process of auction.[2]

[2]Another method of sale of State Securities that was being followed by RBI was sale on tap where the rates were fixed by giving a spread over Central securities and the tap was kept open for a few days. This system has now been phased out.

Table 4.3 Market borrowings of state governments (rupees billion)

Year	States	
	Gross	Net
1985–86	14.0	10.0
1990–91	26.0	26.0
1995–96	63.0	59.0
2000–01	133.0	129.0
2005–06	217.0	155.0
2010–11	1572.0	1421.6
2011–12	1678.6	1458.7
2012–13	2187.1	1880.8
2013–14 (RE)	2506.1	2185.3
2014–15 (BE)	2698.4	2364.6

Source Reserve Bank of India

4.4.7 Investments for Cash Management

During the course of year, if there are temporary mismatches between receipts and expenditure of state, the RBI offers a Ways and Means Advance (WMA) that is capped. If a state needs further temporary assistance, RBI offers an overdraft facility that is limited by number of days. In case, states have temporary surpluses, they can invest the amount in 14 day Treasury Bills of Central Government. If they have durable surpluses, they have the option of even investing in Auction Treasury Bills. The scheme of WMA is regularly revised. The aggregate normal WMA limit of states was ₹102 billion in 2012–13 and was revised by 50 % of the existing limit from 11 November 2013 to ₹154 billion for 2013–14. The rate of interest for WMA, special WMA, and OD continued to be linked with the repo rate.

The utilisation of special WMA was ₹78.02 billion in 2000–01; in the next four years, it increased drastically from ₹78.02 billion to ₹198.34 billion. Reduction in utilisation of special WMA was seen from 2005–06 to 2013–14. Maximum reduction was seen in 2006–07; it was almost ₹2.15 billion. On the other hand, maximum utilisation of special WMA was in 2004–05 (Table 4.4).

The normal WMA was extensively utilised in 2001–02. The utilisation of normal WMA was high from 2000–01 to 2003–04, and after 2003–04, it started declining continuously. The Minimum utilisation of normal WMA was recorded in 2008–09 (Table 4.5).

The utilisation of OD was only ₹12.4 billion in 2013–14, whereas a decade ago in 2002–03, it was almost ₹168 billion. Minimum utilisation of ₹1.5 billion was recorded in 2008–09, and maximum utilisation of ₹189 billion was seen in 2001–02. In fact during 2000–01 to 2002–03, the utilisation of OD was very high, but after 2002–03, a declining trend has been noted in the utilisation of OD (Table 4.6).

Table 4.4 Special WMA (rupees billion)

Year	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	Mar
2000–01	7.67	4.96	4.78	8.79	3.44	5.35	6.81	6.02	8.06	9.27	5.83	7.04
2001–02	6.66	3.45	3.31	4.91	5.39	7.60	6.52	7.69	9.50	9.51	9.22	8.39
2002–03	8.35	4.80	5.59	6.58	5.07	6.10	7.09	7.04	8.33	9.22	4.93	8.32
2003–04	9.89	9.41	9.37	11.38	9.68	9.59	11.50	12.46	12.16	10.55	10.23	8.11
2004–05	19.08	21.77	17.24	11.96	14.72	12.58	25.56	25.45	8.27	15.30	11.10	6.31
2005–06	4.58	2.54	0.05	0.67	0.79	0.27	0.08	0.13	0.08	0.03	0.01	0.00
2006–07	0.25	0.06	0.01	0.05	0.10	0.10	0.09	0.10	0.22	0.43	0.39	0.35
2007–08	2.35	4.37	2.04	3.89	3.07	9.61	2.54	2.79	1.61	0.72	0.72	0.05
2008–09	4.89	3.10	0.09	0.25	0.02	1.39	6.53	7.54	2.23	3.70	0.86	3.20
2009–10	6.10	1.20	0.05	0.76	0.72	2.16	0.54	3.89	0.22	1.20	5.23	2.52
2010–11	5.89	2.98	0.36	0.02	0.06	1.20	8.21	8.98	0.19	4.54	9.52	8.93
2011–12	10.00	6.00	2.00	1.00	2.00	1.00	1.00	5.00	3.00	3.00	0.50	0.20
2012–13	5.00	1.00	0.60	2.00	0.60	4.00	5.00	5.00	4.00	0.60	0.10	0.90
2013–14	0.80	0.60	5.70	1.90	3.30	3.30	7.20	0.80	1.50	6.90	0.70	0.20

Notes 1. 2000–01 to 2004–05 average weekly outstanding

2. 2005–06 to 2008–09 average daily outstanding

3. 2009–10 to 2013–14 average monthly outstanding

Source Reserve Bank of India

Outstanding liabilities of state governments as a proportion of GDP has been recording a declining trend from 2005–06. The main reason of this declining trend in outstanding liabilities is because of combined impact of favourable macroeconomic conditions and fiscal consolidation. It is complemented by debt relief and interest relief provided by the Centre to states. However, market borrowings of state governments have been increasing continuously.

The composition of states outstanding liabilities shows increased dependency on market borrowings. Outstanding market borrowing share in total outstanding liabilities in 2013–14 was almost 45 %. On the other hand, share of internal liabilities[3] and total provident fund has been continuously declining since 2010–11 (Table 4.7).

After independence, for many years, major source of finance for States was Central Government. However, in recent period, situation has changed and main source of borrowings for states is market borrowings (Chart 4.3).

[3]Internal liabilities include?

Table 4.5 WMA (rupees billion)

Year	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	Mar
2000–01	22.88	16.10	14.64	23.76	17.75	17.91	25.54	27.70	23.87	28.62	33.98	34.81
2001–02	39.25	26.38	22.23	28.75	27.98	35.42	35.86	37.30	42.44	42.17	35.06	37.46
2002–03	29.24	29.61	30.07	32.95	20.58	28.75	32.38	36.73	44.54	39.82	33.52	28.06
2003–04	9.89	9.41	9.37	11.38	9.68	9.59	11.50	12.46	12.16	10.55	10.23	8.11
2004–05	11.18	10.44	10.49	8.63	8.90	8.56	9.51	9.33	6.01	6.95	4.38	1.15
2005–06	19.84	9.2	0.61	2.82	2.44	1.13	1.02	1.48	1.75	0.15	0.02	0.03
2006–07	7.23	1.62	0.03	0.56	1.45	2.23	1.89	2.68	2.46	2.97	1.21	0.04
2007–08	1.14	6.54	2.22	3.1	4.76	6.01	1.84	3.51	1.03	0.81	0.08	0.01
2008–09	2.87	0.03	0	0	0.47	0.18	0.83	1.52	0	0	0	0.62
2009–10	2.94	0.5	0.67	0.07	0.52	2.46	1.61	0.74	0.31	0.47	0.35	2.52
2010–11	2.90	0.14	–	–	1.22	0.88	5.37	4.80	0.60	1.12	5.22	3.83
2011–12	7.00	1.00	3.00	1.00	3.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00
2012–13	4.00	0.30	2.00	2.00	1.00	4.00	4.00	4.00	4.00	1.00	3.00	1.60
2013–14	3.10	1.50	5.00	2.90	2.70	1.80	3.80	0.00	3.70	5.20	4.10	4.00

Notes 1. 2000–01 to 2004–05 average weekly outstanding
2. 2005–06 to 2008–09 average daily outstanding
3. 2009–10 to 2013–14 average monthly outstanding
Source Reserve Bank of India

Table 4.6 Utilisation of overdraft (rupees billion)

Year	April	May	June	July	August	Sept	Oct	Nov	Dec	Jan	Feb	Mar
2000–01	23.92	4.69	4.67	5.46	3.68	4.60	9.35	9.83	9.21	10.58	7.65	21.09
2001–02	18.63	6.81	5.08	8.63	9.11	18.51	16.93	19.90	22.92	20.24	17.33	24.47
2002–03	29.87	14.28	10.22	12.52	8.17	9.24	18.60	15.75	14.07	14.31	13.51	7.15
2003–04	10.88	4.45	2.04	6.12	6.58	5.32	9.46	10.53	11.85	12.03	6.98	7.03
2004–05	10.75	5.60	5.06	4.25	2.47	0.14	5.47	4.65	1.52	2.16	1.07	1.88
2005–06	10.84	1.18	0.00	0.38	0.31	0.00	0.00	0.00	0.24	0.00	0.00	0.00
2006–07	0.37	0.00	0.00	0.00	0.10	0.02	0.22	0.48	1.22	0.75	0.05	0.02
2007–08	0.15	4.61	0.10	0.03	2.81	2.25	1.28	1.27	0.13	0.34	0.00	0.00
2008–09	1.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.11
2009–10	1.11	0.02	–	–	–	0.77	0.02	–	–	0.25	–	0.90
2010–11	1.91	–	–	–	–	0.03	1.17	2.42	–	–	1.94	2.95
2011–12	9.00	0.40	0.10	0.00	0.00	0.10	0.10	0.00	0.10	0.00	0.00	0.30
2012–13	3.00	0.00	0.20	0.80	0.30	2.00	1.00	1.00	2.00	0.10	2.00	4.90
2013–14	1.90	0.30	1.90	0.60	2.90	0.60	0.10	0.00	0.00	1.00	0.30	2.80

Notes 1. 2000–01 to 2004–05 average weekly outstanding
2. 2005–06 to 2008–09 average daily outstanding
3. 2009–10 to 2013–14 average monthly outstanding
Source Reserve Bank of India

Table 4.7 Outstanding liabilities of state governments (rupees billion)

Year (end–March)	Market loans	Total internal debt	Total provident funds	Total liabilities
1980–81	30	44	25	268
1985–86	61	80	68	614
1990–91	157	193	169	1282
1995–96	371	439	382	2495
2000–01	868	1790	936	5941
2005–06	2289	6988	1408	11,477
2010–11	60,401	11,964	2282	18,290
2011–12	7412	13,229	2535	19,939
2012–13	8746	14,558	2794	22,103
2013–14 (RE)	10,504	16,360	3048	24,375
2014–15 (BE)	12,797	18,724	3317	27,336

Notes 1. Internal debt includes?
2. Data for 2013–14 relate to Revised Estimates, while 2014–15 are budget estimates
3. Total liabilities have been revised to include reserve funds, deposits and advances and contingency funds
Source Reserve Bank of India

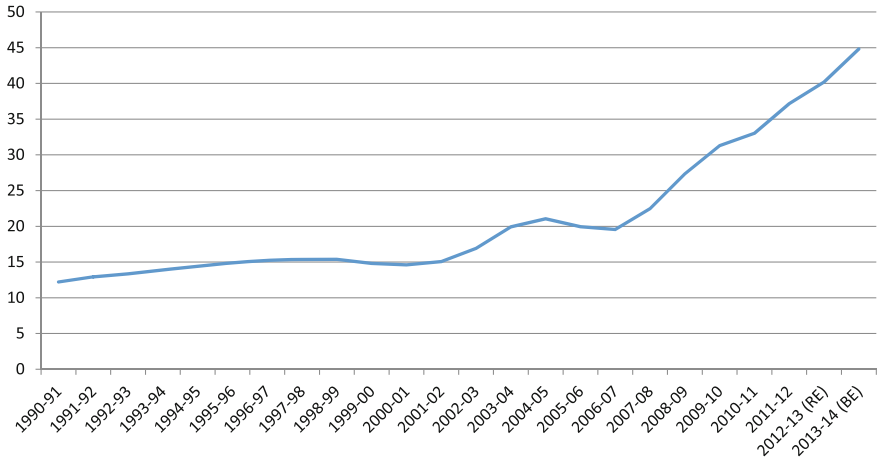

Chart 4.3 Outstanding market borrowings as percentage of total liabilities. *Source* Reserve Bank of India

4.5 Issues Pertaining to State Debt

Debt management at the state level has to be done within the overall framework described above. As may be seen, the sources of financial borrowings leave very little flexibility with states to manage their debt. Role of multiple players like Central Government and RBI makes the job of states much more complicated and challenging.

4.5.1 Debt Ceiling

As mentioned earlier, the debt of the state has to be approved by the Central Government. This had been the primary source of control over the state debt until the 12th FC recommended that states legislate their Fiscal Responsibility and Budget Management (FRBM) Acts. The 12th FC also mandated states to chalk out a debt consolidation roadmap in accordance with broad targets recommended by it. Later, 13th Finance Commission refined the debt consolidation roadmap and gave a formula for determining the borrowing ceiling of a State by the Centre. Normally, the overall borrowing ceiling is decided by the formula given by the 13th FC and then using a projected amount of inflows from other sources, the amount to be raised through market borrowings is determined based on which the RBI draws a borrowing calendar.

Normally, these projections can see substantial changes during the course of the year but the entire process is not very amenable to mid-year corrections. This leads to suboptimal debt management by states for which they are only partially responsible.

4.5.2 Inflexible Sources of Borrowing

As already explained, only source of borrowing where the quantum of inflows can be controlled is the market borrowings. Small savings inflows depend completely on the rates administered by the Central Government,[4] and other sources are primarily tied to projects. This leaves very little manoeuvring space for the states.

4.5.3 Deficit–Borrowing Mismatch

Traditionally borrowings of states have been availability based. States borrowed and spent as much was available to them. This could have made sense when the deficits were high. But when deficits increased and the borrowings available became more than the deficit, states did not concomitantly reduce their borrowings. This has led to accumulation of large cash balances with many states, which implies

[4]The rates on small savings are now market linked based on the recommendations of Shyamala Gopinath Committee but the new system has some inbuilt inherent lags which is difficult to address any further.

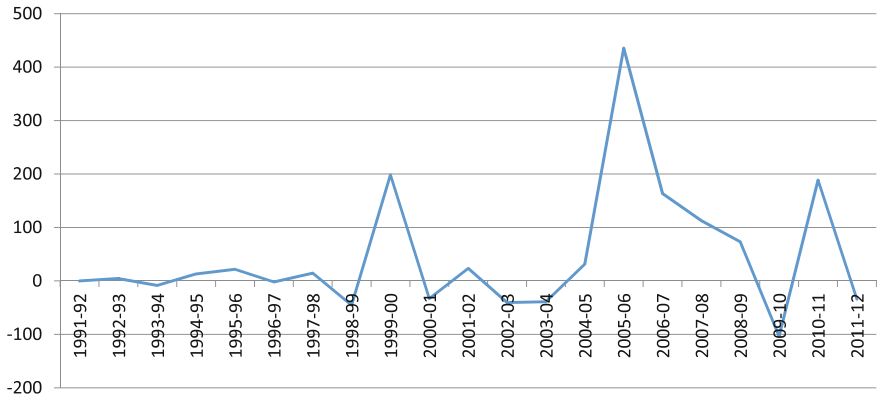

Chart 4.4 Difference between deficit and net debt incurred. *Source* Reserve Bank of India

holding costs for the states. As the deficits reduced, the states should have tailored down their borrowings but it did not happen (Chart 4.4).

Most of these cash balances are invested in 14 Days T-Bills of GoI and some in Auction T-Bills of 90/180/360 days T-Bills. These instruments yield much less than the rates at which the state has borrowed the amount. As per the RBI Bulletin, as at the end March'14, the states held ₹1.1 lakh crore in 14 Day T-Bills and ₹46,000 crore in Auction Treasury bills.

4.5.4 Rates on State Securities

One of the challenges that RBI faces is in terms of fixation of prudent rate on these securities. One of the objectives of disintermediation was that market linkage of cost of borrowings would force states to be fiscally prudent. Recalcitrant states will face higher costs of borrowings and thus crowding out larger resources of theirs for interest payments thereby creating an incentive for being prudent.

However, this has not really happened. One reason is that for all practical purposes, market borrowings are guaranteed by RBI. Although there is no formal guarantee extended by RBI to the lender, there is a mechanism of Automatic Deduction Mechanism (ADM) for repayment of market debt. This ensures no matter to which state the borrowing has been extended; RBI will ensure repayment of debt.

Secondly, secondary market for state securities is far limited. This limits the market in determining a fair price for the state securities freshly being put up for sale through auction.

4.6 Have States Fared Better or Worse

The overall performance of states cannot, in any way, be undermined. They have faced bad times and have come out of it, mainly through structural reforms. Incentives recommended by Finance Commissions have supplemented the effort of the states. There are many areas that need to be addressed, the most important of which is disparity amongst states. While debt levels of all states put together is out of the danger levels, the same cannot be said of all individual states.

4.7 Conclusion

The states capacity to deal with financial challenges differs widely. Some are self-reliant; others depend on Central financial assistance. Overall, states have evolved their own strategies for debt and deficit management depending on their strengths and challenges. As per Indian Constitution, financial provisions of state and Centre are same, but it is different for debt. State governments cannot raise external loans. So, any external assistance to the states is routed through the central government. But now these loans are passed on to the states on a back-to-back basis. Therefore, these loans are not strictly loans from external sources. But from central government, from debt management perspective, they are in nature of external debt and the risks and benefits are borne by states. The only source of borrowing where quantum of inflows can be controlled is the market borrowings. Small savings inflows depend completely on the rates administered by the Central Government, and the other sources of borrowings are primarily tied to projects. This leaves very little manoeuvring space for the states. However, there are many areas that need to be addressed, the most important of which is the income disparity amongst the states.

Chapter 5
India's Experience with Cash Management

Vijay Singh Chauhan

5.1 Introduction

Government cash management may be defined as "the strategy and associated processes for managing cost-effectively the government's short-term cash flows and cash balances, both within the government and between government and other sectors" (Williams 2004).

The primary objectives of government cash management must be to fund its expenditures in a timely manner and meet its obligations as they fall due. But cost-effectiveness, risk reduction and efficiency are additional objectives. A sound cash management system must provide assurance of timely availability of funds to meet the obligations as they arise.

There is a general understanding of what constitutes good practice in government cash management. These are summarized as follows:

- Centralization of government cash balances and establishment of a Treasury Single Account (TSA).
- Modern Systems: an adequate transaction processing and accounting framework, modern banking, payment and settlement systems.
- Ability to make accurate projections of short-term cash inflows and outflows.
- Strong institutional interaction, covering in particular:

The views are personal.

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  - Information sharing between cash managers, revenue-collecting agencies and spending ministries;
  - Strong coordination of debt and cash management;
  - Formal agreements between the Ministry of Finance/Treasury and the central bank on information flows and respective responsibilities.
- Use of short-term instruments (Treasury bills, repo and reverse repo, term deposits, etc.) to help manage cash balances and timing of mismatches between receipts and expenditures.

This paper discusses the historical facts and developments in cash management system in the country in Sect. 5.2. Section 5.3 follows up with the recent developments and changes in the way the government and central bank deals with deficits and cash surplus. Section 5.4 gives the assessment of current Indian cash management system. Finally, conclusions are presented in Sect. 5.5.

5.2 Historical Facts and Developments

According to the agreement made on 5 April 1935, Reserve Bank is required to transact the general banking business of the Central Government. The agreement was supplemented by exchanges of letters from time to time to bring in matters like minimum balances, provision of financial accommodations and modifications to the original agreement. The balances were usually maintained at not less than Rs. 50 crore. Whenever the balance in the account of the Central Government fell below Rs. 50 crore, the account was replenished by the creation of Treasury bills, generally in multiples of Rs. 5 crore, in favour of the RBI. These Treasury bills, which were also called ad hoc, were held in the Issue Department of the RBI. This arrangement continued for a long time and was commonly understood to facilitate automatic monetization of government's fiscal deficit.

The fiscal architecture began to change after the beginning of economic reforms in early 1990s. The first initiatives in the area of cash management in the Central Government were taken in 1997, consequent to the decision to phase out automatic monetization of budget deficit in 1994 and move to fund government's borrowing requirements at market-related rates. The old arrangement involving issue of ad hoc Treasury bills was replaced by a system of ways and means advances (WMA) with effect from 1 April 1997 through a memorandum of understanding (MoU) signed between the Central Government and RBI. Therefore, for the first time, Central Government was no longer assured of automatic monetization of debt through the discontinued system of ad hoc Treasury bills. This provided impetus for improvement in fiscal discipline and ensured greater independence for monetary policy. It also paved the way for designing institutional arrangements which would allow debt management to be increasingly separated from monetary policy.

Historically, WMA are temporary advances made to the government by its bankers to bridge the interval between expenditure and the flow of receipts of revenue. These advances are meant to provide for marginal and unanticipated but purely temporary difficulties, on account of a shortfall in revenue or other receipts for meeting the liabilities of the government. In terms of Section 17(5) of the RBI Act, the Reserve Bank is authorized to make, to the Central and state governments, WMA, which are repayable not later than three months from the date of making the advance. There are no statutory provisions as regards either the maximum amount of the advance or the rate of interest to be charged. Besides, it also arranges for investments of surplus cash balances of the governments as a portfolio manager. All the state governments are required to maintain a minimum balance with the RBI, which varies from state to state depending on the relative size of the state budget and economic activity. The WMA scheme for the state governments has provision for Special and Normal WMA. The Special WMA is extended against the collateral of the government securities held by the state government. After the exhaustion of the special WMA limit, the state government is provided a normal WMA. The normal WMA limits are based on three-year average of actual revenue and capital expenditure of the state. The withdrawal above the WMA limit is considered an overdraft (OD). A state government account can be in overdraft for a maximum of 14 consecutive working days with a limit of 36 days in a quarter. The rate of interest on WMA is linked to the Repo Rate. Surplus balances of state governments are invested in the Government of India 14-day Intermediate Treasury bills in accordance with the instructions of the state governments.

The current cash management operations of the Central Government take place via a two-tier system, with commercial banks acting as the first tier and the RBI forming the second tier of the system. The arrangement works through a system of accredited commercial banks with which different departments/ministries of the Central Government maintain their accounts. All receipts of the department/ ministry pass through the accredited bank to the TSA of the Government of India maintained at Central Accounts Section RBI, Nagpur.

As per the 1997 agreement, if the cash balance of the government falls below the minimum cash balance level that it is required to be maintained, a short-term advance is automatically extended by the RBI to the Central Government under its WMA facility, up to a pre-announced limit to restore the cash balance to the minimum stipulated level.

These advances under the WMA system are extended at a mutually agreed rate of interest, currently at the Repo Rate, and have to be repaid in full by the government within three months. The RBI also provides an OD facility to the Central Government under which additional advances, over and above the WMA limit, are made available at a higher interest rate, which is currently at the Repo Rate plus 2 % points. The Central Government is not allowed to be in OD at a stretch for more than 10 consecutive working days.

In order to implement the rudimentary cash management system in the Central Government, a Monitoring Group on Cash and Debt Management of the Central Government (hereinafter referred to as Monitoring Group) was constituted. The

terms of reference (TOR), in essence, encapsulate the motivation and objectives of cash management in India and are: (i) to estimate the monthly fiscal deficit and associated borrowing requirement at the beginning of the year and to update the estimates of monthly deficit and borrowing every month in the course of year; (ii) to review the cash position of the Central Government on an ongoing basis and to suggest measures to correct mismatches in receipts and expenditure from time to time; (iii) to work out a system for monitoring projections of receipts and expenditure on both monthly and quarterly basis; (iv) to suggest measures for building up a database for advance estimation of monthly revenues, especially for income tax, corporation tax, excise duties, service tax and customs duties; and (v) to review investments of surplus cash balances of the Central Government.

The need for better cash management system became more imperative after the introduction of half-yearly calendar for market borrowings by Central Government, in April 2002, as part of measures to develop government securities market. The initial half-yearly calendars were drawn up on the basis of "core market borrowing requirements" that was assessed taking into account expenditure relating to repayment of debt, interest payments, monthly expenditure on salary, wages and pensions and devolution of share of taxes and duties to state governments. However, projections based on such limited coverage of expenditure and backward-looking methodology were found to be inadequate to correctly assess the intra-year phasing of the market borrowing.

The growing emphasis on fiscal responsibility concerns was reflected in the enactment of Fiscal Responsibility and Budget Management Act, 2003 (FRBM) and notification of the Fiscal Responsibility and Budget Management Rules, 2004 (5 July 2004). There was greater focus on issues of expenditure management, including reduction in the mismatch between receipts and expenditure, rush of expenditure in the last quarter of financial year and possible parking of funds outside the Consolidated Fund of India (CFI). There was stricter and more frequent monitoring of fiscal position of the Central Government by various stakeholders, including the credit rating agencies.

In the meanwhile, the Union Budget (2003–2004) had announced the proposal to initiate cash management scheme, on a pilot basis, in some major spending ministries, releasing budgetary allocations in a time-sliced manner to permit convergence with available resources within the year. It envisaged prescription of monthly or quarterly cash limits, based on actual requirements of the ministries. The scheme was expected to avoid mismatches between receipts and expenditure, and associated possible waste of resources in the last quarter.

The Pilot Scheme of Cash Management was implemented in nine major spending Departments of the Central Government with effect from 1 April 2003. The scheme envisaged that the concerned departments would make Quarterly Expenditure Projections, which would be finalized by Ministry of Finance, upon consultation with the concerned Ministry, if need be, and then formally communicated to concerned department. The departments were expected to adhere to the mutually agreed quarterly ceiling while issuing cheques. However, these ceilings were not envisaged to be in nature of exchequer control—they were decided

through mutual consultation and there were no penalties for breaching the same. The actual quarterly expenditures were to be communicated to the Ministry of Finance by the departments by the 10th of the month following the quarter. However, it was provided that unutilized funds during the quarter would not lapse and would be available for automatic carry-forward for expenditure in the subsequent quarters.

The working of the Pilot Scheme was examined by a Sub-Group on Cash Management of Government of India, which submitted its report in January 2005. The Sub-Group presented its recommendations under the following sub-heads: (a) inflow reporting; (b) outflow reporting; and (c) administrative arrangements. The Sub-Group had recommended, inter alia, introduction of exchequer control in phased manner to cover all departments.

5.3 Recent Developments

The financial year 2006–2007 was a landmark year in the area of debt management, with significant implications for the cash management system. FRBM Act, 2003, contained provisions that prohibited participation of RBI in the primary government securities market with effect from 1 April 2006, except under exceptional circumstances. With the statutorily mandated withdrawal of RBI from the primary government securities market, the two options of private placement of government securities with the RBI and devolvement to RBI in the event of inadequate bidding response or an bidding at rates not in alignment with market rates of interest, were no longer available to the government to meet its debt and cash requirements. In effect, for the first time, the Central Government was subjected to "hard budget constraint". It was in this backdrop that, based on the recommendations of the Sub-Group, Central Government introduced modified cash management system, including exchequer control-based expenditure management in 14 departments, with effect from financial year 2006–2007.

The cash management system currently operational in the Central Government is a modified version of the scheme recommended of the Sub-Group. The details of the Scheme are provided in Budget Division Office Memorandums dated 27 December 2006; 2 November 2011; 30 July 2012; and 3 July 2013. The July 2013 Memorandum reiterates the objective of the modified exchequer control-based expenditure management as follows:

- Obtain greater evenness in the budgeted expenditure within the financial year, especially in respect of items entailing large sums of advance releases and transfers to corpus funds.
- Reduce rush of expenditure during the last quarter, especially the last month of the financial year.
- Reduce tendency of parking of funds.

- Effectively monitor the expenditure pattern.
- Better planning of Indicative Market Borrowing Calendar of the Central Government.

The modified exchequer control-based cash management system presently covers 46 "High Spending Demands for Grants", as recommended in the 14th Report of the Second Administrative Reforms Commission titled "Strengthening Financial Management Systems". It entails formulation of monthly expenditure plans (MEP) that are to be included in the Detailed Demand for Grants presented to the Parliament. The exchequer control is applicable at Quarterly Expenditure Allocation (QEA), i.e., quarterly level. Automatic carry-forward of quarterly savings is no longer permitted without revalidation from Cash Management Cell in the Ministry of Finance. The Report of the Sub-Group had concluded that the provision for automatic carry-forward of the quarterly savings was a major factor limiting the efficient working of the Pilot Scheme. However, in order to provide comfort to line ministries against possibility of delay by MoF, it has been provided that revalidation would be "deemed" in case of non-response from MoF within 15 days.

Thereafter, based on the recommendation of 51st Report of the Standing Committee of Finance on Demands for Grants (2012–2013), Budget Division in July 2012 advised that all the Demands for Grants irrespective of whether they are covered under Cash Management System or not are required to prepare and send their MEP and QEA for better monitoring and compliance of the guidelines of MoF regarding expenditure management. Thus, departments/ministries, other than those 46 covered by the cash management system, also prepare and send their MEP and QEA to the Budget Division.

One of the important components of the cash management scheme has been the restrictions it places on rush of expenditure during the last quarter, particularly in the last month, of the financial year. The Scheme provides that while formulating the MEP, departments concerned should limit the QEA for 4th quarter to 33 % of Budget Estimate (BE) and MEP for the month of March, i.e., the last month of the financial year, should not exceed 15 % of BE. This restriction has been envisaged on the premise that such rush of expenditure towards the end of the financial year results in parking of funds outside the CFI. However, a spending department may approach Finance Ministry for exemption from the said restriction along with reasons (thereof), in case the situation so requires.

Up to (2003–2004), whenever there was surplus government fund, the excess amount was automatically invested in Central Government dated securities provided by the RBI from its own portfolio. But this can cause distortion between cash management and liquidity management if the RBI does not have adequate securities. Due to the reduction in government securities from the RBI's portfolio because of the sterilization operations, RBI in consultation with the government placed a limit on the investment of the surplus. The limit depends on the availability of securities after meeting the requirement of securities for the Bank's monetary policy operations. The surplus balance exceeding the limit is kept as idle cash balance at CAS, Nagpur, and does not earn any interest.

The Government of India's Internal Working Group on Debt Management (2008) (WGDM; Chairman: Dr. Jahangir Aziz) had emphasized that the Treasury bills as instrument for cash management were observed to be a potential source of volatility in short-term interest rates and interfered with the signalling impact of monetary policy. During this period, a relatively higher volatility in cash flows of the Central Government was observed. Therefore, during the month of May 2010, the Central Government introduced Cash Management Bills (CMBs) to meet cash requirements to cover for temporary deficit in cash flows, apart from using Treasury bills for this purpose. CMBs are flexible maturity instruments with all generic characteristics of Treasury bills, but are expected to be issued as and when necessary, purely as cash management instruments.

The WGDM had also observed that the cash management in India was largely passive due to "a lack of end-day balance management, presence of surplus funds in the form of idle balances, and delay in the remit of cash balance information to the Budget Division". The WGDM had suggested that "given the impact that government cash balances have on liquidity management, there is a need for closer co-ordination between the RBI and the fiscal authority".

The issue of auctioning of government cash balances has been under consideration of the government and the central bank. The Working Group on Operating Procedure of Monetary Policy (2011) (Chairman: Shri Deepak Mohanty) has recommended a scheme of auctioning of government surplus cash balances at the discretion of the RBI. It is obvious that this arrangement will require a very intensive coordination between the government and the RBI.

5.4 Assessment of the Indian Cash Management System

The Government of India maintains a TSA with the RBI, which is *a sine qua non* for effective cash management system. The TSA system involves the consolidation of all government cash balances into a single account, usually and preferably at the central bank.

In India, the Constitution provides for the Central Government accounts to be constituted into three separate accounts—Consolidated Fund, Public Account and Contingency Fund. However, at the back of the said three separate accounts, there is a common cash balance for the three, which is maintained by the RBI, Central Accounts Section, Nagpur. This feature has a very significant implication, besides the cash management challenges—correspondence between fiscal deficit of government plus the repayment liability and gross borrowing requirement is effectively broken.

Over the years, Central Government has taken certain measures to discontinue Public Account transactions not directly related to the government. For example, earlier there was a scheme that mandated public sector enterprises (PSEs) to park their surplus cash in Public Account through a deposit scheme. Since the scheme

made the cash management efforts of the government, as indeed the PSEs, more cumbersome and complex, the same was discontinued in 2005–2006.

It is important to mention that state governments in India also have their separate Single Treasury Accounts with the RBI and the cash balances of the Central and States TSA are linked through the mechanism of 14-day Treasury bills. The extant mechanism provides for automatic parking of surplus cash of the state governments in 14-day intermediate Treasury bills of the Central Government. Thus, the surplus cash balances of state governments become automatic short-term debt for the Central Government. It has been noted that the state governments taken together have been maintaining surplus cash balances for about last 10 years and the opening annual cash balance has been generally increasing overtime. This persistence of state government surplus cash balances has presented a challenge to the cash management policy for quite some time now.

A significant objective of the cash management system has been to reduce the mismatch between the receipts and expenditure of the Central Government. In order to understand the challenges relating to this, let us look at the broad features of Central Government's intra-year tax receipts and expenditure patterns.

There are five major components of the tax revenues of the Central Government, namely (a) corporation tax, (b) personal income tax, (c) central excise duties, (d) service tax and (e) customs duties: the first two being direct taxes and the remaining three being indirect taxes. Since the beginning of economic reforms in early 1990s, a significant trend has been observed. Share of direct taxes has increased and that of indirect taxes has declined (Table 5.1). At the individual tax level, which is significant from cash management point of view, share of customs duties has declined the most and that of corporation tax and service tax has increased significantly.

Taxwise pattern of quarterly receipt of these major taxes during 2013–2014 is given in Table 5.2.

Thus, it is noted that the receipts under each of the five major taxes are back-loaded, with customs duties showing the most even inflow pattern. The intra-year inflow patterns are influenced mainly by the statutory provisions relating to discharge of tax liabilities. It may also be mentioned that the component with most even pattern of collection, i.e., customs duties, has declined most significantly since the beginning of reform period.

The intra-year pattern of expenditure during the year 2012–2013, taken as representative year, is given in Table 5.3.

Table 5.1 Share of direct and indirect taxes (in per cent)

Year	Direct taxes	Indirect taxes
1990–1991	22.6	77.4
1995–1996	30.2	69.8
2000–2001	36.3	63.7
2005–2006	45.3	54.7
2013–2014	55.1	44.9

Source RBI and GOI

Table 5.2 Break-up of central tax receipts (as percentage of actual total collection)

	Corporation tax	Personal income tax	Customs	Central excise	Service tax
First quarter	12.9 (13.1)	16.9 (12.6)	23.6 (22.7)	12.5 (13.7)	14.4 (14.3)
Second quarter	26.1 (23.9)	24.2 (20.9)	24.6 (24.0)	24.1 (22.7)	22.5 (21.5)
Third quarter	27.0 (30.9)	23.5 (29.2)	23.7 (25.6)	23.5 (24.8)	25.8 (25.5)
Fourth quarter	34.0 (32.1)	35.4 (37.3)	28.0 (27.6)	40.0 (38.8)	37.3 (38.8)

Figures within brackets are for 2007–2008
Source GOI

Table 5.3 Share of plan and non-plan expenditure (as percentage of actual total expenditure)

	Plan expenditure	Non-Plan expenditure	Total expenditure
First quarter	20.1	22.6	21.6
Second quarter	28.2	26.7	27.1
Third quarter	21.5	20.5	21.1
Fourth quarter	30.2	30.2	30.2

Some figures have been rounded off
Source GOI

The above tables are intended to convey the broad trends in government's cash flows, while for effective cash management system, more granular data are required and used. However, broadly speaking, both the tax receipts and the expenditure of the government are back-loaded, receipts more than the expenditure. This is to say that more tax receipts flow in and expenditure flows out in the second half of the year than in the first half. And highest quarterly tax inflows and expenditures take place in the last quarter and specifically last month of the financial year. This has obvious implications for the intra-year fiscal deficit and borrowing programme of the Central Government, which has to be, therefore, necessarily front-loaded. The persistence of such front-loaded borrowing programme has resulted in skewing the interest payment and debt repayment schedule as well. The challenges to cash management of the Central Government are, therefore, significant. One of the issues that the Central Government and RBI have to manage is regarding the bunching of redemptions of government securities in first half of next few financial years. It is being handled through switching of maturing securities so as to elongate the maturity profile.

One important result of the introduction of cash management system has been that there is increased evenness in the pattern of expenditure and rush of expenditure in last quarter and parking of funds has been significantly curbed. The frequency of release of funds to implementing has increased, and it has resulted in lower idling of funds. However, general level of unspent balances and idling of funds with implementing agencies, with accounts outside the CFI, continue to be a problem.

Implementation of effective cash management system involves effective coordination between Central Government, the fiscal authority and RBI, the monetary and debt management authority. This coordination is achieved principally through the mechanism of Cash and Debt Management Committee of the Central Government, with representations from Central Government and RBI. The mechanism and extent of coordination is robust and has delivered meaningful results. The proposal of the Central Government to set up an independent Debt Management Office will insert a new entity that would need to greatly coordinate with the Central Government and the RBI.

5.5 Conclusion

In conclusion, it may be mentioned that Central Government has a robust cash management system, which incorporates many of the recommended features of a modern system. However, the Indian expenditure management system, including the cash management system, is still a long way from obtaining a system that delivers "more bang for the buck". It is towards this endeavour that the government has announced constitution of an Expenditure Management Commission (EMC) in Budget 2014–2015. One of the terms of reference of the EMC relates to cash management system in the Central Government.

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Chapter 6
A Separate Debt Management Office

Charan Singh

6.1 Introduction

In recent years, after the global crisis, the issue of separation of monetary policy, fiscal policy and debt management has re-emerged. In many countries, during the period of crisis, scope of fiscal policy was expanded and debt to GDP ratios increased significantly. Consequently, debt management, in general, became difficult and coordination between monetary and debt management assumed significance.

Historically, the debt crises of 1982 and the Asian Crisis of 1997 had led many countries to assign priority to public debt management, and then, a number of countries chose to separate debt from monetary management. As developments in the government securities market became more sophisticated, a different institutional structure was considered to be better suited to achieve different monetary policy and debt management objectives. In normal economic circumstances, the central bank operates at the short end of the market and debt management on the long end to minimize cost of raising resources but in times of crisis, the operations can become blurred. A separation in responsibilities was considered a better solution that reduces the risk of policy conflicts in the central bank actions. Once the financial markets had developed, the role of the central bank in sustaining the markets was considered minimal. Therefore, in many of the OECD countries, separation of debt and monetary management had been undertaken in the 1990s.

This paper discusses the basics of debt management and its separation in Sect. 6.2. Traditional viewpoints about separation of debt management, central banks' independence, coordination between debt management, monetary and fiscal policy and present global debt management practices are presented in Sect. 6.3. Section 6.4 presents the debate on separating debt from monetary policies, in the

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aftermath of recent crisis. Indian debt management practices, role of Reserve Bank of India and the debate about separation of debt management in India are discussed in Sect. 6.5. Finally conclusions are presented in Sect. 6.6. The discussion on separation of debt management should cover the scope and structure of a separate debt office and is presented in the paper by Kanagasabapathy and Singh (2013).[1]

6.2 Some Basics of Debt Management

The main objective of debt management is to minimize the cost of borrowings over the medium to long run, consistent with a prudent degree of risk. To achieve this minimization of cost, promotion and development of efficient primary and secondary market for government securities are also important complementary objectives for debt management. Hence, public debt management can be explained as the process of executing a strategy for managing the government's debt—to raise the required amount of borrowings, pursue cost/risk objectives and also meet any other goal that the government might have set (IMF 2003). This may be expressed as a numerical target for the stock composition of the debt referred to as the strategic benchmark. The policy instrument is medium- to long-term debt, and the composition is managed through new debt issuance, as well as changing the composition of existing debt through swaps, debt buybacks and exchange offers (Togo 2007).

The debt management strategy in a number of countries is formulated in the framework of asset-liability management, implying the application of a portfolio approach to government debt management. In the portfolio approach, the importance of debt management in stabilization policy will depend on how substitutable different types of bonds are, and how the return on bonds varies with changes in other asset prices. If different types of bonds are not perfect substitutes, then changing the mix of bonds in the private sector's portfolio could affect relative asset yields, investment and economic activity (Bernanke and Gertler 1999; Vickers 1999). Empirical results are mixed on this relationship. For the USA, Agell and Persson (1992) find a small effect while Hess (1998) finds a significant effect on asset yields from changes in the maturity mix of government securities for the UK.

Debt management has an impact on monetary policy through asset prices and on fiscal policy through interest payments. The important issue in this context is the relationship between debt and monetary management. Historically, in the UK, concerns over the interaction of debt and monetary policy were closely linked to the level of public debt (Goodhart 1999). The two functions were separated mainly to grant enhanced autonomy to the central bank and to focus on debt policy, and the two agencies continued to coordinate at the operational level as both operate in the

[1]This aspect was also partially covered by Singh (2005).

government securities market. This coordination helped to ensure that fiscal and monetary policies do not operate at cross-purposes in the financial markets.

6.3 Separate Debt Management Office—A Traditional View

There was a growing consensus among practitioners to treat debt management as a separate policy instrument from monetary policy until 2008. A number of countries with liberalized financial markets and high levels of government debt sought to adopt professional debt management techniques to save cost and to provide policy signals to the market (Giovannini 1997). The benefits of separation of the two functions were basically conditional upon the level of financial development as argued by Blommestein and Turner (2012). The trend started with New Zealand in the 1980s, with the government recognising the need for proper policy assignment and accountability framework for debt management to meet the fiscal targets set in the then adopted Fiscal Responsibility Act. In Europe, several countries that were heavily indebted in the late 1980s and early 1990s like Belgium, France, Ireland and Portugal, decentralized debt management to varying extent, in order to reduce the variability of debt service cost that could jeopardize the targets set by the Growth and Stabilisation Pact. In the UK, debt management responsibilities were taken out of the Bank of England in order to remove the perception of conflict of interest in conducting debt management and monetary operations (Togo 2007).

A number of countries have chosen to open a separate debt management office to have a more focused debt management policy (Table 6.1). The location of the debt management office is also important and will depend on a number of considerations. The dispersal of debt management functions within different layers of government can lead to lack of coherent debt management policy and overall risk assessment, and therefore higher operational risk. Some OECD countries have opted for an autonomous debt management office to improve operational efficiency (Austria, Finland, Ireland, Portugal, Sweden, Germany, Hungary and UK) while others, seeking a balance between public policy and financial management, have a separate office but operating under the Ministry of Finance (Australia, Belgium, Canada, France, Netherlands, New Zealand, Poland and USA). In Denmark, debt management is undertaken by a privately owned central bank (OECD 2012). In the case of developing countries, Currie et al. (2003) argue that the separate office can be initially placed under the Ministry of Finance while Kalderen (1997) suggests that in countries where fiscal deficits were high and financial markets were underdeveloped, a separate debt management office may be unsuitable for overall policy effectiveness of debt management.

On the basis of the experience of OECD countries, Cassard and Folkerts-Landau (1997) conclude that several reasons emerge that justify the separation of debt management—to preserve the integrity and independence of the central bank, to shield debt management from political interference, to ensure transparency and

Table 6.1 Location of debt management office in select countries

Country	Location of debt management office	Scope of debt management			Advisory board
		Cash	Debt	Contingent	
1. Australia	Separate agency under treasury since 1999	Yes	Yes	No	Yes
2. Brazil	Debt office under treasury since 1988	Yes	Yes	No	No
3. Colombia	Debt office under treasury since 1991	No	Yes	Yes	Yes
4. Denmark	Debt office in central bank	Yes	Yes	Yes	No
5. France	Separate agency under treasury since 2001	Yes	Yes	No	Yes
6. Germany	Separate agency under treasury since 2001	Yes	Yes	No	No
7. Ireland	Separate agency under treasury since 1991	Yes	Yes	No	Yes
8. Italy	Debt agency under treasury—1997	Yes	Yes	No	No
9. Mexico	Separate office in treasury	No	Yes	Yes	No
10. New Zealand	Separate office under treasury since 1988	Yes	Yes	Yes	Yes
11. Poland	Debt office within treasury since 1994	No	Yes	Yes	No
12. Portugal	Separate debt office under treasury since 1996	Yes	Yes	Yes	Yes
13. Sweden	Separate debt office under treasury since 1789	No	Yes	Yes	Yes
14. UK	Separate debt office under treasury since 1997	Yes	Yes	No	Yes
15. USA	Debt office within treasury	Yes	Yes	No	No
16. South Africa	Debt Management office within treasury	Yes	Yes	Yes	No

Source Singh (2005)

accountability and to improve debt management by entrusting it to portfolio managers with expertise in modern risk management techniques. The separation of debt and monetary management positively affects expectations as it explicitly indicates to the market and credit rating agencies that monetary policy is independent of debt management.[2]

There is a conflict between different economic policies of the government. The classic conflict between monetary and debt management policy relates to the

[2]In case the two are not separated, then debt management policy eventually becomes subservient to the monetary policy as the monetary authorities attempt to use debt instruments to strengthen monetary policy signals and to enhance the credibility of the central bank.

fixation of interest rates. The conflict between fiscal policy and debt management relates to the choice of keeping debt servicing costs low over the short term or over the medium-long term. A separate debt management authority is a step removed from the political process of budget making and generally would not succumb to the political pressure to trade off long term debt management goals with short-run budget goals (Alesina et al. 1990). A separation of these policies was expected to avoid such conflicts and improve policy credibility.

In case the central bank conducts debt management policy, conflicting objectives may emerge. Should liquidity be tightened based on monetary conditions prevailing in the economy or should it be relaxed to ensure success of market borrowing programme of the government? Another area of concern could be interest rates which are of prime importance to the central bank. The government will like to borrow at low costs, while the central bank will consider monetary and financial stability more important. The central bank may be tempted to manipulate financial markets to reduce the interest rates at which government debt is issued (Cassard and Folkerts-Landau (1997). Taylor (1998) argues that the accord between the Federal Reserve and the Treasury in 1951, which emancipated the Fed from assisting the Treasury in borrowings at low rates of interest, helped the Fed to focus on interest rates. Even if a separate department within the central bank conducts debt management, the market will still perceive that the debt management decisions are influenced by inside information on interest rates. In contrast, a separate authority on fiscal issues would be required to present a separate debt management report to the Parliament which will prompt better fiscal discipline, appropriate audit, and financial and management controls.

In an autonomous debt office, staffing pattern can be more professionally competent and the operational environment is similar to that of a privately run commercial enterprise that is required to manage a portfolio within the risk parameters. The ongoing developments in the financial markets, illustratively the derivative instruments, require specialized training to monitor mark-to-market positions, over-the-counter dealings and pricing by the debt management authority, which would require competent and qualified professionals.

Thus, the main advantages of having a separate and autonomous debt office are —(a) signal to the financial markets that the government assigns institutional importance to the function; (b) commitment to the financial markets and the political parties for a transparent and accountable debt management policy; and (c) avoidance, at least, of any political pressures aimed at short-term political gains.

6.3.1 Central Bank Independence

The other factor of separation of debt from monetary management was the argument of independence of a central bank. In the years until 2008, because of the great

moderation and Volcker's victory over inflation in the 1980s,[3] substantial evidence had been advanced in theoretical and empirical literature to support the political and economic independence of the central bank (Grilli et al. 1991). Bade and Parkins (1980) define political independence as the ability of the central bank to choose its policy without the influence of the fiscal authority, while economic independence refers to the freedom to use its monetary policy instruments. In support of central bank independence, Kydland and Prescott (1977), Barro and Gordon (1983a, b); Burdekin and Laney (1988), Eschweiler and Bordo (1993) and Grilli et al. (1991a) argue that more independent central banks reduce the rate of inflation, while Alesina and Summers (1993) conclude that such independence has no impact on real economic performance. Wagner (1998) argues that making a central bank independent lowers the expectations pertaining to inflation of the private sector that determine wage and price contracts, and thereby also the expectations that impact the exchange rates. Blinder (1997), and Bernanke and Mishkin (1997) suggest that policy makers should announce targets and that policy transparency to achieve those specific targets will enhance accountability while providing independence to the central bank.

Goodhart (1994) argues that it is easier for the principal to appoint an agent and prescribe a single, quantified, easily recognized, measured and understood outcome, which would facilitate monitoring and accountability. A number of countries had granted increased independence to the central banks to focus on the objective of price stability and inflation targeting (Blinder 2004; Cukierman 1992). Unlimited access to central bank credit on easy terms by the government not only restricts the independence of the central bank, but also adversely affects the financial position of the banking sector. Kopits and Symansky (1998) argue that a prohibition on central bank credit to the government removes an important source of inflationary pressure.

In some countries, where financial markets are not developed, the need to finance the deficit of the government restricts the independence of the central bank —automatic and unlimited access to central bank credit is resorted to, supposedly for the purpose of capital expenditure expected to lead to higher economic growth.[4] Independent central banks are able to restrict such accommodation of fiscal deficits depending on the needs of the monetary policy (Demopoulos et al. 1987; Burdekin and Laney 1988). Rather, Grilli et al. (1991) and Carracedo and Dattels (1997) mentioned that in many countries, borrowing from the central bank is prohibited. Sundararajan et al. (1997) argued that a ceiling on central bank credit to government

[3]Fed Reserve's victory (Under Paul Volcker) over inflation in the USA was institutionalized in legislation and practices that granted central bank greater autonomy and, in some cases, formal independence from long-standing political constraints. Now many central banks could be trusted to do the right thing; and they delivered (El-Erian 2013).

[4]Cukierman (1992) discusses some of the structural reasons that led to flow of credit from the central bank to the government and eventually erosion of its independence—(i) underdeveloped financial markets, (ii) inelastic supplies of funds with respect to real rate of interest, (iii) large outstanding domestic debt and (iv) inelastic revenue and expenditure of the government with respect to income.

promotes monetary restraint and helps to establish central bank credibility and operational autonomy. In the Maastricht Treaty (1992), only indirect credit and that also at the discretion of the central bank is extended to the government. Although OECD countries impose no formal constraints on indirect central bank credit to government—nevertheless there are often informal constraints—open market operations can only be done for monetary policy reasons.

The transfer of profits of the central bank to the government also restricts the independence of the central bank and could also be inflationary, if these lead to higher expenditure (Table 6.2).[5] Historically, the need to impose limits on the government's ability to finance itself through seigniorage revenue was one of the major reasons to grant independence to the central bank (Swinburne and Castello-Branco 1991). Therefore, Blommestein and Thunholm (1997) and Sundararajan and Dattels (1997) argue that such profits should be netted out against treasury debt to the central bank and the rest of the profits should be transferred to the government.[6] Robinson and Stella (1988) argue that if profits of the central bank go to the government, then conversely transfers from the government should cover losses. This would imply a combined balance sheet of the central bank and the government resulting in a continuous flow of seigniorage revenue to the government, which, however, would not be acceptable to an independent central bank.

6.3.2 Need for Coordination

In each country, the economic situation, including the state of domestic financial markets and the degree of central bank independence, would play an important role in determining the range of activities to be handled by the debt manager and the level of coordination that is necessary. Monetary policy and debt management clearly have to be complementary to each other but debt management should not be considered a tool of monetary management nor should monetary policy be considered the objective of debt management (Bank of England 1995). The industrial countries have generally separated the objective and accountability of debt and monetary management. In the case of the EMU, monetary policy is operated by the ECB while national authorities conduct debt management. The sharing of adequate information between Treasuries, national central banks and the European Central Bank is a norm, and ensured for the purpose of liquidity management. The industrialized countries also ensure that debt manager and monetary authority coordinate their activities in financial markets to avoid operating at cross-purposes.

[5]If debt management activity is also undertaken by the central bank, then the profits may be substantially large.

[6]Blommestein and Thunholm (1997) suggest that another way to restrict the transfer of seigniorage to the government is to maintain the real value of reserves and capital.

Table 6.2 Select country practices relating to distribution of profit

Country	Distribution of profit
Euro system	Up to 20 % of its profit in any year subject to a limit equal to 100 % of the ECB's capital
Germany	Net profit is transferred to the federal government after setting aside amount for statutory reserves
Canada	Net revenue of the bank is remitted to the Receiver General for Canada
Portugal	Net profit for the year is distributed equally between allocation to reserves and the state
UK	Profit of both issue (entire) and banking (some amount) departments is payable to the treasury
Sweden	Central bank makes a dividend payment to the treasury
Italy	Net profit for the year, after allocations to the Ordinary Reserve and Extraordinary Reserve accounts and distribution of dividend to shareholders, transferred to the state
South Africa	Nine-tenths of the surplus of the bank is paid to the government
Brazil	Net profit after constitution or reversal of reserves is transferred to the national treasury
Norway	A third of the capital in the transfer after provisions is transferred to the treasury every year.
Russia	Transfers fund to the federal budget amounting to 80 % of its profits
Japan	5 % of net income for the fiscal year is transferred to the legal reserves
Korea	Voluntary reserves are transferred to the Government's General Revenue Account
Australia	Net profit including transfers to/from unrealized profits reserve earnings available for distribution, payable to the government
Singapore	Yearly net profit including transfer of reserves from Currency Fund is paid to the government
USA	Excess earnings on Federal Reserve notes are transferred to the US treasury

Source Report on Currency and Finance RBI (2006)

In the case of developing countries, coordination between fiscal, monetary and debt management functions is considered even more crucial, where financial markets are under-developed and forecasts of government revenues and expenditure are inaccurate. The financing options of the government are limited and cash requirements are uncertain, and this then limits the independence of the central bank. The issuance of government securities by a separate debt office needs to be closely coordinated with the open market operations undertaken by the central bank to ensure appropriate liquidity conditions in the market.

Therefore, the role of the central bank in public debt management, though separated, would continue to be crucial. As an issuing agency of government securities, the central bank organizes rules and procedures for selling and delivering securities and for collecting payments for the government. As a fiscal agent, the central bank makes and receives payments, including interest payments and servicing of principal. As adviser to the government and to the debt manager, it could

provide policy inputs on the design of the debt programme, mix of debt instruments and maturity profile of debt stock. These inputs will be useful in providing stability to the overall debt programme, facilitating smooth functioning of the market and providing a stable environment for the conduct of monetary policy.

6.4 Separate Debt Management Office—Post-Crisis Debate

In view of the financial crisis, in recent years, there has been a rethink on the issue of separation of debt management because of the following factors—(a) sharp increase in government deficit and debt, because of the fiscal stimulus in many countries (Table 6.3); (b) the use of unconventional monetary policy in advanced countries involving large-scale purchase of government securities of varying maturities; (c) imposition of new liquidity requirements resulting in higher demand of government securities; and (d) increase in foreign ownership of government debt.

According to the conventional mandate, central banks were expected to operate in the bills market or short end of the market while debt managers were expected to operate in the long end of the same government securities market. In the post-crisis period, the boundary between debt management and monetary policy became blurred mainly because of fiscal domination and unconventional monetary policy. The floatation of bonds by the debt manager, given the uncertainty, was of shorter maturity and not long-term bonds. This also created confusion in the role of the central bank and debt manager (Bank of England 2011).

Thus, the thrust of the recent debate is that under difficult macroeconomic situation, the lines between debt and monetary policy become blurred and hence the two functions should be brought under the same agency. In the UK, there is a discussion but not in the USA where the two functions had been separated in 1951. Goodhart (2012) argues that under quantitative easing there is a possibility that the policy of the debt management can negate the policy of the central bank. When the debt ratios increase, as in the case of UK or Greece, the short term interest rates also become a matter of concern to the ministry of finance. Obviously, then the monetary policy and debt management has to be closely coordinated. Therefore, according to Goodhart (2012) separation between debt management and monetary policy is not desired as the existing arrangements are already under stress. Earlier also, Goodhart (2010)[7] argued that the central banks should be encouraged to revert to their role of managing national debt because with rising debt levels, debt management cannot be

[7]Debt Management is again becoming a critical element in the overall conduct of policy, as events in Greece have evidenced. Debt management can no longer be viewed as a routine function which can be delegated to a separate, independent body. Instead, such management lies at the crossroads between monetary policy and fiscal policy.

Table 6.3 General government gross debt (per cent of GDP)

Country/Year	2006	2008	2010	2012
France	64.1	68.2	82.3	90.3
Germany	67.9	66.8	82.5	82.0
Greece	107.5	112.5	147.9	158.5
Iceland	30.1	70.4	90.6	99.1
Ireland	24.6	44.5	92.2	117.1
Japan	186.0	191.8	216.0	237.9
Netherlands	47.4	58.5	63.1	71.7
Portugal	63.7	71.6	93.2	123.0
Singapore	86.4	96.3	99.3	111.0
Slovenia	26.4	22.0	38.6	52.6
Spain	39.7	40.2	61.3	84.1
United Kingdom	43.0	52.2	79.4	90.3
USA	66.1	75.5	98.2	106.5

Source Fiscal Monitor, IMF

treated as a routine function which can be delegated to a separate independent institution.

Traditionally, the government debt managers were guided to pursue a cost minimization policy but these institutional arrangements and principles would not hold in times of macrostress. At a recent OECD global debt forum meeting, it was concluded that the global crisis has led to blurring of lines between debt management and monetary policy. It was also noted that different mandates appeared of the two institutions sometimes to be in conflict. The minutes of the US Treasury borrowing advisory committee had also hinted at some tensions according to Blommestein and Turner (2012).

On the other hand, the Study Group (SG) commissioned by the Committee on the Global Financial System (Chairman: Paul Fisher 2011), after an extensive research, observed that there was little evidence that existing arrangements' for operational independence of sovereign debt management and monetary policy have created material problems. The SG concluded that modifying this independent arrangement would rather be risky and that the central banks would benefit by keeping abreast of debt management activities. However, as would be expected in a difficult economic situation, SG did not recommend separation of debt management out of those central banks' where the debt management functions were still being conducted.

Recent experience shows that there is a need for close communication and coordination among the relevant agencies managing monetary policy and debt management, as stressed by SG. This conclusion was also consistent with the Stockholm Principles (2011), which stated that "communication among debt managers and monetary, fiscal and financial regulatory authorities should be

promoted, given greater inter linkages across objectives, yet with each agency maintaining independence and accountability for its respective role."[8]

While theoretical arguments can be made to justify recent departures from policy, the reality is that in the post-crisis world, objectives of the central bank are no longer limited to price stability. In the USA, the Federal Reserve has essentially adopted a quantitative employment target and nominal GDP targets. Financial stability is also a central bank responsibility, according to the new global understanding. The dilution of the central bank independence is because of the multiple objectives like pursuit of GDP growth, job creation and financial stability.[9] Further, the need to establish priorities when there is trade-offs, clearly requires political decisions, which cannot be made by unelected officials alone. Moreover, by pushing interest rates towards zero, the current policy of quantitative easing has strong, often regressive, income effects which cannot be implemented without political patronage. Hence, the emerging consensus, in the post-crisis period, is that central banks' decision-making should be subject to political control and that policymakers must accept that central bank independence will continue to weaken over the years (Blejer 2013).

According to Goodhart (2010), the separation of debt and monetary management in England took place when debt operations became simpler and standardized, falling into a routine pattern. But given the crisis, debt management can no longer be considered as routine which can be now delegated to a separate and independent body. In the present situation, therefore, the need is to combine an overall fiscal strategy with high-calibre market tactics. But, the above argument by Goodhart is contrary to following reasons explained by Bank of England (1995) for separating debt management from the monetary policy—(a) monetary policy decisions should be seen as separate from debt management policy; (b) to ensure that Debt Management Office (DMO) did not have advance access to other policy decisions; (c) to avoid possible conflicts which could undermine the achievement of debt management objective of minimizing the cost of government financing; and (d) to create a clearer allocation of the responsibilities for debt management and monetary policy.[10]

There are other important developments which have been largely ignored. First, the government issues government securities which are required as collateral for repo transactions between the central bank and the financial markets as well as during transactions among the market players. Therefore, the tenor and coupon rate of these bonds is of interest to the central bank. Second, the fact that debt

[8]Stockholm Principles (2011) were promulgated by debt managers and central bankers from 33 advanced and emerging market economies.

[9]Initially, central bank independence was based on two main arguments which no longer apply because of multiple objectives being assigned to a central bank—first, politicians can exploit expansionary monetary policy's positive short-run effects at election time, without regard for its long-run inflationary consequences. Second, central banks have a clear comparative advantage in dealing with monetary issues and can therefore be trusted to pursue their targets independently.

[10]In fact, this was a key factor in shaping the new arrangement.

management was separate from monetary management in the USA and OECD, provided transparency to the rescue operations launched by many governments in face of the global crisis. Independence of operations and objectives, and close coordination between different agencies lent credibility to the government policies. Third, in case of conflict of interest, closer coordination between the agencies, and clear explanations of differences helped the financial markets to understand the dilemma facing regulatory and statutory agencies, resulting in more accountability and responsibility. Fourth, if the interest rates are market determined then fiscal discipline is imposed on the government that would restrict fiscal profligacy and populist competitiveness during periods of crisis and elections. This, in a way, creates a level playing field between the public and private sector, and probably restricts crowding out of private sector due to large borrowings by the government.

6.5 Debt Management in India

In India, presently public debt management is divided between the Central and state governments, and the RBI. The RBI manages the market borrowing programme of Central and state governments. External debt is managed directly by the Central government. The RBI acts as the debt manager for marketable internal debt, for the Central government as an obligation and for the state governments by an agreement, under the RBI Act, 1934. RBI decides about the maturity pattern, calendar of borrowings, instrument design and other related issues in consultation with the Central government (IMF 2003).[11]

The public debt of the country, estimated at 66.0 % of GDP at end-March 2013, has been declining since 2000–01, and the trend reveals that domestic debt has been steadily increasing over the years (Table 6.4). The outstanding amount of guarantees of both Centre and state has been declining from 3.9 to 7.7 %, respectively, as at end-March 2000 to 1.4 and 0.3 % of GDP as at end-March 2011.

The major components of domestic debt are internal debt, small savings, provident funds, and reserve funds and deposits (Table 6.5). The Constitution of India provides for the option of placing a limit on the internal debt, both at the Centre and the states, but no such limit has been imposed so far. Internal debt, the most prominent component of domestic debt, consists of markets loans, treasury bills and other bonds issued by the Central and state governments.

Market loans, also called as rupee loans, generally comprised of three kinds of obligations: (a) marketable debt, (b) dated loans issued by the government to the Reserve Bank in exchange for ad hoc treasury bills outstanding and (c) miscellaneous debts such as, the Hyderabad State Loans, National Defence Bonds, Gold Bonds, etc. Since the start of planning in India in 1951, the amount of market loans mobilized annually has been rising rapidly. The market loans were raised by the

[11]Thorat et al. (2003).

Table 6.4 Public debt of the government

Year	As per cent to the total			As per cent of GDP		
	External debt	Domestic debt	Public debt	External debt	Domestic debt	Public debt
1980–81	18.8	81.2	100.0	9.0	38.9	47.9
1990–91	16.4	83.6	100.0	11.3	57.5	68.9
2000–01	11.8	88.2	100.0	8.7	64.9	73.7
2010–11	5.5	94.5	100.0	3.6	61.9	65.5
2011–12	5.5	94.5	100.0	3.6	61.9	65.5
2012–13	5.0	95.0	100.0	3.3	62.7	66.0

Source RBI

Table 6.5 Components of domestic debt of the government (as per cent to the total)

Year	Internal debt	Small savings deposits and provident funds	Reserve funds and deposits and other accounts	Domestic debt
1980–81	60.6	22.6	16.8	100.0
1990–91	51.3	23.3	25.4	100.0
2000–01	67.4	13.0	19.6	100.0
2010–11	70.7	16.6	12.7	100.0
2011–12	73.5	15.2	11.2	100.0
2012–13	75.9	14.1	10.0	100.0

Source RBI

government, both Central and state, from the market on fixed coupons and prices, till 1992. As a part of the financial sector reforms, borrowings for the Central government have been raised through auctions of government securities of different maturities since 3 June 1992. Since then new instruments have been regularly introduced—e.g. zero coupon bonds, floating rate bonds, capital indexed bonds and inflation indexed bonds. In the case of state governments, the auction system was initiated in January 1999 and now all states are raising market loans through the auction system.

The amount of market borrowings is decided in consultation with the Planning Commission, state governments, the Central government and the Reserve Bank of India (RBI). RBI also advises the Central and the state governments on the quantum, timing and terms of issue of new loans. While formulating the borrowing programme for the year, the government and the RBI take into account a number of considerations such as the Central and state loans maturing for redemption during the year, an estimate of available resources (based on the growth in deposits with the banks, premium income of insurance companies and accretion to provident funds) and absorptive capacity of the market.

The amount of outstanding market loans have increased from ₹16 billion in 1952 to ₹862 billion in 1991 and ₹39,048 billion in 2013. In general, the share of Central government, in total outstanding amount, is significantly large but varies over time,

depending on annual market borrowings. Illustratively, net annual borrowings by the Centre were ₹80 billion in 1990–91 which rose to ₹4929 billion in 2012–13 while in comparison that by the states rose from ₹26 billion to ₹1130 billion over the same period.

The government also offers a variety of small savings schemes to meet the varying needs of different groups of small investors. In respect of each scheme, statutory rules are framed by the Central government indicating various details including the rate of interest and the maturity period.[12] Small saving instruments can be classified under the following three heads: postal deposits, Savings Certificates and Public Provident Fund (PPF), with PPF being a small component.[13] Illustratively, of the outstanding small savings amount of ₹6066 billion, at end March 2012, PPF through post offices accounted for a small amount of ₹360 billion.

6.6 Important Role of the RBI

The key role in management of internal debt is played by the RBI which could conflict with its pursuit of the objectives of monetary policy. The monetary policy of the RBI aims to provide adequate liquidity to meet credit growth and support investment demand in the economy, while continuing to maintain a vigil on movements in the price level, and to prefer a soft and flexible interest rate environment within the framework of macroeconomic stability.

The RBI is the regulator and supervisor of the financial system, including banks, and also of the money, government securities and foreign exchange markets. The RBI has to balance the needs of the markets (manage liquidity), government requirements (fiscal requirements), balance sheet of the banks (asset prices and interest rate movements) and general price level (growth of money supply).

In the RBI, the Department of Internal Debt Management (DIDM), set up in April 1992, undertakes the work relating to government securities, treasury bills and cash management. DIDM is organized essentially as a separate debt management office with the essential units–primary market (borrowing and cash management of both Central and state), policy and research, dealing room, MIS and regulation (of primary dealers). The actual receipts of bids and settlement functions are undertaken at various offices of the RBI especially public debt offices (PDOs) across the country. The public debt offices of RBI, located in various parts of the

[12]However, there is a unique small saving scheme run by the Government of Kerala.

[13]Total Deposits constitutes of Post Office Saving Bank Deposits, MGNREG, National Saving Scheme 1987, National Saving Scheme, 1992, Monthly Income Scheme, Senior Citizen Scheme, Post Office Time Deposits: 1 year Time Deposits, 2 year Time Deposits, 3 year Time Deposits, 5 year Time Deposits; Post Office Recurring Deposits, Post Office Cumulative Time Deposits, Other Deposits. Saving Certificates constitutes of National Savings Certificate VIII issue, Indira Vikas Patras, Kisan Vikas Patras, National Saving Certificate VI issue, National Saving Certificate VII issue, Other Certificates. Public Provident Fund.

country, also manage registry and depository functions, including the book entry form of ownership. The Department of Government and Bank Accounts (DGBA) maintains the accounts of both the governments—Central and state, on a daily basis. On external debt, Department of External Investment and Operations in RBI works as a front office along with MOF. The function of cash management of the Central and state governments is also performed by DIDM and DGBA in RBI. The managerial structure of public debt management is presented in Table 6.6.

6.7 Coordination Between RBI, Government and Markets

To coordinate the activities of debt management with fiscal authorities, various committees function in RBI. The cash and debt management committee, consisting of officials from the MOF and RBI, meets regularly to discuss the operational details of market borrowings for the Central government. The issues pertaining to the state governments are discussed in a semi-annual meeting with the officials from MOF, DOF and RBI. The Technical Committee on Money and Government Securities, consisting of representatives from market, academia, government, banks and RBI, meet regularly and advise the RBI on development and regulation of the government securities market.

6.8 Fiscal Responsibility Legislations

Financial Responsibility and Budget Management Act 2003 (FRBMA) was brought into force effective from 5 July 2004. The objectives were elimination of revenue deficit by 2008–09 and reduction in fiscal deficit to no more than 3 % of GDP at the end of 2008–09. In the meantime, global financial crisis led the government to infuse resources in the economy as fiscal stimulus since 2008. The fiscal targets had to be postponed temporarily in view of the global crisis. The Budget for 2012–13 introduced amendments to the FRBM Act. The concept of effective revenue deficit was introduced, which excludes from the conventional revenue deficit the grants for the creation of capital assets.[14] The second important feature is the introduction of

[14]This is an important development for the reason that while the revenue deficit of the consolidated general government fully reflects total capital expenditure incurred, in the accounts of the Centre; these transfers are shown as revenue expenditure. Therefore, the mandate of eliminating the conventional revenue deficit of the Centre becomes problematic. With this amendment, the endeavour of the government under the FRBM Act would be to eliminate the effective revenue deficit. Similarly, at state level also, some of the capital transfers to local bodies or parastatals could get reflected as revenue expenditure. By understating capital expenditure, this might lead to a divergence between the national accounts data on capital formation on the government accounts and the conventional public finance data that is gleaned from the Budgets (GoI 2013).

Table 6.6 Management of public debt in India

Major items	Appropriated by	Managed by	Fixation authority for/determination of		
			Amount	Maturity	Interest rate
Market loans	Centre	MOF, RBI	MOF	MOF, RBI	Market
	State	DOF, RBI	MOF	DOF, RBI	RBI, Market
Market bonds	Centre	RM, MOF, RBI	RM, MOF	RM	RM, MOF, RBI
	State	RD, DOF, RBI	RD, DOF	RD	RD
Treasury bills	Centre	MOF, RBI	MOF, RBI	MOF, RBI	Market
WMA	Centre	MOF, RBI	MOF, RBI	MOF, RBI	RBI
	State	DOF, RBI	RBI	RBI	RBI
Loans from Bk and FI	State	DOF	RD	RD	RD, DOF
Small savings	State	MOF, DOF	MOF, DOF	MOF	MOF
Provident funds	Centre	MOL, MOF	MOL, MOF	MOL	MOL
	State	MOL, DOF	DOF	MOL	MOL
Reserve funds/deposits	Centre	RM, MOF	RM	RM	RM
	State	RD, DOF	RD	RD	RD
External debt	Centre	MOF, RBI	MOF	MOF	MOF
Contingent liabilities	Centre	RM, MOF	RM	RM	RM
	State	RD, DOF	RD	RD	RD

MOF—Ministry of Finance; *DOF*—Department of Finance; *MOL*—Ministry of Labour; *RM*—Respective Ministry; *RD*—Respective Department; *Bk*—Banks; *FI*—Financial Institutions
Source Author's compilation

the provision for 'Medium Term Expenditure Framework Statement' in the FRBMA. This medium-term framework provides for rolling targets for expenditure, imparting greater certainty and encourages prioritization of expenditure.

The Twelfth Finance Commission recommended that along with the Central government, all states should also consider enacting fiscal responsibility legislations with specific target to eliminate revenue deficit by 2008–09 based on reduction in borrowings and guarantees; set up sinking funds for amortization of all loans; and impose ceilings on guarantees. The Thirteenth Finance Commission (TFC) had recommended a number of amendments to the fiscal legislation and provided guiding principles for the state's fiscal policy for the period 2010–15. TFC had worked out a fiscal consolidation road map for states requiring them to eliminate revenue deficit and achieve a fiscal deficit of 3 % of their respective GSDP latest by 2014–15.

6.9 Need for a Separation of Debt and Monetary Management

In India, the separation of debt would provide the RBI with necessary independence in monetary management and an environment to pursue an inflation target, if assigned by the government. The separation of debt management would provide focus to the task of asset-liability management of government liabilities, undertake risk analysis and also help to prioritize government expenditure through higher awareness of interest costs. The need for setting up a specialized framework on public debt management which will take a comprehensive view of the liabilities of government and establish the strategy for low-cost financing in the long run has been advocated by various expert committees since late 1990s (Table 6.7).

The important watershed in the institutional arrangements of debt management was the setting up of the middle office in the Ministry of Finance in 2008, to formulate debt management strategy for the Central government. Again the Union Budget 2011–12 had stated that the government was in the process of setting up an independent Debt Management Office (DMO) in the Ministry of Finance. The DMO was entrusted with the responsibilities of piloting the evolution of legal, governance and comprehensive risk management framework suitable for independent debt office; formulation of strategies regarding long-term debt management and annual debt issuance; maintenance of centralized database on government liabilities; and dissemination of debt-related information to public. Similarly, the Union Budget for 2012–13 proposed to move the Public Debt Management Agency Bill in the Parliament.

However, an important rethink in the whole process was required because the RBI was not convinced that the separation would be useful for the financial markets. The proposed argument was that in the post-crisis period there has been an increased need for close coordination between monetary policy, financial stability and debt management. Debt management, according to Khan (2012), was a difficult exercise in a developing country and was not simply raising resources from the market. The size and dynamics of government borrowing has a wider influence on interest rate movements, and liquidity and credit growth. Therefore, focus only on the cost factors may not be an appropriate way to manage debt. He also argued that policy coordination may not be operationally effective especially, if the fiscal deficit was high. According to Subbarao (2011), despite a large borrowing programme, the RBI was able to complete successfully market borrowings in a cost-efficient manner and with the long average maturity of 10 years, among the longest maturity profiles in the world. Merely shifting the debt management to a different agency in an uncertain environment and with large size of deficit would not help as the pressure on the central bank would continue to ensure government borrowing at low cost. The remedy is fiscal consolidation and not separation of debt management, according to him. Also, significant capital flows require close coordination between debt management and monetary policy, especially when sterilization through government bonds has to be undertaken by the central bank.

Table 6.7 Timeline: separation of debt management

Year	Source	Recommendations
1997	Report of the Committee on Capital Account Convertibility (Chairman: S.S. Tarapore)	Setting up of an Office of the Public Debt (OPD)
1997	A working group on Separation of Debt Management from Monetary Management (Chairman: V. Subrahmanyam)	Separate Debt management office as a company under the Indian Companies Act
2000	The Advisory Group on Transparency in Monetary and Financial Policies	Independent Debt Management Office, in a phased manner
2001	The RBI Annual Report 2000–01	Separate DMO
2001	The Internal Expert Group on the Need for a Middle Office for Public Debt Management, (Chairman: A. Virmani)	Establishing an autonomous public debt office
2004	The Report on the Ministry of Finance for 21st Century (Chairman: Vijay Kelkar)	National Treasury Management Agency
2004	The Fiscal Responsibility and Budget Management (FRBM) Act	Prohibits the Reserve Bank from participating in the primary market for Central government securities with effect from April 2006
2006	Fuller Capital Account Convertibility (Chairman: S. S. Tarapore)	Set up of Office of Public Debt outside RBI
2007	The Union Budget 2007–08	Establishment of a DMO in the government
2008	The High Level Committee on Financial Sector Reforms (Chairman: Raghuram Rajan)	Structural change of public debt management, such that it minimizes financial repression and generates a vibrant bond market. Set up independent DMO
2008	Internal Working Group on Debt Management (Chairman: Jahangir Aziz)	Establishing a DMO
2009	Committee on Financial Sector Assessment (Chairman: Rakesh Mohan)	Setting up DMO
2012	Report of the Working Group on Debt Management Office (Chairman: Govind Rao)	Independent DMO
2012	The Financial Sector Legislative Reforms Commission Approach Paper (2012)	Separation of debt management with specialized investment banking capability for public debt management
2013	The Financial Sector Legislative Reforms Commission (Chairman: B. N. Srikrishna)	Specialized framework to analyze comprehensive structure of liabilities of the government, and strategizing minimal-cost techniques for raising and servicing public debt over the long term within an acceptable level of risk

Source Various Reports, GoI and RBI

According to Mohan (2003), given the federal structure of India, debt management of the state governments is difficult. In the case of state governments, a substantial amount of deficit financing is through government borrowings. In view of the size of the borrowings by the state and Central government, it is necessary to harmonize the annual borrowing programme of the government. A separation from the central bank would make such harmonization difficult.

There are also other views as to why the two functions should not be separated.[15] These can be summarized as follows—

- High level of fiscal deficit and over all government debt to GDP ratio,
- Conflict of interest between debt manager and the government's role as an owner of public sector banks,
- Debt and monetary management roles, management of government debt, regulation of banks and monetary policy will be interlinked,
- Difficulty in harmonizing the operations of debt issue and redemptions, SLR maintenance and market stabilisation scheme,
- Existing expertise available in the RBI and
- Inappropriateness of state debt management by a Central government entity.

6.10 A Discussion on the Views Against Separation

A separate debt management office will help to consolidate all debt-related activities of the government in one office. At present, various schemes operate, some under the government of India and few under states, many of which are independently managed by different governments. There are no economies of scale being explored, and little interaction or synchronization of activities occurs between these offices and their practices.

Further, the argument that because the Central government has an ownership share in public sector banks, debt management should not be placed under the same government needs further analysis. If the central bank regulates and supervises the government securities market, then in a similar vein it can be argued that there is a conflict between regulation/supervision and participation in the market, as the RBI participates in the government securities markets as a dealer/trader too. Similarly, as the central bank is a regulator and supervisor of commercial banks there could emerge a conflict of interest to strengthen the balance sheet of commercial banks; therefore, RBI may prescribe higher stipulations of holding government bonds. The central bank could also use its influence over the regulated entities to subscribe to flotations that it manages on behalf of the government. Goodhart (2010) goes further and questions the necessity of entrusting the role of setting interest rate on central bank which already manages the essential role of liquidity management and

[15]The reasons offered by the Committee on Financial Sector Assessment (GOI and RBI 2009).

financial stability in the country. The argument is weak on the issue of conflict emerging due to ownership pattern on select institutions in the financial sector, mainly public sector banks because of following reasons—(a) RBI had a share in State Bank of India (SBI) for many years, and that never diluted the RBI's supervision or regulation of SBI; (b) the share of ownership of the government in public sector bank has been declining over the years and is expected to decline even further; (c) the government, even if not the owner, is finally responsible for the operations of the commercial banks, as demonstrated by the recent financial crisis in many countries in the USA and Europe; (d) the share of public sector banks in holding of government securities has been declining in recent years, while the share of non-public sector banks has been rising; and (e) there are different techniques to ensure an arms length's distance between ownership of public sector banks and administration of separate debt management office, most important being public dissemination of information.

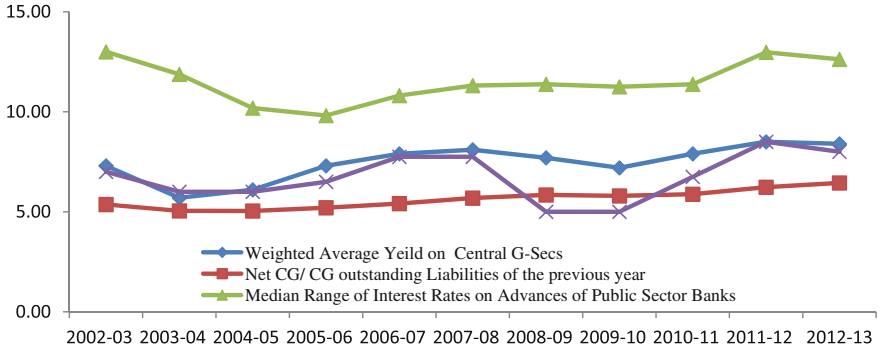
Finally, despite the ownership, performance of public sector banks, in terms of NPAs or return on assets, is not significantly different when compared with other banks operating in India. Even if there is a separate department, with the requisite 'firewall' conducting debt management, within the central bank, the markets will still suspect the influence of inside information on interest rates. This 'joint family approach' does not augur well for transparency in management of debt and monetary policy formulation. And when the central bank is balancing different objectives of debt and monetary management, accountability is difficult to fix. In practise and performance, the movement of various interest rates of government securities was substantially lower than the average lending rate of commercial banks[16] which could be interpreted rather negatively by the markets, despite the fact that Central government borrowings were being raised in auction (Graph 6.1). In contrast, market borrowings in a difficult financial market have been raising as also weighted average maturity but not the yield curve (Graph 6.2).[17]

A separate debt management office also ensures that there are alternative views of the economic situation of the markets and the economy, and not just that special view which has been formed by the central bank through its trading desk and market intelligence. The debt manager has to carefully understand the pulse of the market and the economy through constant interaction, as debt manager has to regularly operate in the financial markets. Through proper coordination between the central bank and debt manager, a better view of the financial markets and the economy can be formed.

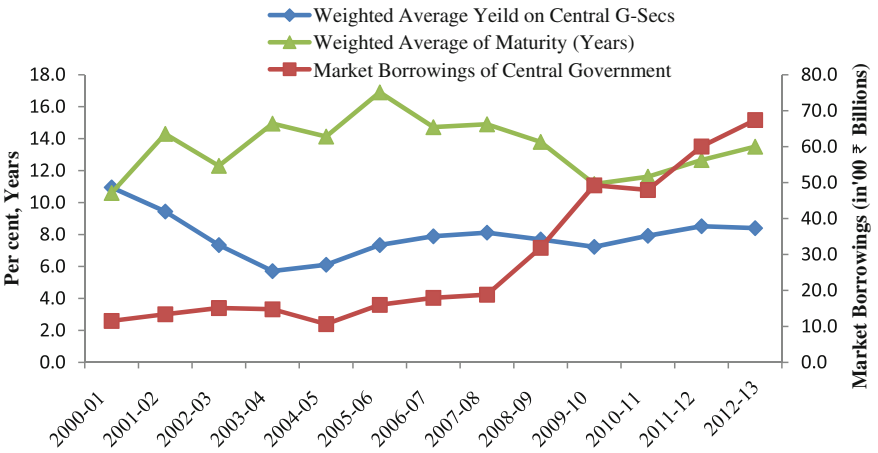
The arguments against the separation like difficulty in harmonizing the operations could basically be resolved by better coordination between various agencies, similar to the type of informal as well as institutionalized coordination between the

[16]Data on lending rates sourced from RBI and relate to five major Public Sector Banks up to 2003–04. For other years, data relates to five major banks.

[17]Kumar and Kumar (2012) attempted to verify the interest rate conflict, underlying the idea of separation of debt management, empirically and conclude that the relationship between policy rates and government market borrowings is statistically insignificant.



Graph 6.1 Trend in Select Interest Rates Net CG/CG outstanding previous year refers to net interest payments (interest payments adjusted for interest receipts) of the Central government (CG) in a specific year on outstanding liabilities of the previous year. Median range of interest rates on advances of public sector banks as released by the RBI and compiled by EPW Research Foundation. *Source* RBI



Graph 6.2 Interest rates and market borrowings of Central government. *Source* RBI

RBI and the Ministry of Finance. A separated agency has an advantage that it will bring in transparency in the operations of debt management. It will also help in focusing on the communication policy as well as dissemination of debt-related information to the market.

On the issue of lack of expertise to manage the DMO, as in other countries, the government could consider hiring experts, temporarily or permanently, that are available in the RBI or from rest of the world. Incidentally, it may be considered that in the central bank, in absence of any specialized cadre of debt management recruits, staff is transferrable and generally moved to different desks. In contrast, in a proposed DMO, the staff will be completely dedicated to activities of debt

management and gain specialization and expertise on the job. On a long-term basis, certification courses to ensure specialized training to individuals in the DMO could be initiated in leading educational and management institutions in the country.

Finally, the benefits of separating debt from monetary management are significantly large. First, given that fiscal deficits are large and that debts are substantial, a focussed approach will be useful. In the last six years, government borrowings (Centre and states) have increased from ₹1657 billion in 2007–08 to ₹6811 billion in 2012–13. Such a substantial increase in annual borrowings of market loans from 3.6 % of GDP to 7.2 % over a six-year period would require careful examination and analysis which a specialized institution can provide. Second, given the focussed approach, specifically tailored schemes for different segments of the population can be simulated. Illustratively, the outstanding amount of small savings schemes like Senior Citizen Scheme and Public Provident Fund have increased from ₹436 billion in 2007–08 to ₹628 billion in 2011–12 but the ownership pattern remains unknown because of which it becomes difficult to tailor social security schemes for the elderly in terms of interest rates and maturity. This also applies to other social security schemes which result in increasing liabilities of the government. Third, an autonomous DMO would imply an annual statutory report and consequent public scrutiny, and dissemination of information. This would ensure that the government does not take undue advantage of being the owners of public sector banks and does not practise fiscal profligacy by access to easy borrowing at low rates of interest.

6.11 Conclusion

The objective of debt management, as generally defined, is raising resources from the market at the minimum cost while containing the risks. In contrast, the objective of monetary policy in India is to maintain a judicious balance between price stability, economic growth and financial stability. Thus, the objective of debt management is subsumed in the overall objectives of monetary policy in India, if the two functions are not separated.

To implement the specifically focussed debt management strategy, and choosing to separate debt from monetary management, governments seek to emphasize the role assigned to debt management, to preserve the integrity and independence of their central banks, to shield debt management from political interference and to ensure transparency and accountability in public borrowing. Hence, the choice of separating debt from monetary management by many countries while ensuring that their activities are coordinated.

The overall conclusion from recent research is that there is an extensive interaction between debt management, monetary policy and financial policy in mutually reinforcing or conflicting ways. Such interactions become intense during strained macroeconomic policy conditions, and therefore, there is a need for close coordination between the three organs of economic policy.

Since the budget speech of 2007–08, the Finance Minister had proposed to set up an autonomous Debt Management Office (DMO). Many a developments have occurred since then except the DMO. Earlier, since 1997, various groups of experts set up by the RBI and the GOI had consistently suggested hiving of debt management function from the RBI to an independent entity.

The middle office has been set up in the Ministry of Finance but the hiving-off has not been undertaken. The reasons advanced for the hesitancy are that the global circumstances are not conducive in terms of volatile capital flows and need for intervention/sterilization; deficits and debt levels are still high; staff of the proposed DMO may not have the requisite skills; and there could be a conflict between the role of government as a debt manager and owner of public sector banks. On the other hand, the paper argues that separation of debt management will help to establish transparency, and assign specific responsibility and accountability on the debt manager. This could lead to an integrated and more professional management of all government liabilities, currently dispersed in different offices, with a focussed mandate to operate on sound economic and commercial principles. The strategy could ensure that resources are available to the government at competitive market rates of interest prompting expenditure prioritization and fiscal discipline in budget making.

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Chapter 7
Financial Regulation and Independent Debt Management Office

K. Kanagasabapathy

7.1 Introduction

The debate about setting up of an independent debt management office (IDMO) gained significance in India only since early 1990s with the onset of reforms in the financial sector ushering in a market oriented system. While public debt continues to be an instrument of fiscal policy, the role of government securities market gained prominence for three reasons: first, it serves as a conduit for central bank operations in the market; second, it sets benchmark for other debt instruments in the market; and finally, well-developed gilt market is a prerequisite for development of bond market as a whole. Borrowings by the governments increasingly became market oriented, and the central bank's monetary operations also turned from using direct to indirect instruments, mainly relying on interest rate as a policy instrument. During the earlier period of financial repression, when the entire financial system was subject to tight regulation on portfolio choices by institutions, instruments and their pricing, the question of an IDMO did not emerge in policy discussions.

Even while debt management turned active with auction-based issuances, some new instruments and reforms in market structure such as primary dealers, and clearing and settlement systems, there was no holistic approach to debt management across governments and across different instruments of market borrowing. Functionally also, it remains divided between the governments and the RBI. No serious attention has been paid so far on closely linked issues such as cash and investment management, particularly at the states level.

In the above backdrop, it is argued here that the advantage of an IDMO lies essentially in integrating the debt management function across governments and instruments and also efficiently linking cash and investment management on behalf

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of governments. IDMO can help to rectify distortions arising out of fragmented approach and, with specialised human resource, can contribute to a more effective interface with the market, resulting in cost-efficient management of government borrowings. The Financial Sector Legislative Reforms Commission (FSLRC) is in right direction in recommending an independent debt management agency as part of a new regulatory architecture. But, the draft Code delineating the powers and functions of the new agency has certain drawbacks. The structure for IDMO proposed by FSLRC in the draft Code makes it totally subservient to Finance Ministry without any independent status. This needs to be corrected.

The paper is organised in six sections. Section 7.2 brings out the fundamental rationale for an IDMO in the present context. Section 7.3 discusses what should be overarching role and scope of IDMO. Section 7.4 talks about important considerations in designing the organisational structure of the IDMO. Section 7.5 evaluates the relevant proposals of the FSLRC, and finally, Sect. 7.6 concludes the paper.

7.2 Rationale for an Independent Debt Management Office

One basic reason for the creation of an IDMO is separation of debt management from monetary management so that any conflict of interest between the two is avoided (Singh 2013). This is prima facie remarkably true since interest rate setting, as also use of other instruments such as cash reserve ratio (CRR) and open market operations (OMOs) by the RBI can be clouded by debt management objectives.

One inherent conflict in the RBI's operations is that it is really difficult to distinguish its monetary operations from debt management operations. The liquidity-augmenting measures when undertaken are intended apparently to ease monetary conditions to enable the banking system to expand its credit portfolio to productive sectors of the economy. But, at times, it would appear that the measures were intended to ensure that the increasing appetite of the government to borrow from the market is met comfortably. Once the IDMO is set up, the RBI is expected to be relieved of this inherent conflict in its operations. While avoiding such conflicts, it also needs to be recognised that the two functions are indeed complementary. Therefore, the broad approach should be independent functioning of debt management consistent with fiscal and monetary policy stances and objectives but with close coordination.

7.2.1 RBI de Jure is not Autonomous or Independent

The rationale for supporting IDMO on the basis of independent monetary management cannot be, however, taken too far in the Indian case. There is a lack of clarity on the objectives of monetary policy and the autonomy of the RBI vis-à-vis

the government. In fact, a legislative review would be called for to enhance central bank independence. The review should cover four dimensions that form the crux of the autonomy and transparency debate: clarity of objectives, overriding powers of the government, appointment and removal of governors and deputy governors, and institutional relationship between monetary and fiscal operations.

The multiple objectives of maintaining price stability, ensuring credit flow to productive sectors, supporting growth, maintaining orderly conditions in financial markets, and creating an environment of financial stability, have evolved over time. While these expanding and varying objectives cannot be considered inconsistent with the preamble, it is doubtful that there is sufficient legal clarity on all of them. For instance, regarding financial stability, there is no accepted definition. It is also unclear as to who should be responsible for financial stability, though there are strong claims from RBI that it alone should be the responsible authority.

The second issue relates to government's ability to issue directions to the central bank. The government can issue directions in the public interest in consultation with the RBI governor. While no such recorded direction is evident, the central bank is vulnerable to being overridden by the government, as is evident from statements on monetary policy and its stance originating from the government on many occasions. There is no way to discern whether the government issues directions to the central bank. There is constant dialogue on policy matters between the government and the RBI, but the outcomes of such discussions are not in the public domain. The government's behaviour is mostly revealed through its communication channels, which at times send conflicting signals vis-à-vis the central bank communication. That raises serious doubts about the nature of independence of the RBI.

7.2.2 RBI's Role in Debt Management is Limited

While the Reserve Bank manages public debt of the central government and state governments, it does not perform a holistic integrated function of managing the total liabilities. RBI manages essentially market loans. Perhaps, it decides on maturity, volume, timing and nature of instruments and method of issuance, but in close consultation and with the approval of the respective governments. In fact, loan notifications are issued by the governments. While external debt of the central government is outside the purview of RBI, it also does not have any say on matters relating to other liabilities such as special securities, compensation bonds, small savings and provident funds. A holistic approach to debt management should encompass the entire liability structure of governments including external loans and other internal liabilities such as contractual savings in the form of small savings and provident funds though they do not form part of consolidated fund of governments, but such liabilities still finance budgetary operations of respective governments. When public debt is viewed from the general government level, combining state and central finances, then the borrowing, lending and investment relationships between the centre and states should also receive attention.

7.3 What Should Be the Overarching Role and Scope of the IDMO

There are at least four major issues that need to be addressed regarding the scope of IDMO's functions. The first issue is whether the IDMO should manage only central government debt or state loans also. From the macro-perspective, public debt would include the debt of both governments.

7.3.1 Market Loans of State Governments

Market borrowings constitute a significant component of financing fiscal deficit at both levels of government, and the corresponding share has been increasing over the years. This is consequent to recommendations of the Finance Commission making the states to become more market dependent, directly.

The risk-free yields of central government securities determine the overall term structure of interest rates in fixed income market. The state government securities are on par with the central government securities for purposes of statutory liquidity ratio (SLR). Technically, they should command the same yield in primary and secondary markets. In fact, during the pre-reform period of fixed coupon floatations, no distinction was made between state and central loans. However, practically, states are in a subordinate position as far as market borrowings are concerned. The states are placed relatively in a disadvantageous position constitutionally compared to the centre. While the centre can borrow both in domestic and in foreign markets, states cannot borrow directly from abroad. Secondly, states cannot borrow effectively even in domestic market without taking permission from the central government and these borrowings are practically allocated by the centre to states. Furthermore, state securities are not held by RBI in its investment account though of late repos are permitted in state securities. Presumably because of all these reasons, state securities in auctions are sold at higher yields and hence have a spread over the auction yields of central government securities ever since the auction system was introduced. This can also be attributed to several other factors: state loans had a fixed maturity of ten years; their market lots are significantly low when considered state-wise; and the yields of state loans may depend upon the fiscal position of states, their borrowing size and other economic factors such as the banking spread. Yet another disadvantage with state loans is that they are auctioned on multiple prices and to that extent it discourages secondary market trading soon after primary issues.

The IDMO should, therefore, encompass within its fold state government debt also.

7.3.2 Cash and Investment Management

The second issue relates to whether the IDMO should focus upon cash and investment management functions too. The recent experience shows that the government's cash management needs sophistication and refinement. Cash management and debt management are intricately related. Past experience has often brought to light that the Central government could not cope with the accumulation of cash surpluses on account of seasonal flow of funds into government's exchequer as the government did not create possible avenues for investing such surpluses, as practised in other countries.

The cash balance position of the central government is also closely linked to the state governments' balances since the latter temporarily place surpluses with the central government. The cash balance position and dependence of both governments on the RBI for ways and means advances or overdrafts is influenced by the complexity of fiscal transfers and other inter-governmental transactions. For these reasons, the IDMO should integrate within its scope the cash and investment management functions of the governments at both centre and state.

Both receipts side and expenditure side of budgetary management should be looked at for striking a balance between the two. At present, it is very much cost inefficient. While some regulations and systems have been developed to handle cash deficits, the system of handling cash surpluses of both state and central governments at present not only is very complex, but also is passive, offering no incentive for governments to introduce efficient cash management practices. Secondly, the system does not allow in any way return flow of such surpluses to the market, except by way of increasing expenditure. As a result, there is a tendency to treat such surpluses exogenous to the system and allow the frictions to be unwound totally in an unplanned manner.

Whenever there is a surplus balance in central government account, up to a certain limit, it is invested in Government of India securities held by the Reserve Bank. Thus, a substantial balance is invested in government's own securities; thereby, any interest accrued is appropriated by the government itself, saving to that extent the net interest outgo on such securities held. Since this transaction is between the government and the Reserve Bank, there is no flow of money back into the market. Furthermore, since the quantum of such investments is not reported or published, one can surmise that the actual reported cash surpluses of the government is mostly understated. If it is assumed that at least half of the surplus is invested in this manner, then the actual cash surplus could be at least double that of the reported figure.

Whenever state governments accumulate surplus balances, such surpluses are invested in 14-day treasury bills (TBs) of the central government. State governments are also allowed to participate in issues of auction TBs on non-competitive basis. While this practice helps the central government to meet their need for funds in a deficit situation, but when the central government is already in a surplus situation, it accentuates the problem. In the recent period, at any point of time, a huge amount of 14-day TBs remained outstanding predominantly representing state government's investments.

The primary issuance of government securities follows mostly its own calendar announced half yearly, except for some occasional changes. As a result, the progressive net borrowing results in further build-up of surplus, intensifying the frictional factor. Therefore, frictional factors contributing to the unintended liquidity crunch from time to time are mostly avoidable if better cash management practices are introduced by both central and state governments attuned in harmony with their debt management practices.

The proposed separation of debt management should address the frictional problem that gets generated in the absence of overall coordination. While it is understandable that government's cash flows are to some extent exogenous, refined cash management practices in coordination with debt management can minimise frictions caused by such movements.

7.3.3 External Debt

The third issue is whether the IDMO should manage the external debt. State governments cannot directly borrow from abroad and have to go through the centre as the sovereign risk is essentially borne by the latter. While the centre is yet to issue a sovereign paper abroad, at some stage, it has to test that source, probably soon, considering the pattern in which markets are getting integrated. Considering all these, and the risk associated with debt, it cannot be viewed in isolation. Thus, both internal and external debt should fall under the purview of the IDMO.

7.3.4 Other Liabilities

Last, but not the least is the issue of whether only marketable debt should engage the attention of IDMO or the entire contractual liabilities of governments, including small savings and provident fund receipts. While these liabilities are part of public accounts and not a part of consolidated funds, they influence the cost of raising debt and provide indirect support to governments.

7.4 Issues Concerning Organisational Structure of the IDMO

It is necessary that the debt management office is generally provided with a sufficient degree of functional autonomy to fulfil its mandate without political pressure. Such autonomy may be permitted along with the requirement that the debt management office be accountable, and transparent in its operations, procedures and

results. Two aspects need careful attention: first, the scope and functions of the new agency and, second, the nature of the organisational structure which, in a way, will depend upon the first. Institutionally, it is very important that the relationship between the central and state governments, and of both with the RBI, needs to be considered in designing the organisational structure of the IDMO. The IDMO needs to function independently, maintaining an arm's length association with all these entities. Considering these two aspects, it would be ideal to set up a statutory corporation with equal participation from the three, with independent goals and objectives.

An alternative solution to the separation of debt management would be creation of the proposed IDMO as Debt Management Corporation in the form of a subsidiary of the RBI with shareholding of also central and state governments, to handle debt management of both. There could be an arm's length relationship of this corporation to all the three stakeholders. The corporation can be entrusted with cash and investment management function of both the governments in a seamless and harmonious manner reducing the frictional element and eliminating forces working at cross-purposes that may seriously disturb the market conditions.

This structure can also ensure independence, transparency and accountability of the corporation to all stakeholders.

7.4.1 Functions of IDMO

Based on the above discussion, the functions of the new IDMO, whatever form it assumes, can encompass the following:

- To make projections of revenue and expenditure of governments and assess the resources gap in terms of borrowing requirements of both central and state governments.
- To decide on the mix of short-term and medium- to long-term borrowings consistent with the evolving interest rate structure and liquidity conditions.
- To decide the maturity, type and mode of issuance of debt in the market duly taking into account investor preferences and risks.
- To manage cash balances of governments in coordination with debt management in such a manner that situations of unduly large deficit or surplus situations do not occur, and when they occur, plan for borrowings and investments in coordination with respective governments.
- To decide on policies and operations on external debt and managing sovereign borrowings from abroad.
- To evolve policies on managing other liabilities of governments such that the interest rate structure of government debt as a whole is consistent with cost of incurring those liabilities.
- To promote and diversify the primary market in government debt including development of a retail base for government debt.

- To coordinate and oversee the primary market agents like primary dealers.
- To conduct research on matters relating to government debt including periodical debt sustainability analysis and disseminate periodic information and data to stakeholders and the general public in a transparent manner.

RBI should be left with the regulatory control over money and government securities markets and would also be expected to continue and retain other agency functions such as maintaining the depository, managing settlement system and conducting auctions on behalf of the IDMO. In a nutshell, IDMO should evolve into a policy-oriented institution, leaving the operational part to RBI as a banker and fiscal agent to governments. This is the case with the Fed Reserve.

7.5 Relevant Proposals in the Financial Sector Legislative Reforms Commission

The draft Code of FSLRC proposes a creation of a specialised statutory public debt management agency that is equipped to manage liabilities of the government in a holistic manner. It would have an independent goal and objective, but would operate as an agent of the central government. The principles of governance, including transparency and accountability, will apply to all functions of the agency, its committee and the council.

The composition of the management committee will be as follows:

- The chief executive of the public debt management agency as its chairperson;
- A nominee of the central government as member;
- A nominee of the RBI as member;
- Nominee of the state governments, only if the agency borrows on behalf of any of them;

The structure of the advisory council is proposed as follows:

- A chairperson;
- A nominee of the central government higher than the rank of its nominee in the management committee;
- A nominee of the RBI higher than the rank of its nominee in the management committee;
- Experts; and
- The chief executive of the agency. With the exception of chief executive of agency, the members of the advisory council cannot be the same as members of the management committee.

FSLRC stipulates that public debt management agency (PDMA) will always act on instructions from the central government. But if the instruction does not enable its objectives to be met, then the PDMA must have the opportunity to place its objections on record. The central government should be obliged to consider the

views of the PDMA, and if there is a disagreement between the two, then PDMA would be statutorily bound to meet the instructions, by very clearly articulating on record its inability to meet the objectives. The accountability mechanism routed through the central government and eventually through the parliament would pay cognizance to the effort made by PDMA in achieving its objectives and the objections raised.

7.5.1 Functions

The PDMA would cater to the following functions:

- Managing public debt:
  - Prepare and recommend an annual calendar for the central government to manage its public debt; the calendar will advise on all aspects of the composition of borrowing and repayment of public debt.
  - Annual calendar would be prepared in consultation with central government and other key stakeholders;
  - Follow instructions received from the central government,
  - Will be empowered to make recommendations, even if on a daily basis,
  - Ensure that there is an integrated approach to debt management, including external debt for the central government.
- Cash management:
  - Coordinate with the departments, ministries and agencies of the central government and RBI to estimate, monitor and manage daily cash balances.
  - Advise government on measures to promote efficient cash management practices and to deal with surpluses and deficits.
- Contingent liabilities:
  - Manage and execute implicit and explicit contingent liabilities;
  - Evaluate the potential risk of contingent liabilities and advise the central government on charging appropriate fees;
  - The central government must seek PDMA's advice before issuing any fresh guarantees as it affects the overall stability of the public debt portfolio.
- Research and information:
  - Must have a complete view of the entire liability structure of the central Government for maintaining and managing information systems;
  - Disseminate information and data; and conduct and foster research relating to its functions.

- Foster a liquid and efficient market for government securities, including advising the regulators and the Central Government on the policy and design of the market to ensure low-cost financing. Thus, following needs to be considered
  - Growth and diversity in investors and intermediaries;
  - Fair play amongst market participants;
  - Competition in intermediation;
  - Cost-minimising mechanisms for issuance and trading; and
  - Measurement of liquidity and market efficiency, and presentation of an annual report on the progress of the Government of India sovereign bond market.

7.5.2 Independence and Other Relevant Issues for the PDMA

The discussion in the preceding paragraphs, pertaining to FSLRC, points out to a disconnect between the basic recommendations and the draft Code of the report. The draft Code clearly indicates that the independence of PDMA would not be ensured. The objective or a preamble states that the "Debt Agency has the objective of minimising the cost of raising and servicing public debt over the long-term within an acceptable level of risk at all times, under the general superintendence of the Central Government". On the basis of the draft law, it can be concluded that the present arrangement under the RBI seems to be more independent than the status envisaged for the PDMA.

There are a number of other issues which need careful consideration in the proposed arrangement. First relates to the assignment of the contingent liabilities to the PDMA. Though their implications are important, it is really akin to a rating function of the government. Second, the draft law suggests that PDMA "must take steps to foster a liquid and efficient market for government securities", but should this responsibility be shifted to PDMA so early in its existence. In addition, given that the RBI which is actively operating at the short end of the market, should that responsibility not be allowed to stay with the RBI?. Further, given that the market infrastructure in the government securities market has been established by the RBI and that the RBI is coordinating with other regulators in the financial markets, should the role be assigned to the newly constituted PDMA? Third, the draftCode is not clear on many other issues like the state loans and state contingent liabilities. To encourage the state governments to entrust their debt management activities to a separate debt management agency, there should be some representation in the membership from the state governments. The members of Debt Agency Advisory Council (DAAC) should also be appointed from states on a rotational basis to have representation of the views from the state governments. Finally, the other issue is that of depository and settlement functions. The settlement is by central bank

money as the central bank is an anytime lender to the central government. Therefore, in the new arrangement, book keeping, depository and settlement functions of the RBI should be retained and there is no need for any change.

7.6 Conclusion

There is a need for a holistic approach to debt management of the centre and states which is absent in the current situation. The RBI has different set of responsibilities as compared with the governments of the state as well as the centre.

The government could consider making PDMA a statutory corporation independent from both the government and the RBI. The government could also provide strength to the advisory council by appointing experts for the committee. Debt sustainability analysis should be a regular feature of the PDMA. Management committee's operations should be free of day-to-day interference. The roles on contingent liabilities and secondary market development/operations need to be considerably diluted.

The shift to a separate debt office can be strategised to be gradual. All the debt management activities, including short-term cash requirements, domestic and external market borrowings, small savings and eventually, with development of expertise, contingent liabilities, should be assigned to a single debt agency. Cash management of important government undertakings of the government like the railways, post (including collections under small savings) and telecommunications, pension and provident funds, and reserve funds and deposits could be transferred to the debt office if considered appropriate or else these commercial undertakings/funds could benefit from the expert advice available within the government sector. The management of pension and provident funds could also benefit from the advice and experience of the debt management office during the period of transition while pension reforms are being undertaken.

The separation of debt management would provide focus on the task of management of government liabilities and undertake risk and sustainability analysis. The separation of debt and monetary management accompanied with better transparency will enhance credibility of the RBI and the government.

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Chapter 8
Fiscal Responsibility and Budget Management Act: An Indian Perspective

R.K. Pattnaik

8.1 Introduction

Fiscal Policy intervention, in terms of changes in government spending or in taxes, or in taking recourse to borrowing from the central bank or from the market gained currency in the aftermath of Great Depression of 1930s, dominated the policy initiatives of the government world over for four decades. However, reliance on heavy government borrowing and spending to support economic growth had its own drawbacks resulting in vicious cycle of deficit and debt, high inflation rate, high interest rates, crowding out of private sector investment. As documented in the contemporary literature, there are evidences of deficit bias which are possibly contributed by political populist measures. With growing fiscal stress across countries, irrespective of the level of economic development, it is widely recognized that the discretionary fiscal policy would not always be effective in contributing to fiscal sustainability and stability. Consequently, many countries introduced medium-term fiscal consolidation programs, which were mostly followed by fiscal rules (with or without legislations).

Contemporaneous with the global development, Indian authorities have also enacted fiscal rules in terms of a legislation known as Fiscal Responsibility and Budget Management (FRBM) Act in 2003. It is of interest to note that at both the federal and provincial government levels the fiscal legislation witnessed reasonable success. However, the onset of the global financial and economic crisis changed the course of direction as the governments took recourse to fiscal stimulus measures thereby putting a pause to the targets in the fiscal legislations. Thereafter, at the provincial level the fiscal legislation continued in its original spirit, but at the federal level the Government of India introduced amendments in 2012 and put in place a Medium-Term Fiscal Adjustment road map. More importantly, the

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recommendations of Fourteenth Finance commission (FC XIV) added a new dimension to fiscal legislation.

In the above context, it is important to note that rule-based fiscal legislation in India has been effective in pursuing fiscal consolidation and ensuring improved and prudent fiscal management. However, the success in terms of fiscal transparency is more noticed in case of state governments. Their areas of concerns are the fiscal legislations followed by the federal or central government. Contextually, it is worthwhile to quote FC XIV in this regard:

> At the Union Government level, the challenges in achieving fiscal correction and adherence to rule-bound fiscal framework persist. The Union Government's FRBM Act came into effect in August 2003. It was amended in July 2004. Rules were modified twice over the years and were breached in practice. The conventional rule, as understood, of financing current expenditure by current revenue was discarded and an artificial concept of effective revenue deficit was introduced in the statute in 2012. We note that FRBM rules in conducting the stated fiscal policy correction or fiscal adjustment path, as recommended by the FC-XIII, have not been effective, in the absence of hard budget constraints and any cost of non-compliance for the Union Government except for a threat of downgrade by sovereign rating agencies.

Against the above backdrop, the present paper makes an attempt to highlight the Indian perspective of fiscal legislation only for the central government focusing on the underlying issues and setting out a few policy options. The remainder of the paper is organized as follows. Section 8.2 presents the conceptual framework followed by the latest literature review on the subject. In Sect. 8.3, the evolution of content and structure of FRBM Act in India has been discussed. The fiscal developments under FRBM are presented in Sect. 8.4. Section 8.5 unfolds some underlying issues. Section 8.6 presents policy options. Concluding observations are in Sect. 8.7.

8.2 Literature Review and Country Experience

8.2.1 Conceptual Framework

Conceptually, a "Fiscal Responsibility Law (FRL)" is a limited-scope law that elaborates on the rules and procedures relating to three budget principles: *accountability, transparency* and *stability*. For the purpose of this paper, a distinction is made between a FRL, which satisfies four specific accountability/transparency criteria, and FRL-type laws, which may include a number of provisions relating to fiscal transparency, accountability and stability, but not all four components of a FRL deemed to be "essential" (Lienert 2010). These rules have been designed with the goal to ensure that national policies keep a sound fiscal stance while allowing sufficient margins for budgetary flexibility in bad times (Balassone and Franco 2001). A fiscal policy rule is a permanent constraint on fiscal policy, expressed in

terms of summary indicators of fiscal performance, such as government budget deficit, borrowing, debt or a major component thereof (Kopits and Symansky 1998).

Rules are classified as debt rules, budget balance rules, expenditure rules or revenue rules according to aggregate targeted. *Debt rules* set an explicit limit or target for public debt in percent of GDP. *Budget balance rules* set a limit on the overall balance (including or net of capital expenditures), the structural or cyclically adjusted balance, or the balance "over the cycle". *Expenditure rules* set limits on total, primary or current spending, while *revenue rules* set ceilings on revenues and specify how unanticipated revenues should be allocated (Guerguil 2014).

8.2.2 *Effectiveness of Fiscal Rules*

In an inquiry of the effectiveness of fiscal rules, Poterba (1996, 1997) reviews the nature of balanced budget requirements at the sub-national level in the USA, and his findings suggest that changes in budget rules and, more broadly, fiscal institutions can affect fiscal policy outcomes. In a study on the effectiveness of tax and expenditure limits, Stansel (1994) shows that the relative growth of spending in states with tax and expenditure limits declined significantly within five years of the implementation of the limits. Given this correlation, however, the introduction of a tax and expenditure limit could potentially be used as a signal of commitment to reduce tax and expenditure growth on part of the policymakers. Eichengreen and Bayoumi (1994) argue that a tax and expenditure limit reduces the likelihood of future surges of borrowing and hence the likelihood of default. Such limits may also have a positive impact by way of reduction in the interest cost of borrowings. Poterba and Rueben (1999) and Goldstein and Woglom (1992) find that states with limits on deficits/borrowings face a lower cost of borrowing. An interesting analysis by Corsetti and Roubini (1996) argues that fiscal rules are more suited to sub-national governments than to national governments due to the reason that the supply- and demand-side macroeconomic effects of any action on the part of the sub-national government to balance the budget during a recession would be much lower than similar actions at the centre's level, and insofar as individual states' business cycles are not perfectly synchronized, the actions of any given state trying to balance its budget do not have a national impact. Corsetti and Roubini's arguments are complemented by Bayoumi and Eichengreen's (1995) findings, which emphasize the importance of central governments in providing fiscal stabilization. Similarly, Alesina and Bayoumi (1996) suggest that since State's role in stabilization is not very important, the stringency of fiscal rules would not have much impact on output variability, and hence, balanced budget rules may be more effective for sub-national governments.

There are two dominant but distinctly different views, viz. institutional irrelevance view and public choice view on the effectiveness of fiscal rules in improving public finances. According to the former, rule-based systems may be by passed through creative accounting, i.e. fiscal frameworks may not succeed as the budget rules can be

circumvented by modifying accounting practices and changing the nominal timing or other classification of taxes and expenditure (Reischauer 1990; IMF 2001; Premchand 2003). The latter, on the other hand, contends that fiscal institutions place important constraint on the behaviour of political actors, and thereby, prove to be successful in improving the fiscal outcome (von Hagen and Harden 1995; Poterba 1997; Corbacho and Schwartz 2007; Poterba and Hagen 1998).

8.2.3 Fiscal Rules and Procyclicality

A large body of empirical studies concludes that fiscal policy tends to be more procyclical in emerging market and developing economies (EMDEs). Gavin and Perotti (1997) find fiscal policy to be highly procyclical in Latin America, and Kaminsky et al. (2004) indicate that fiscal policy is generally more procyclical in developing countries than in advanced economies; a result recently confirmed by Alesina et al. (2008), Ilzetzki and Vegh (2008), and, on Sub-Saharan Africa, by Lledó et al. (2011).

More flexible rules and more supportive institutional arrangements could help reduce the procyclical bias associated with rules. Without looking for causality, elements in the design of fiscal rules in EMDEs may be associated with a more procyclical fiscal stance than in advanced economies. Cyclically adjusted targets and escape clauses are relatively uncommon in EMDE rules, although they could play a stabilizing role. However, such flexible rules also call for higher-quality institutional arrangements that strengthen monitoring and enforcement mechanisms. Better fiscal rules alone are unlikely to reduce the procyclical bias in EMDEs, let alone enhance their fiscal capacity. Reaching these ends will require improvements along the whole gamut of the fiscal framework, from the selection of macro-fiscal goals to the orderly management of budgetary accounts. However, crafting rules that allow for flexibility within the technical and political constraints facing EMDEs can still help tilt this larger effort in the right direction (Bova et al. 2014).

8.2.4 Fiscal Rules and Sub-national Governments (SNG)

Given the difficulties of determining causality of FRLs and fiscal outcomes, it will be difficult to say whether FRLs are necessary or sufficient for achieving fiscal prudence at multiple levels of government. Country examples reviewed in this paper show that FRLs can help coordinate and sustain commitments to fiscal prudence, but they are not a substitute for commitment and should not be viewed as ends in themselves. FRLs can make a positive contribution by adding to the collection of other measures to shore up a coalition of states with the central government in support of fiscal prudence. Although political consensus for fiscal

prudence is clearly a necessary condition to launch a successful FRL, the test of its effective implementation comes when the consensus breaks down, and then one sees whether the institution works to help the remaining stabilization champions restrain the fiscal excesses that the populists might want. In designing an FRL, defining fiscal targets poses a special challenge. Many factors that influence the fiscal accounts of the SNGs are exogenous to the SNGs, such as interest and exchange rates. The national governments also mandate expenditure items, and the intergovernmental fiscal frameworks may limit the taxation power of SNGs. The experience shows the need to have both ex ante constraints on borrowing and ex post sanctions for over borrowing. Even beyond the network of specific fiscal rules, the deeper institutions and expectations need to motivate respect and enforcement of rules; otherwise, they do little good (Braun and Tommasi 2004).

Future research might want to pursue the following questions: How to set sub-national along with national fiscal targets, either in FRLs or in other public finance laws? How these targets relate to the threshold for fiscal and debt sustainability? How to construct escape clauses that will not become convenient evasion clauses in case of severe global or regional downturns? What kind of enforcement mechanism would ensure fiscal discipline, particularly in the absence of effective market systems? Over the longer periods of business and political cycles, can the effect of fiscal legislation be more accurately measured? How can one design institutions for fiscal discipline—FRLs, etc.—so that they do not make fiscal policy excessively procyclical? (Lieu and web 2011).

8.2.5 Cross-country Experiences of Fiscal Rules

The fiscal rules across countries may be classified into three distinct phases (Kopits 2001). In the first phase, sub-national governments in some federal systems autonomously adopted the golden rule. The golden rule of fiscal policy states that over the economic cycle, the Government will borrow only to invest and not to fund current spending. In the second phase, after World War II, several industrial countries (Germany, Italy, Japan and Netherlands) introduced balanced budget rules that underpinned their stabilization programmes, following monetary reform.

The current phase, starting with New Zealand's Fiscal Responsibility Act of 1994, has seen an increasing number of industrial and emerging market economies introducing fiscal rules. Though rules have been an important factor behind the fiscal consolidation in the latter part of the 1990s in both industrialized and emerging economies, it is difficult to establish the specific contribution of rules to good fiscal performance (Hemming and Kell 2001).

The number of EMDEs using fiscal rules as a fiscal policy device has increased rapidly since the mid-1990s. The database of fiscal rules constructed by the IMF Fiscal Affairs Department (Schaechter et al. 2012) shows that while fiscal rules were initially confined to advanced economies, their use has rapidly gained momentum in the developing world. As of end 2012, out of a total of 76 countries

with one or more fiscal rules in place, 28 were advanced economies and 48 EMDEs. Despite the debates taking place in several countries about the rationale and effectiveness of fiscal rules, there are universally recognized fiscal policy rules, and legislation incorporating one or several specific targets or ceilings or conditionalities or even prohibitions.

Among the advanced countries, only Australia has had in place a FRL for more than 10 years. In 2004, New Zealand's well-known FRL was consolidated into a revised and more comprehensive Public Finance Act. The Public Finance Act 1989 specified the requirements for accrual budgeting and financial reporting by government departments. The Fiscal Responsibility Act 1994 required accrual-based budget and accounts for the whole-of-government. In 2004, both laws were amended and consolidated in the Public Finance Act.

For these two countries, *fiscal transparency* and *accountability* were major motivations for adopting the FRLs: both laws impose strong fiscal reporting requirements on the government. Interestingly, the FRLs in these two countries were adopted a few years after major fiscal consolidation and public management reforms had taken place; they aimed at preventing a reversal of hard-earned improvements in fiscal positions (fiscal surpluses were run in both countries in the 1990s and early 2000s.

A number of emerging countries, especially in Latin America, have adopted a FRL. In these FRLs, the relative emphasis is on fiscal stability, not on fiscal transparency and accountability, although in some countries both objectives are included, in comprehensive legislation. For example, Mexico's 2006 Budget and Fiscal Responsibility Law not only created a balanced budget rule and modified the congressional budget approval process, but also established a formula for calculating oil prices in budget projections and institutionalized stabilization funds, mainly for surplus oil revenues (for details, see Curristine et al. 2009). Many FRLs in Latin America and Asia include numerical fiscal rules.

In advanced countries, and most developing countries, the fiscal transparency and accountability requirement of FRLs were largely complied with. Following adoption of FRLs, Parliaments and the public have been provided with fuller fiscal information, ranging from medium-term fiscal policy plans and targets through to fuller ex post reports of overall fiscal performance. Accrual accounting reforms, which were introduced before the FRLs in New Zealand and the UK, contributed to improvements in the quality and comprehensiveness of fiscal information. Prior to the FRL's adoption, short-term fiscal policy was manipulated to stabilize aggregate demand rather than directing it to long-term policy objectives. Such policies were unsuccessful and, at times, procyclical rather than counter-cyclical (Scott 1996). Moreover, the 1984 and 1990 incoming governments faced fiscal situations much worse than was presented pre-election. The FRL successfully tilted the balance of fiscal decision-making away from short-term economic and policy considerations towards strategic and long-term fiscal objectives.

When targets are realistic and there is political willingness and consensus for taking the necessary revenue and/or expenditure measures for achieving them, FRLs have been successful. However, most emerging countries were unsuccessful

in meeting the quantitative targets imposed by their FRLs. Several countries (e.g. Argentina, Colombia and Peru) had to amend their FRLs 2–3 years after their initial adoption. Amendments in FRLs usually changed the fiscal targets or pushed back the deadline for attaining the fiscal deficit or debt "rules". A similar lack of success was seen in India and Sri Lanka. In Latin America, Brazil's FRL which has now been in place for a decade has been largely successful in attaining its main objectives. This is remarkable, given that the law not only applies at federal level but also encompasses all 26 independent states. Prior to adoption of the FRL, Brazil's states had been fiscally irresponsible, especially with respect to borrowing, which had led to a federal bailout of sub-national debt.

Fiscal Responsibility Laws (FRLs) appear to be more popular in middle-income countries than advanced countries, even though their success is limited. The reasons why few advanced countries have a FRL include: the existing legal framework for the budget system is adequate; supranational rules and political agreements in EU countries; failed attempts to include quantitative fiscal rules in laws; lack of consensus or interest in attaining the goals of FRL-type legislation; and lack of need for a law to regulate fiscal transparency, accountability and macro-fiscal stabilization. Without commitment to fiscal discipline, adoption of a FRL may not contribute to attaining fiscal consolidation goals (Lienert 2010).

8.3 Evolution FRBM Act in India

8.3.1 Genesis of FRBM Bill/Act 2003

In the above context, it is pertinent to mention that in order to put the conceptual framework in rigorous footing a Committee on Fiscal Responsibility Legislation was constituted by Government of India (Chairman E.A.S. Sarma) on 17 January 2000. Dr. Y.V. Reddy, the Deputy Governor Reserve Bank of India (RBI) who was also a member of the Sarma Committee, in his landmark speech has already conceptualized the objectives, features, institutional accounting, fiscal management and procedural issues. The Sarma Committee submitted the Report to the Union Finance Minister on 4 July 2000 with a draft of the fiscal legislation which was named as Fiscal Responsibility and Budget Management Bill 2000. The Bill was placed before the Parliament in December 2000 and also subsequently was referred to a Statutory Body, called the Standing Committee on Finance. With the approval of the Parliament, and clearance from the Standing Committee on Finance, finally the President of India gave his assent on the Bill on 26 August 2003. The Fiscal Responsibility and Budget Management Act, 2003 (FRBM Act, 2003) came into force from 5 July 2004.

8.3.2 Structure and Content of FRBM Act 2003

The structure and content of the FRBM Act go beyond the conventional fiscal legislation, which only sets the ceiling on the fiscal indicators. In Indian adoption, there are two aspects: one is fiscal legislation and the second is budget management. Therefore, in addition to the conventional rules there are three statements on budget management, viz. Medium-term Fiscal Policy Statement, the Fiscal Policy Strategy Statement and the Macroeconomic Framework Statement. The legislation also lays down the fiscal management principles and combines fiscal transparency, budget integrity and accountability, which has further streamlined the budget presentation process of the union government. Apart from these, the legislations make provision for enforcement mechanism, either through a statutory body or other appropriate body, to enable the observance of fiscal prudence. The government is also conferred with the power to make rules for carrying out the provisions of the legislation.

8.3.3 FRBM Act 2003 and Rules 2004

The FRBM Act 2003 enacted on 26 August 2003 is an

> Act to provide for the responsibility of the Central Government to ensure inter-generational equity in fiscal management and long term macro-economic stability by achieving sufficient revenue surplus and removing fiscal impediments in the effective conduct of monetary policy and prudent debt management consistent with fiscal sustainability through limits on the Central Government borrowings, debt and deficits, greater transparency in fiscal operations of the Central Government and conducting fiscal policy in a medium-term framework and for matters connected therewith or incidental thereto.

In terms of the above, the 2003 Act inter alia provided two important provisions viz, fiscal management principles and borrowings from RBI. The fiscal management principle stated that "*The Central Government shall take appropriate measures to reduce fiscal deficit and revenue deficit so as to eliminate revenue deficit by 31st March 2008 and thereafter build up adequate revenue surplus*". As per the provision of borrowing from the RBI, it was enacted that the central government shall not borrow from the Reserve Bank of India except for ways and means advances. The Reserve Bank has been prohibited under the Act subscribe to the primary issues of the central government since 1 April 2006. However, Reserve Bank may buy and sell the central government securities in the secondary markets.

The other features of the Act contain measures for fiscal transparency and measures to enforce compliance. Every rule made under this Act shall be laid before each house of Parliament. No suit, prosecution or other legal proceedings shall lie against the central government or any officer of the central government for anything which is in good faith done or intended to be done under this Act or the rules made thereunder. No civil court shall have jurisdiction to question the legality of any action taken by or any decision of the central government, under this Act.

In exercise of the powers conferred by the FRBM Act 2003, the central government framed the Fiscal Responsibility and Budget Management Rules, 2004, which became effective on 5 July 2004. The Rules have set annual targets for the phased reduction in key deficit indicators over the period ending 31 March 2008. While the revenue deficit should be eliminated on 31 March 2008, fiscal deficit should be 3 % of GDP on that day.

8.3.4 Amendment to FRBM Act 2003 in 2012

The union government amended the FRBM Act in 2012 by including the definition of an effective revenue deficit. The effective revenue deficit, as defined in the Act, is the difference between the revenue deficit and grants for the creation of capital assets. There is a further definition of grants for creation of capital assets to mean the grants-in-aid given by the union government to state governments, constitutional authorities or bodies, autonomous bodies, local bodies and other agencies implementing schemes for the creation of capital assets which are owned by the said entities. The amendment mandates the union government to take appropriate measures to reduce the fiscal deficit, revenue deficit and effective revenue deficit, in order to eliminate the effective revenue deficit by 31 March 2015 and thereafter build up adequate effective revenue surplus.

8.3.5 Medium-Term Fiscal Statement (MTFPS)

As a sequel to the amendment in 2012, the revised fiscal road map in terms of the fiscal rules required elimination of effective revenue deficit and limiting revenue deficit to 2 % by 31 March 2015 as per the union budget 2014–15. According to the union budget 2015–16

> While, fiscal deficit could be steered as per the roadmap adopted in 2012-13, the targets in revenue account required compositional shift in the designing of Plan schemes with greater emphasis in transfer of funds for creation of capital assets. Re-designing of centrally sponsored schemes was initiated in FY 2014-15, the scope was however limited as the changes have to be balanced keeping in view the spending in social and welfare sectors for the protection of vulnerable sections. Revenue deficit in budget 2015-16 has been retained at 2.8 per cent to meet the commitment under various welfare programmes. It is proposed to re-align the targets on revenue account, with the fiscal deficit target. Thus, it is proposed to set the target for elimination of effective revenue deficit and confining the revenue deficit at 2 per cent of GDP by March 31st March, 2018; co-terminus with the fiscal deficit target.

It may be noted that the MTFPS of Union budget 2015–16 indicated that fiscal deficit will be reduced to 3 % of GDP in 2017–18 from the budgeted level of 3.9 %. Furthermore, revenue deficit will be 2.0 % of GDP and effective revenue

deficit will be zero in 2017–18 as compared to the present level of 2.8 % and 2.0 budgeted in 2015–16.

8.3.6 Review of FRBM Act by FC XIV

The FC XIV has delved into the FRBM frame work at both central and state government levels. According to the Report, the period following the introduction of the FRBM framework revealed that that rule-based fiscal legislation has been effective in enabling fiscal consolidation and improvement of fiscal management, particularly at the State level. However, some challenges remain for the central government in adhering to the FRBM provisions. In this context, the Report has observed that the central government's FRBM Act came into effect in August 2003. The FRBM rules were framed in July 2004. But the rules were modified twice over the years and were breached in practice.

The Report while commenting on the revised FRBM Frame work mentioned that: "*The conventional rule, as understood, of financing current expenditure by current revenue was discarded and an artificial concept of effective revenue deficit was introduced in the statute in 2012*".

The Report further stated that "*We note that FRBM Rules in conducting the stated fiscal policy correction or fiscal adjustment path, as recommended by the FC-XIII, have not been effective, in the absence of hard budget constraints and any cost of non-compliance for the Union Government except for a threat of downgrade by sovereign rating agencies*".

8.3.7 Fiscal Road Map Recommended by FC XIV

The FC XIV in the light of their approach to fiscal consolidation and the fiscal roadmap, as developed through their assessment of central and state government finances, recommended the following fiscal road map for the central and the state governments up to 2019–20.

- The fiscal deficit of the central government will be restricted at 3 % of GDP from 2016 to 17 onwards. The fiscal deficit of the state governments will be at 2.74 % in 2019–20. The combined fiscal deficit will be at a reduced level of 5.74 % of GDP.
- The revenue deficit of the central government will be at a reduced level of 0.93 % of GDP while for the state governments will be at a surplus of 1.88 %. Thus, the combined revenue deficit will be at a surplus of 0.95 % of GDP.
- The debt to GDP ratio will be at 36.30, 22.38 and 58.24 %, respectively, for central, state and general governments in the terminal year 2019–20.

- The implicit capital outlay as proportion of GDP will be placed at 2.90, 4.61 and 7.51 % for central, state and general government, respectively. If the central government eliminates the revenue deficit, the capital outlay will be 3.8 % of GDP in 2019–20. Thus, the capital outlay at general government level will increase to 8.44 % of GDP.

8.4 Fiscal Developments in India Under FRBM Act

8.4.1 Trends in Deficit Indicators

The introduction of FRBM Act enabled the central government to reduce the key deficit indicators (viz, revenue, fiscal and primary deficit) relative to GDP (Chart 8.1).

However, to overcome the adverse impact of global economic and financial crisis the government took recourse to fiscal stimulus putting a pause to FRBM. Consequently, the deficit indicators increased sharply. With the introduction of revised FRBM rules in 2012, the government again put back the self-imposed discipline for prudent fiscal management. But the success was limited. The evidence of creative accounting with the introduction of Effective Revenue Deficit (EDR).

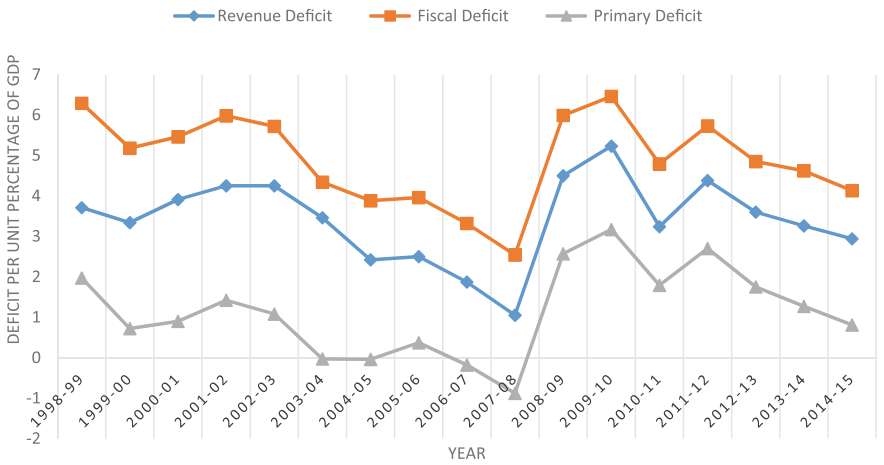

Chart 8.1 Central government deficit indicators. *Source* RBI

8.4.2 State Government

The consolidated fiscal position revealed a strong commitment to fiscal legislation by the state governments. This is reflected in reduction in fiscal deficit-to-GDP ratio and more importantly a turnaround in revenue balance to a surplus in 2006–07. The revenue account surplus has been pursued by state governments since then, except for 2009–10 due to implementation of Pay Commission awards coupled with decline in revenue buoyancy resulting from the economic slowdown (Chart 8.2).

8.4.3 General Government (Central and State Governments)

During the period (2004–2008), the Indian economy witnessed the impact of FRBM largely through fiscal consolidation which, in turn, resulted in high revenue buoyancy and reduction in key deficit indicators (Chart 8.3).

However, due to economic slowdown, fiscal stimulus, pay revision, debt relief measures and high subsidies for increased welfare spending initiated largely by the union government, the fiscal position of the general government deteriorated. The conditions improved with the introduction of the revised fiscal architecture in 2012. For example, fiscal deficit–GDP ratio declined to 7.6 % in 2011–12 and 6.9 % in 2013–14. Similarly, combined revenue deficit–GDP ratio showed significant improvement from 3.5 % in 2004–05 to 0.1 % in 2007–08, before a sharp increase to 5.7 % in 2009–10. It later declined to 2.8 % in 2013–14.

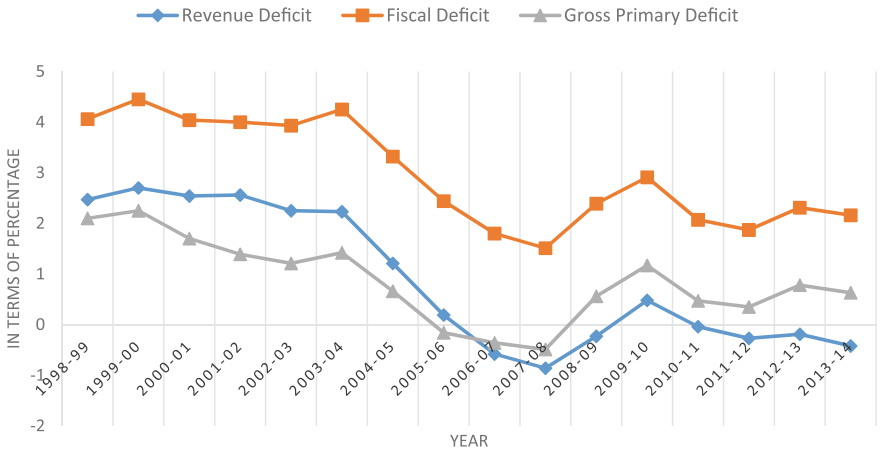

Chart 8.2 State governments deficit indicators. *Source* RBI

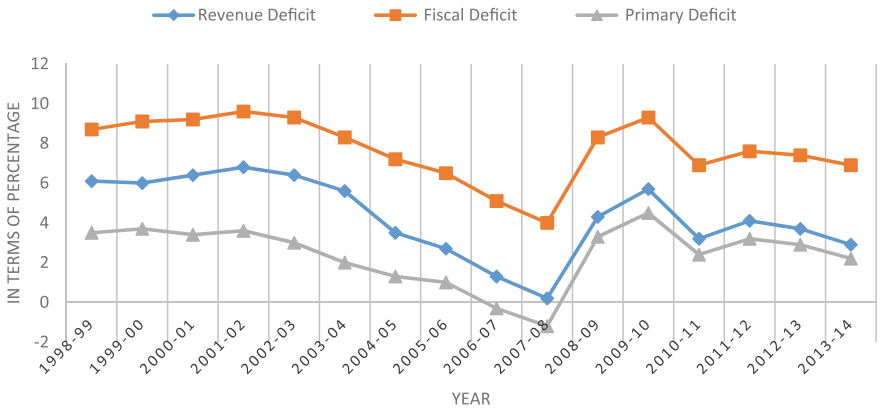

Chart 8.3 Combined deficit indicators of centre and state. *Source* RBI

8.4.4 Trends in Liabilities

It is pertinent to note that reduction in key deficit indicators also resulted in substantial reduction in debt–GDP ratio. For example, reduction was particularly significant—around 10 %age points—in the period from 2004–05 to 2007–08. The debt–GDP ratio deteriorated after 2007–08 primarily due to a higher fiscal deficit. It then declined to 66.5 % in 2010–11 and has since plateaued at that level. By the end of 2013–14 Budget Estimates (BE), the combined fiscal deficit was 6.9 %, revenue deficit 2.8 % and adjusted outstanding liabilities (net of loans from the union government) was 66.4 % (Chart 8.4).

8.4.5 Trends in Revenue Receipts

The trends in revenue receipts for the central, state and general governments are set out in Chart 8.5, 8.6 and 8.7. It may be mentioned that trends in tax revenues relative to GDP has been during 2004–2008. Thus, the success of FRBM was facilitated by fiscal empowerment (maximizing revenue to the budget) by both central and state which ultimately was also reflected in trends observed for general government. On the other hand, there has been by and large a stagnation in non-tax revenue except for spectrum proceeds collected by the central government in recent years.

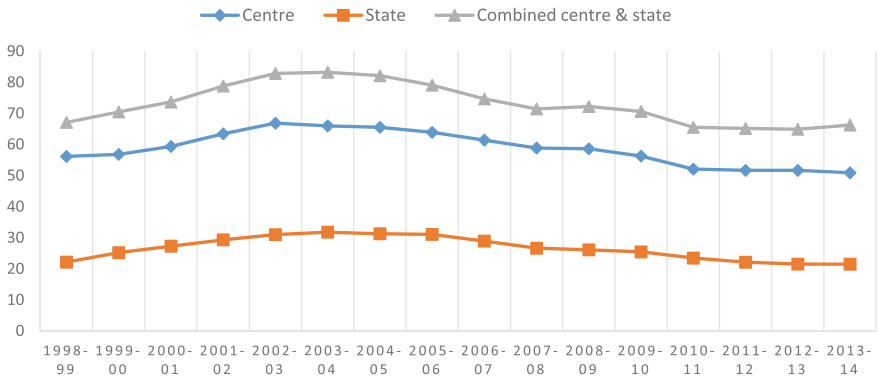

Chart 8.4 Outstanding liabilities as percentage of GDP. *Source* RBI. *Note* The total outstanding debt of the union government includes liabilities contracted in the Consolidated Fund and obligations secured under the Public Account. While the former consists of internal debt (dated securities and treasury bills) and external debt, the latter include liabilities on account of the NSSF and provident fund, among others. However, the outstanding debt as reported in the union budget needs to be adjusted for certain liabilities that are not used to finance the union government's fiscal deficit such as Market Stabilization Scheme (MSS) securities and borrowings by states under NSSF

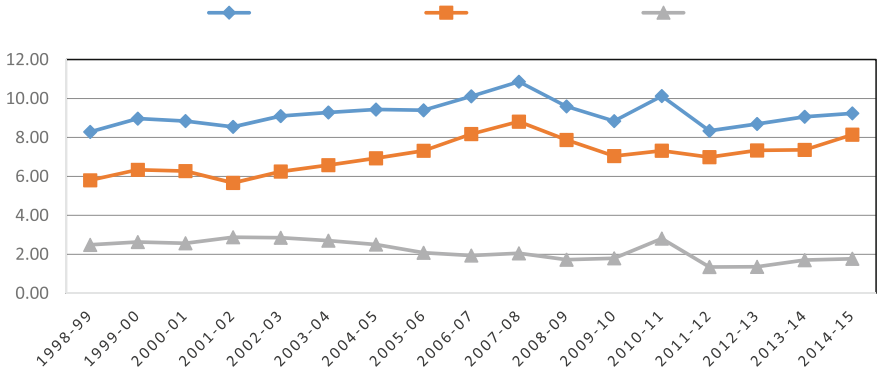

Chart 8.5 Revenue trends at the centre. *Source* RBI

8.4.6 Trends in Expenditure

Due to downward rigidity with respect to revenue expenditure, there has been no reduction trend in respect of both central and state governments which is ultimately reflected also in the case of general governments (Chart 8.8).

On account of the discretionary nature of capital expenditure, the central as well as the state governments had used this expenditure as a balancing item in deficit reduction strategies. Consequently, there has been stagnation broadly noticed in capital expenditure (Chart 8.9).

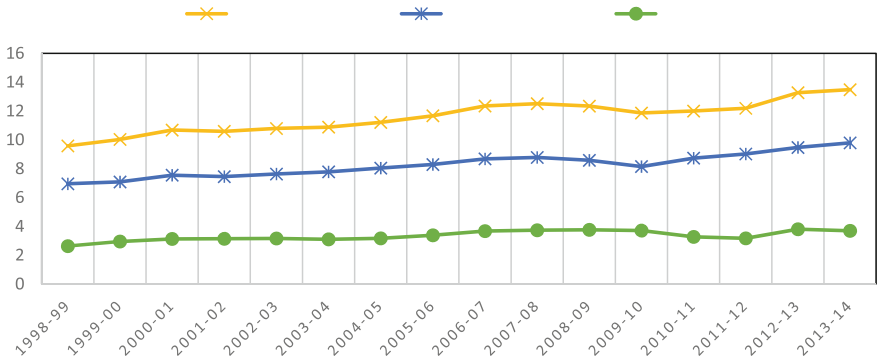

Chart 8.6 Revenue trends at the state. *Source* RBI

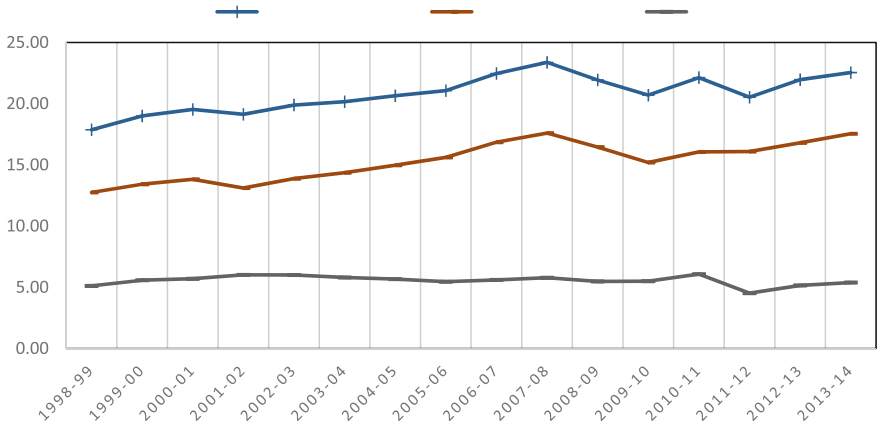

Chart 8.7 Revenue trends of centre and state. *Source* RBI

The major conclusions which arouse out of above discussions are set out as follows:

- Even under the given FRBM Act, the Indian authorities were unsuccessful in adhering to the golden rule of government finance, that is, the elimination of the revenue deficit. This is particularly evident at the central Government level. Thus, the borrowings by the government are pre-empted for meeting current consumption expenditure. The continuation of revenue deficit has adversely affected growth through dissaving of the government. Furthermore, this has led to a lower provision for capital outlay. Inflation management is difficult as the expenditure pattern of the government fuelled the demand side, thereby making monetary policy ineffective. It has also constrained the scope of fiscal space.
- Under the fiscal legislation, state governments were more responsible than the central government in terms of adhering to elimination of revenue deficit.

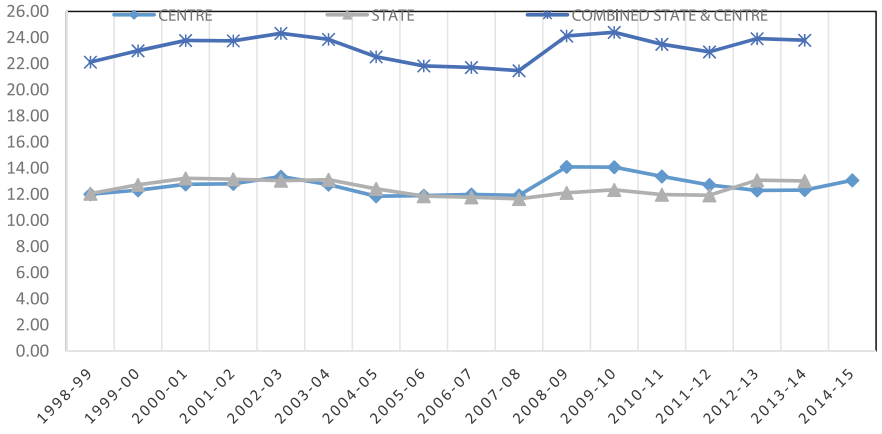

Chart 8.8 Revenue expenditure/GDP. *Source* RBI

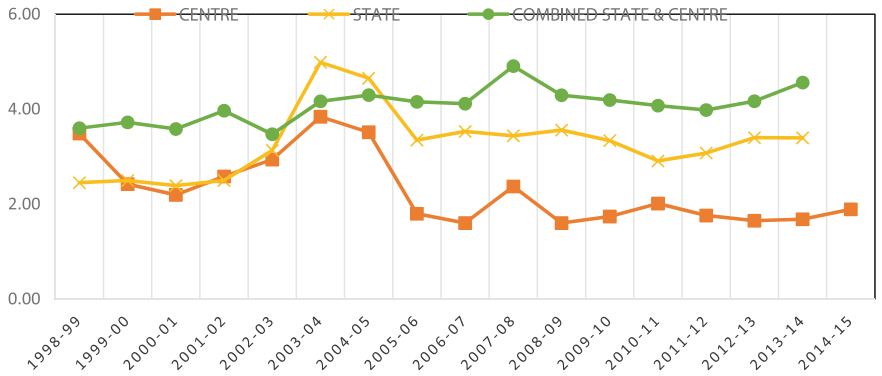

Chart 8.9 Capital expenditure/GDP. *Source* RBI

However, despite incentives from 12th and 13th Finance Commissions for meeting fiscal deficit targets the state governments could not support a higher capital expenditure allocation. This development thus questions the quality of fiscal adjustment process.

8.5 Emerging Issues

8.5.1 Fiscal Consolidation

As alluded to earlier, the fiscal consolidation efforts by the central government have been weak. Although the state governments had stronger commitments, they were unable to create wider fiscal space. It may be noted that FC XIV has carried out an

extensive study of this aspect in their Report. It is, therefore, instructive as well as interesting to quote their relevant comments. With regard to the central government, the Report has observed:

> As regards the quality of fiscal management, the period is characterised by a less than desirable growth in revenues and a steep reduction in capital expenditures, accompanied by a high level of subsidies. Overall, therefore, there is a case for reversing the trend of dilution in the quality of fiscal management that has set in during the review period. However, such reversal may have to be projected in the award period in a realistic manner.

The comments of FC XIV with regard to fiscal management of state governments are as follows:

> It is noteworthy that many States had not fully utilised the fiscal space available to them within the fiscal targets prescribed by the FC-XIII to incur capital expenditure. This indicates the scope for paying increased attention to this issue in the years ahead. However, it is seen that some of the States which did not utilise the available fiscal space and had low capital expenditures as a ratio of GSDP, are low-income States. From the perspective of accelerating growth and promoting equitable growth, increasing capital expenditures by enhancing the absorptive capacity of these States could be of importance.

8.5.2 Postponement of Quantitative Targets

The fiscal adjustment process suffers from not achieving the prescribed quantitative targets. It may be noted that more than a decade has been passed and there are two amendments already done to the central government's medium fiscal targets of deficit reduction. But elimination of revenue deficit remained in big black box.

8.5.3 Quality of Fiscal Consolidation

The quality of fiscal adjustments has been poor in case of both central and state governments. It is observed that there have been cut backs in capital expenditure at both central and state government levels. These cut backs have been more pronounced at state government level. This development has repercussions for economic growth. It has also been observed that most of the state governments had taken recourse to over borrowing which resulted in investment in central government T-bills making cash adjustment difficult.

In this context, the FC XIV has observed as follows:

> An analysis of the budget documents of the Union and State Governments reveals imbalance between the budgetary allocations and the accumulated liabilities of incomplete and ongoing capital projects. Ministries at both the Union and State level routinely overreach themselves while making investment proposals. The delays in implementation and

poor project management lead to cost and time overruns, impacting likely benefits accruing from capital investments in the form of higher per capita income and increased revenues to the governments.

8.5.4 *Introduction of Effective Revenue Deficit a Classic Case of Creative Accounting*

As mentioned earlier, the central government amended the FRBM Act in 2012 by including an effective revenue deficit as a target in place of revenue deficit. The effective revenue deficit, as defined in the Act, is the difference between the revenue deficit and grants for the creation of capital assets. The grants for creation of capital assets are defined as the grants-in-aid given by the central government to state governments, or autonomous bodies, local bodies and other agencies implementing schemes for the creation of capital assets which are owned by the said entities. The amendment mandates the central government to reduce the fiscal deficit, revenue deficit and effective revenue deficit, in order to eliminate the effective revenue deficit by 31 March 2015 and thereafter build up adequate effective revenue surplus.

Introduction of effective revenue deficit (ERD) is a classic case of creative accounting and is against any norm of fiscal prudence. What are the advantages of ERD? Union budget makes a distinction in functional expenditure categories. Capital grants should not be part of revenue expenditure as it is meant for creating capital assets. What are the disadvantages of ERD? ERD is against the constitutional provisions of budget making. Annual Financial Statement (AFS) presented to the Parliament according to Article 112 of the Constitution treats all grants as revenue expenditure. ERD suffers from time inconsistency. This was introduced as the GoI realized that elimination of RD looks difficult within a span of five years. Fiscal transparency suggests that sudden shocks to accounting arrangement should best be avoided. What are the net implications for the general government finances with ERD? Since grants whether capital in nature or otherwise are treated as non-tax revenue receipts, these are in AFS of state government meant to finance revenue expenditure. To the extent the central government reduces, its RD and if these are not treated as revenue receipts of states, the RD of states goes up by similar amount of reduction and having no impact in the General government RD. Since RD is not eliminated, there are macroeconomic implications in terms of savings and growth and vicious cycle of deficit and debt! Should we abandon the concept of ERD? In the interest of constitutional budgetary accounting coupled with adverse macroeconomic implications for savings and growth, the concept of ERD may be revisited and could be dispensed with.

It is pertinent to note that the FC XIV has deliberated on this concept and their observations are as follows:

> The artificial carving out of the revenue account deficit into effective revenue deficit to bring out that portion of grants which is intended to create capital asset at the recipient level leads to an accounting problem and raises the moral hazard issue of creative budgeting.

The FC XIV also observed: "*In our view, the current definition of effective revenue deficit is unique and does not fit within international practices of classification of accounts/expenditure. A few State Governments, in their memorandum, argued that the States also be allowed to incorporate the concept of effective revenue deficit. We are not in favour of the continuance of the treatment of effective revenue deficit as a distinct concept*".

The FC XIV thus recommends that the central government should consider making an amendment to the FRBM Act to omit the definition of effective revenue deficit from 1 April 2015. The Report also recommended that the objective of balancing revenues and expenditure on the revenue account enunciated in the FRBM Acts should be pursued.

In the above context, it is important to note that the central government still continues with the concept of effective revenue deficit. This reflects the non-adherence to the constitutional requirement.

8.5.5 Financing Pattern of Fiscal Deficit

The FRBM Act has focused on the level of deficit indicators relative to GDP. Furthermore, currently, the focus is more on the level of fiscal deficit and the financing pattern of fiscal deficit is seldom discussed or debated. Cash balance with the RBI by the government (cash deficit and cash surplus) forms part of financing of the fiscal deficit. It may be mentioned here that since April 2007, the RBI in terms of the borrowing rule is prohibited from participating in the primary auction of market borrowing programme of the government. Since then, for a smooth government budgetary cash transaction the Ways and Means Advances (WMA) in case the government is in cash deficit from the RBI to central government have been substantially increased. Simultaneously, flexibility has also been introduced regarding cash surplus maintained by the central government with the RBI. Evidence suggests that both the central and state governments either take recourse to higher WMA or maintain huge cash surpluses. It is of importance to note that poor cash management practice not only wastes money, but also inhibits the development of local financial markets and undermines the effectiveness of monetary policy.

8.6 Policy Options

The FRBM framework at the central and state levels has brought about an improvement in the level of fiscal transparency, with a greater degree of publicly available information about government finances and budgetary processes. However, the measures taken thus far have to be further strengthened. In view of this, a few policy options relating to deficit rules, expenditure pattern, institutional

arrangement for repayment of market borrowings, and cash management are flagged in the following paragraph.

8.6.1 Amendment of FRBM Act in Respect Deficit Rules

In the present milieu, both the central and state governments should contribute to create a fiscal space with prudent fiscal management by adhering to the FRBM act. It is, however, important to note that the central government has a greater responsibility with regard to quality of fiscal management, and particularly the elimination of revenue deficit. As recommended by the FC XIV, the central government may consider amending the FRBM Act to introduce the elimination of revenue deficit as it was the case in the original Act of 2003. At the same time, the central government may also consider amending the Act to withdraw the concept of ERD which has no constitutional validity.

8.6.2 Expenditure Pattern in Respect of Capital Outlays

It is important to note that central government accounts for almost two-thirds of the consolidated revenues and debt, and the expenditure responsibility of the state governments, are more as per the Constitution. Though the central government's fiscal management apart from having implications for monetary management is also critical for financial and external sector stability, in terms of social sector development, state government has a larger role. In view of this, at both the levels of government, centre and states, emphasis should be on expenditure pattern with priority on growth oriented expenditure. In this regard, recommendations of FC XIV of higher capital outlay provisioning of 7.5 % of GDP in 2019–20 are worth considering.

In the above context, it may be noted that higher allocation of capital outlay is a necessary condition and is welcome but sufficient condition is return on capital assets. It is a myth that all capital expenditures are growth oriented.

8.6.3 Institutional Arrangement for Repayment of Market Borrowings

In the foreseeable future, repayment obligation for market borrowing is huge which eventually puts a pressure on the government finances and macroeconomic management. Recognizing this, 12th Finance Commission strongly recommended an institutional arrangement in terms of establishment of a sinking fund as a part of overall fiscal discipline.

The rational for constituting a sinking fund for states was to enable them to tide over the roll-over risks due to their weak cash management practices and also State Development Loans being under-subscribed.

It may be noted that a sinking fund arrangement called Consolidated Sinking Fund (CSF) scheme was launched for state governments in 1999–2000 to meet redemption of market loans of states by contributing between 1 and 3 % per annum of outstanding open market loans as at the end of the previous financial year. A revised CSF scheme has come into effect since 2006–2007. So far, twenty-one state governments have constituted the CSF, and the outstanding corpus stood at about Rs. 60,000 crore in February 2014. However, the union government is yet to constitute a sinking fund. Keeping in view the experience of the states in this regard, the central government may consider setting up of CSF at the earliest.

In the above context, it is pertinent to note that FC XIV has examined desirability of setting up of a CSF by the central government. To quote the Report:

> In our view, CSF is an integral part of prudent fiscal management. The CSF creates a cushion to meet repayment obligations in times of fiscal/market stress, as it boosts investor confidence and thereby facilitates borrowing in the primary market at a reasonable cost even in normal times. Though there could be a trade-off between CSF investment and development expenditure in the very short-term, there is also a trade-off between roll-over risk and debt sustainability and development. While the constitution of a CSF for the union government, as in the case of the States, could have a favourable impact on investor sentiments, we are conscious of the fact that it may not be viable when fiscal deficit is persisting, as the Union Government will have to borrow more to invest in the Fund, which would further push up fiscal deficit.

8.6.4 Cash Management

Evidence suggests that cash management at both levels of government has been weak and inefficient. This has led to difficulties in debt, liquidity and monetary management. A few policy options are in order.

First, introduction of an ex ante cash flow statement on a daily basis to analyse the cyclical and structural factors.

Second, elimination of structural factors contributing to cash surplus and fixing a limit of surplus for the government in the same manner of ways and means advances (WMA).

Third, transferring the investment in 14-day intermediate treasury bills with immediate effect to "consolidated sinking fund" investment to address the humps in debt repayment in immediate future.

Fourth, the advance tax collection on a monthly basis in place of a quarterly basis. Fifth, in order to ensure transparency, the central government and the RBI may consider disseminating data to the public on modalities of surplus investment, which includes volume, rate of interest and maturity.

Sixth, while the WMA limits of the state governments are formula based, fixation of WMA limits with mutual agreement has largely remained arbitrary. One could argue that this is a sub-optimal choice. Thus, limits could be formula-based as it is for the state governments.

Seventh, the calendar for market borrowings and treasury bills to a large extent take care of repayments, but it could be re-examined taking into account the cash flow statement. For this to be effective, all the agents have to be proactive, not leaving the management of debt to RBI. The approach so far has been to treat cash management of GoI and state governments separately. It is appropriate to put in place a comprehensive approach. It would be advisable to have an expert committee to review the current arrangements for WMA/Overdraft/surplus and prescribe the limits and other related arrangements.

8.7 Conclusions

The Preamble to the FRBM Act 2003 sates the FRBM is: "An Act to provide for the responsibility of the Central Government to ensure inter-generational equity in fiscal management and long term macro-economic stability by achieving sufficient revenue surplus and removing fiscal impediments in the effective conduct of monetary policy and prudential debt management consistent with fiscal sustainability through limits on the Central government borrowings, debt and deficits, greater transparency in fiscal operations of the Central Government and conducting fiscal policy in a medium-term framework and for matters connected therewith or incidental thereto". FRBM is based on the above objectives. Therefore, in the long run, FRBM is growth and social sector supportive.

The FC XIV in the above context has observed "*the medium term framework for fiscal environment that we envisage is not mere consolidation, but prudent fiscal empowerment and the framework provides only quantitative, but binding, guidelines. The impact of growth equity and stability will depend significantly on the quality of fiscal transparency and fiscal management*".

The fiscal consolidation through FRBM should emphasize the four F's of fiscal empowerment (maximize revenue to the budget), fiscal transparency (avoidance of any creative accounting), fiscal marksmanship (maintaining budget integrity avoiding large deviation in the budget estimates, revised estimates and accounts figures) and fiscal space (counter-cyclical policies to manage the fluctuations in business environment due to exogenous shocks). If these four wheels are strong the Fiscal sector cart will have a smooth run.

To conclude with the observation FC XIV "*In the light of the experience gained so far, we conclude that the challenge is to design a basic incentive-compatible framework for the Union and State Governments to hold each other accountable over agreed fiscal targets. Accordingly, we stress the need for stronger mechanisms for ensuring compliance with fiscal targets and enhancing the quality of fiscal adjustment, particularly for the Union Government*".

Annex

See Tables 8.1, 8.2, 8.3 and 8.4.

Table 8.1 Deficit as percentage of GDP

Year	Centre			State			Combined centre and state		
	Revenue deficit	Fiscal deficit	Primary deficit	Revenue deficit	Fiscal deficit	Primary deficit	Revenue deficit	Fiscal deficit	Primary deficit
Pre-FRBM									
1998–99	3.71	6.29	1.97	2.47	4.06	2.10	6.1	8.7	3.5
1999–00	3.34	5.18	0.72	2.70	4.45	2.25	6.0	9.1	3.7
2000–01	3.91	5.46	0.90	2.54	4.04	1.70	6.4	9.2	3.4
2001–02	4.25	5.98	1.42	2.56	4.00	1.39	6.8	9.6	3.6
2002–03	4.25	5.72	1.08	2.25	3.93	1.21	6.4	9.3	3.0
2003–04	3.46	4.34	−0.03	2.23	4.25	1.42	5.6	8.3	2.0
Post-FRBM and pre-2008 crisis									
2004–05	2.42	3.88	−0.04	1.21	3.32	0.66	3.5	7.2	1.3
2005–06	2.50	3.96	0.37	0.19	2.44	−0.16	2.7	6.5	1.0
2006–07	1.87	3.32	−0.18	−0.58	1.8	−0.36	1.3	5.1	−0.3
2007–08	1.05	2.54	−0.88	−0.86	1.51	−0.49	0.2	4.0	−1.2
Post-FRBM and crisis									
2008–09	4.50	5.99	2.57	−0.23	2.39	0.56	4.3	8.3	3.3
2009–10	5.23	6.46	3.17	0.48	2.91	1.17	5.7	9.3	4.5
Post-FRBM and post-crisis									
2010–11	3.24	4.79	1.79	−0.04	2.07	0.47	3.2	6.9	2.4
2011–12	4.38	5.73	2.70	−0.27	1.87	0.35	4.1	7.6	3.2
2012–13	3.60	4.85	1.75	−0.19	2.31	0.78	3.7	7.4	2.9
2013–14	3.26	4.62	1.27	−0.42	2.16	0.63	2.9	6.9	2.2
2014–15	2.94	4.13	0.81	NA	NA	NA	NA	NA	NA

Source Reserve Bank of India

Table 8.2 Liabilities as percentage of GDP

Year	Centre	State	Combined centre and state
Pre-FRBM			
1998–99	56.14	22.16	67.11
1999–00	56.81	25.19	70.47
2000–01	59.36	27.29	73.67
2001–02	63.44	29.32	78.79
2002–03	66.85	31.01	82.86
2003–04	65.98	31.79	83.23

(continued)

Table 8.2 (continued)

Year	Centre	State	Combined centre and state
Post-FRBM and pre-2008 crisis			
2004–05	65.53	31.28	82.13
2005–06	63.90	31.08	79.07
2006–07	61.40	28.91	74.66
2007–08	58.86	26.63	71.44
Post-FRBM and crisis			
2008–09	58.62	26.11	72.21
2009–10	56.27	25.45	70.63
Post-FRBM and post-crisis			
2010–11	52.08	23.46	65.53
2011–12	51.68	22.13	65.16
2012–13	51.67	21.51	64.91
2013–14	50.90	21.49	66.24

Source Reserve Bank of India

Table 8.3 Revenue receipts trends of centre and states

Year	Centre			State		
	Revenue/GDP	Tax revenue/GDP	Non-tax revenue/GDP	Revenue/GDP	Tax revenue/GDP	Non-tax revenue/GDP
Pre-FRBM						
1998–99	8.29	5.80	2.49	9.58	6.95	2.63
1999–00	8.97	6.34	2.63	10.03	7.08	2.95
2000–01	8.85	6.28	2.57	10.68	7.55	3.13
2001–02	8.54	5.67	2.88	10.59	7.45	3.14
2002–03	9.10	6.25	2.85	10.79	7.63	3.16
2003–04	9.28	6.58	2.70	10.88	7.78	3.1
Post-FRBM and pre-2008 crisis						
2004–05	9.44	6.93	2.50	11.21	8.04	3.17
2005–06	9.40	7.32	2.08	11.67	8.29	3.38
2006–07	10.11	8.18	1.94	12.35	8.68	3.67
2007–08	10.87	8.81	2.05	12.51	8.78	3.73
Post-FRBM and crisis						
2008–09	9.60	7.87	1.72	12.34	8.58	3.76
2009–10	8.84	7.05	1.79	11.86	8.15	3.71
Post-FRBM and post-crisis						
2010–11	10.13	7.32	2.81	12	8.73	3.27
2011–12	8.34	6.99	1.35	12.19	9.02	3.17
2012–13	8.69	7.34	1.36	13.27	9.47	3.8
2013–14	9.06	7.36	1.70	13.48	9.79	3.69
2014–15	9.24	8.14	1.77			

Source Reserve Bank of India

Table 8.4 Expenditure trends of centre and states

Expenditure as percentage of GDP				
Year	Centre		State	
	Revenue expenditure/GDP	Capital expenditure/GDP	Revenue expenditure/GDP	Capital expenditure/GDP
Pre-FRBM				
1998–99	12.00	3.49	12.05	2.45
1999–00	12.31	2.42	12.73	2.50
2000–01	12.76	2.19	13.22	2.39
2001–02	12.80	2.58	13.15	2.50
2002–03	13.35	2.94	13.04	3.13
2003–04	12.74	3.84	13.11	4.99
Post-FRBM and pre-2008 crisis				
2004–05	11.85	3.51	12.42	4.65
2005–06	11.90	1.80	11.86	3.35
2006–07	11.98	1.60	11.77	3.53
2007–08	11.92	2.37	11.65	3.44
Post-FRBM and crisis				
2008–09	14.10	1.60	12.11	3.56
2009–10	14.08	1.74	12.34	3.34
Post-FRBM and post-crisis				
2010–11	13.37	2.01	11.98	2.91
2011–12	12.72	1.76	11.93	3.07
2012–13	12.30	1.65	13.08	3.40
2013–14	12.33	1.68	13.02	3.39
2014–15	13.07	1.89		

Source Reserve Bank of India

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Chapter 9
Public Debt Sustainability Assessments for Developing Asia

Benno Ferrarini and Arief Ramayandi

9.1 Introduction

This chapter discusses the evolution of fiscal balances and public debt ratios in developing Asia from the mid-1990s to 2010 and investigates the conditions for public debt sustainability in the region through 2016, building on the work of Adams and Ferrarini (2010). Focus is on developing Asia—which denotes the developing member countries (DMCs) of Asian Development Bank (ADB). The assessment mainly comprises the broader trends and outlook for public debt and fiscal indicators in Asia and its subregions, with country-level data aggregated with geographical subdivision. The debt dynamics and prospects of a few selected economies are discussed.

An in-depth assessment of three country studies is provided in the following chapters.[1] The discussion of debt sustainability analysis (DSA) methods evolves from a practical perspective. The aspects of fiscal sustainability of public debt, both

This chapter deepens and expands in several directions the empirical work of Adams and Ferrarini (2010). The authors are grateful for helpful comments on an earlier draft by Charles Adams, Richard Hemming, and Raghbendra Jha. However, the authors are solely responsible for the views expressed here.

[1]This chapter is a reprint from the book "Public Debt Sustainability in Developing Asia," edited by Benno Ferrarini, Raghbendra Jha, and Arief Ramayandi, Co-publication of the Asian Development Bank and Routledge.

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domestic and foreign currency denominated, are analyzed. (External criteria of debt sustainability are not analyzed, because to do so would involve a broader discussion of the balance-of-payments conditions in Asia, which is beyond the scope of this chapter.) The main emphasis is thus on the historical and prospective evolution of public debt indicators under alternative macroeconomic and fiscal policy assumptions, which constitute the core elements of DSA within the broader context of macroeconomic forecasting. Much of the discussion revolves around the debt sustainability implications of a negative interest rate–growth differential (IRGD), a key characteristic of the macroeconomic environment in Asia during the last two decades. The extent to which responsible fiscal policy by governments in the region has played a role in keeping fiscal position in check and debt ratios comparably low is also analyzed at length. Less attention is devoted to analyzing debt sustainability against thresholds; this approach is deemed of limited practical interest as the chapter adopts a simple notion of debt sustainability that is premised on the presence of a stable and non-exploding debt path regardless of its position relative to thresholds. A discussion of these broader issues is beyond the scope of this chapter.

The next section presents key fiscal indicators in developing Asia and reviews the evolution of public debt ratios from the mid-1990s through 2010. Particular attention is paid to the breakdown of fiscal positions into primary and non-primary components and the linkages between primary fiscal balances and public debt ratios.

The third section discusses the results from econometric tests of fiscal sustainability, based on panel regression techniques. Estimates of fiscal reaction functions support the notion that Asia has been generally prudent in conducting fiscal policy, with countries tightening their budgets as they see debt stocks rising. The region's record of fiscal rectitude provides the strongest grounds for being confident about the long-run sustainability of public debt in the region.

Section four, on the debt stabilizing primary balance in Asia, discusses the extent to which vastly negative IRGDs have been shaping fiscal dynamics in the region. The concept of debt stabilizing primary balance is introduced, and the impact that less favorable macroeconomic circumstances—whether in the guise of a temporary or structural narrowing of the IRGD—are likely to have on Asia's debt sustainability and on fiscal policy space is also assessed.

Section five, on DSA based on macroeconomic forecast assumptions, projects debt ratios aggregated with Asia's subregions up to the year 2016. Based on the latest ADB and International Monetary Fund (IMF) macroeconomic forecasts and fiscal policy assumptions for these countries, the results indicate that current forecast assumptions are compatible with continuing debt sustainability in the region. Projections for all the subregions—but not necessarily all their economies—suggest that debt ratios are either stable or declining, and the fiscal outlook for the region is generally benign.

The sixth section conducts stress tests within the standard DSA framework for eight Asian economies and compares the results with those from stochastic simulation methods. It is argued that stochastic analysis accounts better for the correlation structure among the key variables determining debt dynamics and for the

uncertainty surrounding baseline projections than does deterministic analysis. Simulation results suggest that accounting for these factors in most cases does not change the main conclusion about economies' debt sustainability. However, the results suggest that, rather than a single baseline, a whole range of possible outcomes are compatible with a country's macroeconomic track record and the estimated correlation structure among key variables, and not all of them imply a favorable future debt path.

The last section summarizes the findings and concludes.

9.2 Public Debt and Fiscal Performance in Developing Asia

Any assessment of public finances in relation to developing countries faces the challenge of scarce fiscal and public debt data.[2] The discussion in Appendix 9.1 illustrates that data scarcity is an issue for ADB's developing members, which are analyzed in this chapter. In the fiscal data set for the 45 ADB's developing members compiled for this study, 24 economies have consistent yearly data for a comparative review over time of the main fiscal indicators from 1994 to 2010. Data are grouped into five geographical subregions, following the convention of the ADB *Asian Development Outlook* reports. The subregions and economies within them are Central Asia (Armenia, Azerbaijan, Georgia, Kazakhstan, Kyrgyz Republic, and Tajikistan); East Asia (the People's Republic of China [PRC], the Republic of Korea, and Mongolia); the Pacific (Fiji, Papua New Guinea, Solomon Islands, and Tonga); South Asia (Bangladesh, Bhutan, India, Sri Lanka, Nepal, and Pakistan); and Southeast Asia (Indonesia, Malaysia, the Philippines, Thailand, and Viet Nam). Appendix 9.2 (Tables 9.4 and 9.5) shows the data available for ADB's developing members and the data sources used for this chapter.

Table 9.1 summarizes the main fiscal indicators by subregion. The last column indicates the degree of external indebtedness, measured as the ratio of foreign currency denominated debt to total public debt outstanding. All indicators represent simple averages by subregion, which are unweighted for the reasons discussed in Appendix 9.1. Figure 9.1 compares ratios of subregional debt/gross domestic product (GDP) and fiscal revenue/GDP. To trace the evolution of fiscal indicators over time, Asia's average fiscal data are subdivided into five key periods: 1994–97, to assess fiscal positions prior to the Asian financial crisis (AFC); 1998–99 and 2000–06, to capture the short- and medium-term effects of the AFC on fiscal performance in Asia; and 2007–08 and 2009–10, to compare fiscal positions before and after the global financial crisis (GFC).[3]

[2]The data cutoff date for this chapter is September 30, 2011, at which time the fiscal data for the year 2010 were mostly preliminary. Data for some countries have been revised frequently.

[3]Consistent data for Central Asian countries are available only from 2000 onward.

Table 9.1 Fiscal indicators

Subregion and period	Public debt	Primary balance	Fiscal balance	Fiscal expenditure	Fiscal revenue	Interest paid	FCD debt[a]
	(% of GDP)						(% of total)
Central Asia							
2000–10	40.6	0.1	−0.6	24.5	23.9	0.8	…
2000–06	47.7	0.1	−0.9	22.1	21.3	1.0	…
2007–08	23.4	1.4	1.1	27.5	28.5	0.3	24.1
2009–10	32.8	−1.0	−1.6	30.1	28.5	0.6	34.3
East Asia							
1994–2010	34.6	−0.4	−1.4	23.4	22.0	1.0	…
1994–97	25.1	−1.3	−2.3	19.4	17.0	1.0	…
1998–99	40.7	−2.9	−4.5	23.0	18.5	1.6	…
2000–06	40.9	0.4	−0.6	24.1	23.5	0.9	…
2007–08	27.5	1.1	0.4	26.0	26.5	0.7	11.6
2009–10	32.5	−0.6	−1.2	26.8	25.5	0.7	15.5
Southeast Asia							
1994–2010	42.2	0.1	−2.0	21.9	19.9	2.1	…
1994–97	37.2	2.2	0.5	19.9	20.4	1.7	…
1998–99	42.6	−1.1	−2.8	21.0	18.1	1.7	…
2000–06	46.0	−0.2	−2.7	22.3	19.6	2.5	…
2007–08	38.4	0.3	−1.6	22.6	21.0	1.9	21.8
2009–10	41.9	−2.2	−4.5	24.7	20.2	1.8	21.7
South Asia							
1994–2010	66.9	−1.0	−4.5	22.5	18.0	3.5	…
1994–97	65.2	−1.0	−4.3	22.9	18.5	3.4	…
1998–99	65.2	−1.0	−4.2	21.8	17.6	3.2	…
2000–06	71.3	−1.3	−4.8	22.4	17.6	3.5	…
2007–08	62.4	−0.2	−3.8	22.1	18.4	3.6	32.4
2009–10	61.1	−0.9	−4.6	23.2	18.6	3.6	31.7

… data not available; *FCD* foreign currency denominated; and *GDP* gross domestic product

[a]As percentage of total public debt

Notes Central Asia data cover only the period 2000–10. A negative sign on the primary or fiscal balance indicates a deficit

Source ADB TA7662 Database

The fiscal indicators in Table 9.1 show the following about the fiscal performance in the region:

- Public debt ratios across ADB's developing members display considerable heterogeneity and variation over time. According to 1994–2000 averages, South Asia had the highest debt ratios in Asia, averaging nearly 67 %. East Asia, at about half that level, had the lowest debt ratios in the region; average debt ratios

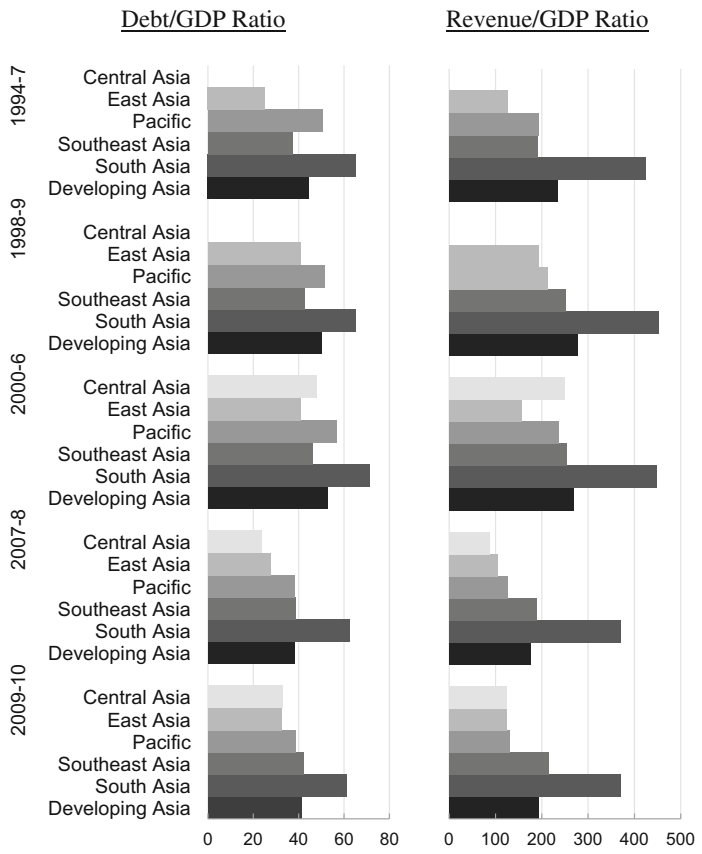

Fig. 9.1 Debt indicators (mean values, %). *GDP* gross domestic product. *Source* Authors' estimates

in Central Asia, the Pacific, and Southeast Asia were 40–50 % of GDP. By developing countries' standards, public debt in Asia has thus been low, with the notable exception of South Asia.

- The AFC represented a watershed for fiscal policy in the region, as many economies experienced large fiscal slippages. Debt ratios across the region rose substantially during 1998/99 and continued climbing during the early 2000s in the Pacific, South Asia, and Southeast Asia. Subsequently, fiscal consolidation efforts and the support of high rates of economic expansion brought debt ratios down throughout the region. By 2007/08, debt ratios were mostly at par with or below levels prior to the AFC.
- The GFC was transmitted to Asia mainly through the trade channel in early 2009. The slump in global demand for Asian exports was met with unprecedented determination by governments mounting large monetary and fiscal stimulus packages to support their economies. As a result, debt ratios turned up

again by 2009/10, albeit less markedly than in the immediate aftermath of the AFC (1998/99) and certainly not uniformly across subregions.[4]

- Fiscal balances across the region were mostly in deficit during 1994–2010. South Asia stands out with a sizeable deficit, averaging 4.5 % over the entire period, followed by Southeast Asia (2.0 %) and East Asia (1.4 %). Fiscal deficits were lower in Central Asia (0.6 %), favored by the price developments in the world commodity markets and debt relief operations since 2000 in relation to Soviet-era liabilities, and in the Pacific (1.1 %), where the debt benefits from a higher grant element than is the case in the rest of Asia.
- The AFC increased fiscal deficits in East and Southeast Asia, which were both at the epicenter of the crisis. Subsequently, fiscal balances improved across the region. By 2007/08, average fiscal balances in East Asia, Central Asia, and the Pacific returned to surplus. Elsewhere, including South Asia, fiscal deficits shrank substantially.
- With the GFC came a dramatic trend reversal in the fiscal stance across the entire region: By 2009–10, South Asia's average fiscal deficit had expanded to 4.6 % and Southeast Asia's to 4.5 %, and other parts of Asia started recording sizeable deficits from a situation of surplus prior to the crisis.
- By and large, primary balances across the region improved between 1994 and 2008. East Asia managed to turn a 2.9 % average deficit in 1998/99 to a 1.1 % surplus in 2007/08. During the same period, Southeast Asia transformed a 1.1 % deficit into a 0.3 % surplus. Even South Asia managed to rein in its deficits, although it continues to stand out as the subregion with the most persistent primary deficits in Asia, and with the largest interest bills to settle. As will be discussed at length in this chapter, primary balances in the region reflect a fundamental attitude of fiscal responsibility or frugality that has involved fiscal tightening in response to rising debt ratios.
- Average government expenditure and revenue in large parts of Asia are in the range of 20–25 % and thus are lower than in the rest of the emerging world and substantially lower than in the advanced economies.[5] The Pacific economies are an exception in this regard, due to relatively large governments and aid financing.
- In the entire region, interest payments on public debt have been low, about 1–3 % of GDP. There is no clear tendency for interest to increase over time. Generally, subregions with the highest debt/GDP ratios also have the highest interest payments/GDP ratios.

[4]For example, South Asia's average debt ratio actually declined in 2009 and 2010, despite fiscal interventions. South Asia's robust growth during and since the GFC helped drive down debt ratios in a large part of the subregion.

[5]In 2009/10, average general government expenditure was 29.4 % and revenue was 25.0 % in emerging economies, and 37.5 and 35.4 %, respectively, in advanced economies (IMF 2011b: 125–126).

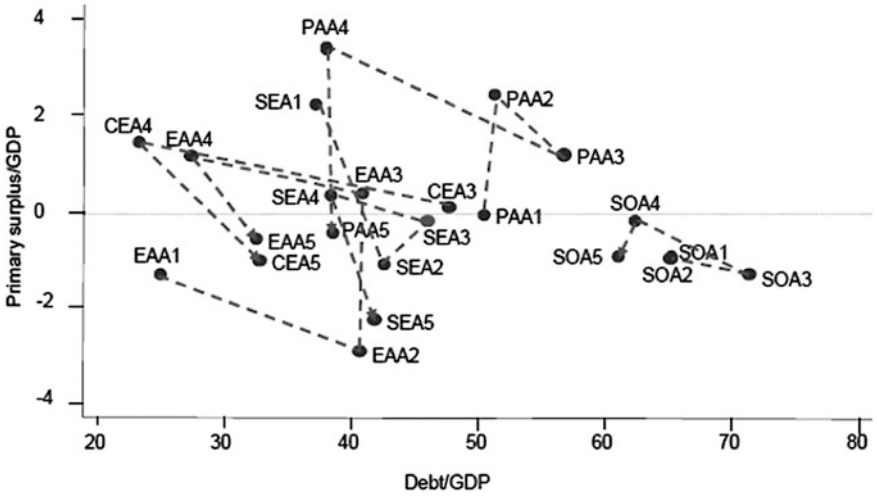

Fig. 9.2 Primary balance and public debt (regional period averages). *Periods 1* 1994–7; *2* 1998–9; *3* 2000–6; *4* 2007–8; *5* 2009–10. *CEA* Central Asia, *EAA* East Asia, *GDP* gross domestic product, *PAA* Pacific, *SEA* Southeast Asia, *SOA* South Asia. *Source* Authors' estimates

- Foreign currency denominated debt (as a share of total public debt) has been generally low in the region. In 2009/10, this share ranged from about 15 % in East Asia to about 34 % in Central Asia.

Figure 9.2 provides another revealing perspective on fiscal positions in the region, displaying time snapshots of the relationship between primary fiscal surplus and debt stocks of each subregion. The movement from period 1 to 2 on the figure corresponds to a substantial worsening of fiscal balances and debt stocks in Asia as a consequence of the AFC. The subsequent shift, from period 3 to 4, traces the fiscal adjustment that gradually took place across the region between the aftermath of the AFC and the onset of the GFC, which for some countries at first involved a further deterioration of fiscal balances and debt ratios well into the early 2000s. By the onset of the GFC, fiscal positions had improved dramatically, but they then deteriorated sharply in period 5, as most governments intervened to rescue their economies with fiscal injections to stem the adverse effects of the global recession.

In Fig. 9.2, this pattern is most evident in the East Asia (EAA) and Southeast Asia (SEA) aggregates. Their movements from the first to the second periods (EAA1 to EAA2 and SEA1 to SEA2) show a marked deterioration of primary deficits and public debt ratios due to the AFC. These events were followed by sharp corrections in the economies' balance-of-payments and fiscal accounts, which led to more manageable fiscal balances and lower debt ratios. East Asia, in particular, displays a major policy shift during 2000–06 (EAA3), causing fiscal balances to return to surplus on average across the subregion. By 2007/08 (EAA4), fiscal

surpluses had further consolidated in East Asia and the debt ratio had fallen back to just above pre-AFC levels. Figure 9.2 does not show that the fiscal pattern observed for the East Asia subregion is heavily influenced by Mongolia's recovery after a fiscal crisis in the early 2000s.

Compared with East Asia, Southeast Asian countries on average entered the AFC with a higher debt ratio and a fiscal surplus, rather than deficit. By 1998/99, that surplus had turned abundantly negative and the debt ratio in most countries kept rising well into the early 2000s. Subsequently, fiscal consolidation efforts combined with favorable debt dynamics based on low interest and high growth rates drove Southeast Asia's average public debt ratio down close to its pre-AFC level.

Evidence of fiscal consolidation between 2000 and 2008—that is, a movement upward and leftward as in Fig. 9.2—is observed also in relation to South Asia, the Pacific, and Central Asia. As a result, developing Asia was on a sound fiscal footing by the time it faced the GFC: Except in a few countries, fiscal balances in the region were generally healthy, and debt ratios were mostly low and declining.

This trend is reversed with the GFC. By 2009/10, crisis-related spending, combined with revenue compression due to the slowdown of economic activity, resulted in sizeable fiscal deficits across the region. The unprecedented intensity of the fiscal response by many countries caused subregional deficits to fall below the levels witnessed in connection with the AFC. By contrast, public debt ratios rose as a result of fiscal stimulus, but not to the levels witnessed after the AFC. The profoundly diverse nature of the two crises explains their different impacts on the region. Whereas the AFC originated within East and Southeast Asian economies that were facing highly problematic external imbalances and financial fragilities in the years preceding the crisis, the GFC originated in the North Atlantic region and was transmitted to Asia mainly through the trade channel. The prevalence of sound macroeconomic conditions—including huge official foreign currency reserves that had been piling up since the AFC—helped developing Asia to weather the crisis remarkably well. Economic growth slowed in the region but did not stall, except for a temporary dip in the smaller economies that most heavily rely on foreign trade. Financial markets in the region felt the global credit crunch in 2007 and 2008, but were not left crippled as they were after the AFC, and largely normalized by the second half of 2009. Further, the healthy state of fiscal positions in the region created the policy space necessary for Asian governments, and the PRC in particular, to counter the GFC with large fiscal and monetary stimulus in support of aggregate demand in the region. Although debt ratios rose as a result, strong growth, functioning domestic sovereign bond markets, and low interest rates also prevailing in the international capital markets have been favoring the debt dynamics in the region, keeping debt ratios at a manageable level in most countries.

Subregional averages, which hide a great deal of country heterogeneity, are only roughly indicative of the debt dynamics underlying the individual countries they represent. This is evident in Fig. 9.3, which plots individual economies' debt ratios underlying the subregional averages (Fig. 9.3 on pp. XX–XX). For Central Asia (Fig. 9.3a) and the Pacific (Fig. 9.3c), the subregional average debt ratios appear to

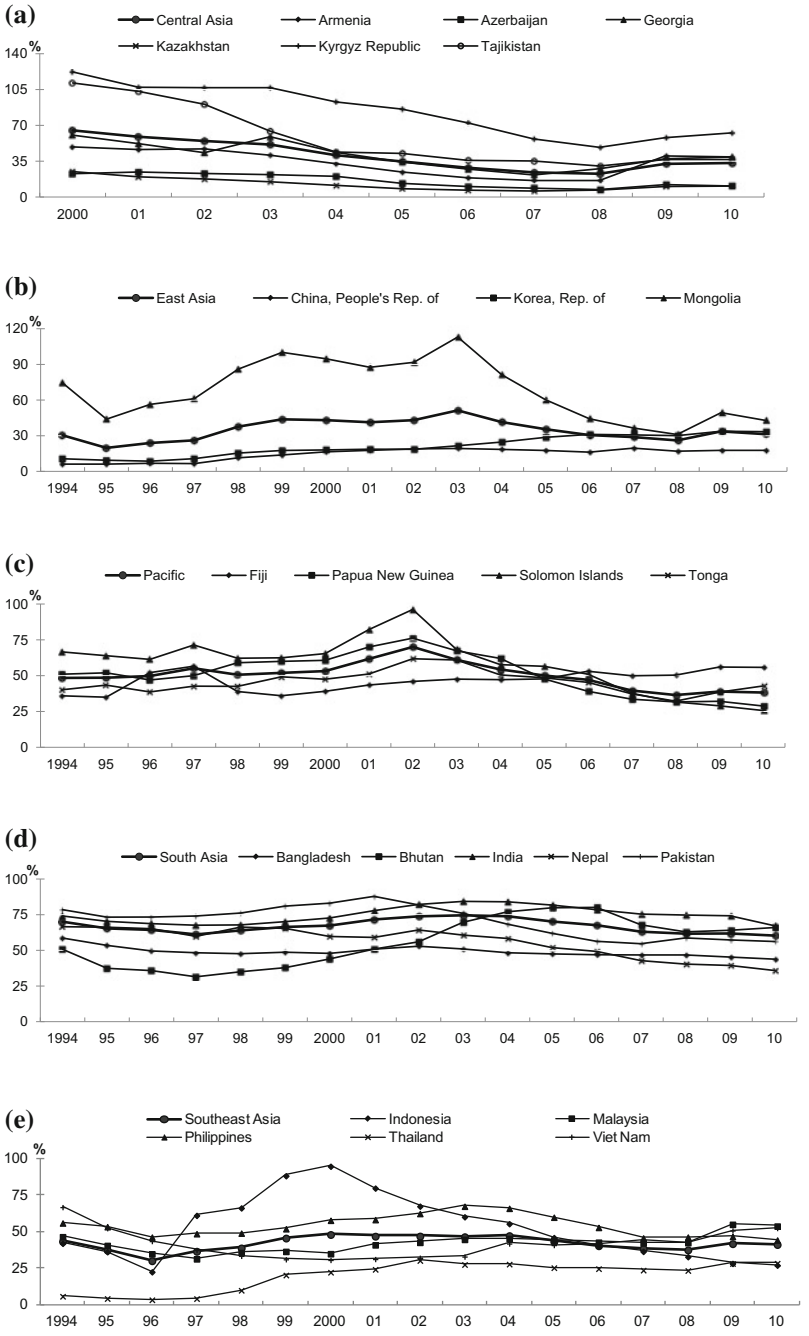

Fig. 9.3 Debt/GDP ratios (mean values, %). **a** Central Asia, **b** East Asia, **c** Pacific, **d** South Asia, **e** Southeast Asia. *Source* Authors' estimates

be broadly representative of individual country trends, notwithstanding the occasional outlier. One outlier is Fiji, whose debt ratio has been increasing since the early 2000s, whereas the regional trend indicates a declining ratio for the Pacific more broadly. For the East Asian aggregate, Mongolia's debt pattern stands out strongly against that of the PRC and the Republic of Korea, which show roughly similar developments.[6] Similarly, in Southeast Asia, Indonesia's debt trajectory stands out against that of the other countries in the subregion.[7] By and large, and notwithstanding the outliers, the subregional averages appear to represent individual countries' public debt patterns sufficiently well and offer useful insights into the broader regional historical patterns as well as differences among Asia's subregions.[8]

9.3 Fiscal Reaction Functions and Asia's Fiscal Prudence

The evolution of Asia's fiscal indicators since 1994, discussed in the previous section, provides prima facie evidence of a fundamental pattern of fiscal prudence in the region. Even a crude look at the historical evidence suggests that countries in the region have generally reacted responsibly to increasing debt ratios through fiscal tightening, thus reining in fiscal positions and lowering debt to more manageable levels when necessary. The most recent display of fiscal prudence has been the region-wide fading since 2010 of fiscal stimulus packages enacted in response to the GFC. Moreover, medium-term fiscal policy plans in the region are testimony to countries' determination to quickly cut back primary deficits to pre-GFC levels in response to higher debt ratios during 2009 and 2010 (ADB 2011a, b).

[6]Underlying Mongolia's particularly challenging debt pattern within East Asia is its late transition to a market economy, combined with weak fiscal government and an unfavorable external environment that jointly led to a massive buildup of public debt in the late 1990s and early 2000s. Major structural reform efforts, fiscal discipline, debt relief (including the Russian Federation's writing off most of Mongolia's Soviet-era debts), and favorable commodity price developments jointly brought the country back from the brink of default and, by 2008, down to a debt ratio that was roughly in line with the subregional average.

[7]Indonesia stands out as the country most heavily hit by the AFC, which, among other things, led to the nationalization of Indonesia's banking sector. Subsequently, in the decade since 2000, major reforms and solid economic growth amid a favorable external environment—including high international commodity prices—resulted in the country's debt ratio being drastically reduced to a level substantially beneath the subregional average.

[8]As discussed in Appendix 9.4, an alternative choice to using simple averages to derive subregional aggregates would be to weight debt ratios by countries' economic sizes. For example, in that case, the East Asian aggregate would be less reflective of Mongolia's vicissitudes and would closely resemble the PRC's debt ratio instead. However, there is no obvious reason to prefer such a weighted average, as long as individual economies are considered equally representative of the region as a whole.

Responsible, or prudent, fiscal policy constitutes the cornerstone for long-term fiscal sustainability and, as such, assessing the presence of such policy represents the most fundamental of tests in DSA. In contrast to assessment methods centered on accounting identities that link primary fiscal deficits to the evolution of the debt stock ratio—which will be discussed at length below—a most basic test of sustainability consists in determining the behavioral pattern underlying the decision-making process for primary fiscal expenditure and revenue.

Bohn (1998) laid out the theoretical and empirical foundations of the approach, which have since been established firmly in the debt sustainability literature and practice under the labels "fiscal reaction functions" or "primary balance tests" (Chalk and Hemming 2000; IMF 2003; ADB 2010a). Essentially, a fiscal reaction function estimates the relationship between a country's primary surplus and public debt, which is assumed to express a linear decision rule running from the latter to the former. Following Bohn (1998), the basic empirical specification involves the primary surplus (ps_t) and lagged public debt (b_{t-1}), as both ratios to GDP and temporary factors (τ_t) impacting the primary balance ratio, such as swings in government spending and the business cycle:

$$ps_t = \rho b_{t-1} + \beta\tau_t + \varepsilon_t \quad \varepsilon_t \sim \left(0, \sigma^2\right). \tag{9.1}$$

The vector coefficient (β) measures the primary surplus' response to the temporary factors included in (τ_t), and (ε_t) is an error term with zero mean and variance (σ^2). Central to sustainability in the context of fiscal reaction functions is the coefficient (ρ), which measures the response of the primary balance to changes in the debt ratio. Bohn (1998) demonstrates that a sufficient condition for fiscal sustainability is that (ρ) be positive in value and lower than unity:

$$0 < \rho < 1 \tag{9.2}$$

A value of the response parameter between zero and unity implies that the primary surplus increases (on average) with the debt ratio and is taken as evidence of to increases in the debt ratio. A (ρ) value close to zero implies that higher debt ratios lead to virtually no response, and when (ρ) is negative, primary surpluses shrink as a result. In such circumstances, fiscal policy can lead to an explosive debt ratio.[9]

Fiscal reaction functions for selected Asian economies are estimated here for subsets of the data described in Appendix 9.1 for ADB's developing members. Results are discussed in relation to a balanced panel of the seven core Asian economies—the PRC, the Republic of Korea, India, Indonesia, Malaysia, the Philippines, and Thailand. For comparison, the results from regressions on a larger,

[9]This is most certainly the case for countries facing interest rates that are higher than their rate of economic expansion. By contrast, when the rate of economic growth exceeds the interest rate, the debt ratio may be stabilized, even when the primary balance is in deficit. As noted in the next three sections of this chapter, many countries in Asia have indeed been benefitting from a persistently negative IRGD that has played a key role in keeping debt ratios in check.

unbalanced panel of 32 economies are reported in Appendix 9.3 (Tables 9.6, 9.7, 9.8, and 9.9).[10]

Table 9.2 summarizes the core results from panel regressions of fiscal policy response functions based on the feasible generalized least squares (FGLS), ordinary least squares (OLS), and system general method of moments (SGMM) estimations. Appendix 9.4 describes the estimation strategy and methods. Linear models, reported in the first three columns of Table 9.2, estimate that the primary deficit in the seven Asian economies on average narrows between 0.036 and 0.063 % in response to a 1 % point increase in debt ratios, allowing for a response lag of up to 2 years. The sign and magnitude of these linear point estimates of coefficient ρ are broadly in line with the findings of previous studies and confirm fiscally responsible behavior in the region (IMF 2003, 2011a; ADB 2010a). Moreover, there is no single instance in Table 9.2 of coefficient ρ taking on a negative sign, or of primary fiscal balances in Asia having responded perversely to rising debt.

The statistical significance of the response parameter estimates varies across the alternative specifications in Table 9.2, but always within commonly accepted levels. Significance is highest for the FGLS (column 1) and SGMM (column 3) models, which accommodate the actual time series structure underlying the data better than OLS estimation (column 2). Also consistent across the three models are the estimated coefficients of real GDP and expenditure deviations, which turn out with the expected sign and are both economically and statistically highly significant. That is, a positive shock to the cyclical component of output (real GDP) is found to raise primary surplus by a factor of 0.21–0.27 on average, while an increase of real expenditure above its trend is estimated to lower contemporaneous primary fiscal surplus by an average factor of 0.11–0.16. Specific to SGMM regression is the inclusion of the lagged dependent variable among the regressors. Column 3 in Table 9.2 shows that the coefficient of lagged primary fiscal surplus is estimated at 0.482 and is highly significant. Fiscal policy is thus found to have a strong degree of inertia, causing the sign and magnitude of primary budgets in one year to depend substantially on previous years' budgetary outcome and decisions. This should be no surprise, as government budget plans typically run over several years, and many government revenue and expenditure items are largely fixed or irreversible in the short term. As a result, fiscal responsibility as measured by coefficient ρ typically affects the primary surplus only within the narrow margins of feasible adjustments, except during exceptional periods of fiscal distress that may force governments to abruptly reverse past decisions.[11]

[10]Appendix 9.3, Table 9.7 shows that the findings for the larger panel of 32 countries largely mirror those of the Asia7 panel discussed in this section, although the accuracy of the estimates tends to be lower due to the strong presence of outliers in the data.

[11]Also specific to SGMM estimation is the Arellano–Bond autocorrelation test reported in the last two rows of Table 9.2. First-differenced errors of orders 1 and 2 show no sign of violating the model assumptions, and the model appears to be sufficiently well specified.

Table 9.2 Fiscal reaction functions—panel regression results for seven Asian economies

	FGLS	Linear OLS	SGMM	FGLS	Cubic OLS	SGMM
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged debt	0.0361*** −0.0109	0.0487* −0.0257	0.0634*** −0.022	0.160** −0.0769	0.215* −0.123	0.206*** −0.0542
Lagged debt^2				−0.00334* −0.00183	−0.00498* −0.00276	−0.00332** −0.00146
Lagged debt^3				2.61e−05** −1.33e−05	3.68e−05* −1.89e−05	2.15e−05* −1.17e−05
Lagged surplus			0.482*** −0.0909			0.475*** −0.0863
Real GDP	0.209*** −0.0424	0.235*** −0.0474	0.265*** −0.0604	0.151*** −0.0517	0.232*** −0.0467	0.263*** −0.0617
Real expenditure	−0.112*** −0.0173	−0.163*** −0.0193	−0.155*** −0.0475	−0.112*** −0.0181	−0.173*** −0.0201	−0.158*** −0.0465
Constant	−0.543 −0.834	−2.141*** −0.339		−3.409*** −1.158	−3.114*** −0.547	
Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Observations	133	126	126	133	126	126
Economies	7	7	7	7	7	7
Chi^2/R^2_adj	196.8	0.411	475.9	277.3	0.422	489.5
A/B order 1	…	…	−1.6445*	…	…	−1.6611*
A/B order 2	…	…	0.56621	…	…	0.68116

Dependent variable: primary fiscal surplus

A/B order 1 and 2 Arellano–Bond test for first- and second-order autocorrelation; *CPI* consumer price index; *FGLS* feasible generalized least squares estimation; *HP* Hodrick–Prescott; *OLS* fixed effects ordinary least squares estimation; *SGMM* system generalized method of moments Blundell–Bond linear dynamic estimation Standard errors are in parentheses. Significance levels: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

… not available; ( ) not included

Notes

- The regressions are fitted to a balanced panel of seven countries (People's Republic of China, Republic of Korea, India, Indonesia, Malaysia, Philippines, and Thailand) with data from 1990 to 2010
- FGLS assuming country-specific heteroscedasticity and AR(1) autocorrelated errors
- OLS assuming first-order autoregressive errors (AR1)
- SGMM (Arellano and Bond 1991; Blundell and Bond 1998)
- All variables are expressed as ratio of GDP
- Lagged debt: MA2 debt stock lagged one year. Lagged debt^2 is squared lagged debt and lagged debt^3 is cubic lagged debt
- Real GDP: HP-trend deviation of real GDP
- Real expenditures: HP-trend deviation of real government expenditure
- Controls: World oil price indicator, non-food commodity price indicator (deviations from HP-trend), and CPI inflation (two-year moving average). Coefficients not reported
- Dummies: Country and year dichotomous variables included in regression (coefficients not reported)
- Chi^2/adjusted R^2: Overall fit statistics; Chi^2 for FGLS maximum likelihood regressions, and adjusted R^2 for OLS regressions
- A/B Orders 1 and 2 indicated are the z-statistic and the corresponding probability (Prob > z)

Source Authors' estimates

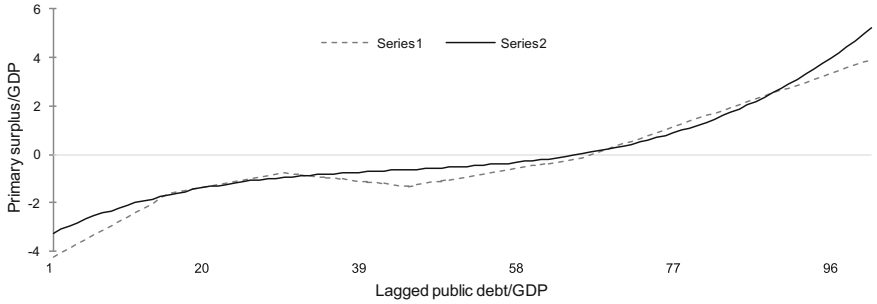

Fig. 9.4 Spline and cubic fiscal reaction functions. *GDP* gross domestic product. *Source* Authors' estimates

To allow for the possibility that the fiscal reaction function might be nonlinear in shape, columns 4–6 in Table 9.2 report the estimation results of cubic models.[12] FGLS, OLS, and SGMM estimates again are highly consistent in confirming the existence of nonlinearities in the response function, which causes the intensity of fiscal policy adjustments to vary with the level of debt a country faces. To illustrate this relationship, Fig. 9.4 displays the cubic fiscal reaction function estimated by FGLS in column 4, which is shown as a black line relating the primary surplus ratio to the lagged public debt ratio.[13] In contrast to a linear function, the intensity of fiscal adjustments along the cubic function is shown to first decrease until the debt ratio reaches about 45 %, and to then accelerate as the debt ratio approaches higher levels. Put differently, the evidence is that countries facing either low or high debt ratios, such as up to 20 % of GDP and from 70 % up, implement the stronger primary fiscal balance adjustments. By contrast, countries with debt ratios in the medium range tend to react less forcefully to changes in public debt. This particular pattern of fiscal reaction in the region is corroborated by splined linear regression analysis, shown in Fig. 9.4 as the dashed line in light gray.[14] Intuitively, this finding is compatible with a segmentation of Asian countries into three groups: those that are highly adverse to anything other than extremely low public debt ratios; others that are compelled to forcefully stem high and rising debt ratios that may risk spiraling out of control; and a third group that lies in between, characterized by a more relaxed fiscal response to changes to debt deemed manageable without strong corrective action.

However that may be, the regression analysis in this section unambiguously corroborates the presence of a profoundly responsible and prudent conduct of fiscal

[12]In the cubic model, Eq. (9.9) in Appendix 9.4 includes on the right-hand side both the quadratic and the cubic forms of lagged average debt stock ratio (b^2_{it-1} and b^3_{it-1}).

[13]The estimated function is strictly monotonic, which implies that the primary surplus continuously increases (and never falls) as the debt ratio grows larger.

[14]The estimation results of spline regression analysis are reported in Appendix 9.3 (Tables 9.8 and 9.9). The estimation technique is described in Appendix 9.4 and essentially consists of dividing the sample into five subsamples ordered according to increasing debt ratios, for which Eq. (9.9) of Appendix 9.4 is then estimated separately.

policy in the region, which tends to keep debt ratios generally low or keeps them from rising uncontrollably at higher levels. On average, countries that see their public debt/GDP ratio increase tend to counteract by increasing primary fiscal surpluses or reducing deficits within the following two years. At the same time, primary balances respond in a systematic way to the business cycle, as proxied by output gaps, and to swings in primary government spending relative to trend.

A value for the response parameter ρ between 0 and 1 implies that the primary surplus increases as the debt ratio rises, which is a sufficient condition for (dynamic) sustainability. Therefore, to the extent that past behavior represents a reliable gauge of future fiscal behavior in Asia, this chapter provides ground for optimism about the most fundamental, long-term outlook of debt sustainability in the region.

However, notwithstanding the role the ρ coefficient plays in determining the prospects for dynamic sustainability, the behavior of debt ratios over short- to medium-term horizons also depends importantly on the behavior of the gap between the interest rate on public debt and the growth rate of the economy. As noted in the next section, when the growth rate is above the interest rate, the short-term debt/GDP ratio can be stabilized even when the primary balance is in deficit. In such circumstances, if the primary balance fails to increase as debt increases—which is sufficient for sustainability for a very long time when the interest rate is above the growth rate—a stable debt/GDP ratio may still be attained in the near term. Over the longer term, however, fiscal sustainability in Asia will depend on the primary balance increasing as the debt ratio rises.

9.4 The Interest Rate–Growth Differential and the Debt Stabilizing Primary Balance

Empirically, the impact of the IRGD on debt sustainability in developing Asia arises most clearly in the context of the debt stabilizing primary balance (DSPB). In terms of the notation introduced in Chap. 2, the DSPB derives from the fundamental identity relating to changes in a country's public debt ratio ($\Delta b_t = b_t - b_{t-1}$) to the IRGD ($\theta_t = r_t - g_t$) and the primary fiscal surplus (ps_t):

$$\begin{aligned} b_t - b_{t-1} &= \frac{r_t}{1+g_t} b_{t-1} - \frac{g_t}{1+g_t} b_{t-1} - ps_t \quad \text{Or} \\ \Delta b_t &= \frac{\theta_t}{1+g_t} b_{t-1} - ps_t, \end{aligned} \tag{9.3}$$

where b_t is the public debt,r_t is the interest rate, g_t is the growth rate of GDP, and θ_t is the IRGD (all at time t).

Against the backdrop of medium-term assumptions about the IRGD (θ_t) and a country's fiscal policy path (ps_t), debt sustainability is judged according to whether this scenario gives rise to a stable or "explosive" or "snow-balling" debt path over

the chosen horizon of analysis. By the same token, the debt stabilizing primary balance (ps^*) is defined as the primary surplus required to keep the debt ratio fixed at its existing level $\left(b^*_{t-1}\right)$, given θ_t:

$$ps^* = \frac{\theta_t}{1+g_t} b^*_{t-1}. \tag{9.4}$$

The debt stabilizing primary balance (ps^*) is thus an essential element to inform both DSA and budget plans on to the upper limit to which average primary balances may expand without causing the public debt ratio to rise.

The DSPB approach relates to the short to medium term with regard to fiscal policy and thus abstracts from the asymptotic notion of debt sustainability as embodied in the government budget constraint condition, discussed in Chap. 2. Instead, the DSPB approach is firmly anchored in the practical notion that a country's fiscal policy risks spinning out of control eventually, unless it stabilizes the debt ratio over the medium term.

The basic intuition behind DSPB is illustrated in Fig. 9.5, in relation to the same sample of 24 Asian countries discussed in the first section of this chapter.[15] The horizontal axis measures countries' actual average primary balance during 2008–10. The vertical axis indicates the debt stabilizing primary surplus that is compatible with countries' nominal GDP growth and interest rates, which are also kept at 2008–10 average levels.[16] The line intersecting the chart is the locus of actual primary balances equaling the DSPB. Markers above the line denote situations in which the DSPB is higher than the actual primary surplus. Economies in this position will experience upward pressure on their debt ratio. Conversely, markers below the line correspond to economies with actual primary surplus above the level necessary to stabilize the debt ratio, causing their debt ratios to decline.

Figure 9.5 suggests that the fiscal stance of the majority of Asian countries is sustainable. More precisely, it shows that if countries' growth and interest rates remained unchanged at 2008–10 averages, the debt ratios of all the economies scattered below the intersecting line would be expected to decline. This would include economies running large (actual) primary deficits, where the debt-increasing effect of the deficits would be more than outweighed by a large IRGD.[17] This illustrates the

[15]As noted in the first section of this chapter, the advantage of this sample of countries is the availability of a consistent set of comparable macroeconomic and fiscal data.

[16]In Fig. 9.5, the DSPB is computed so as to stabilize the public debt ratio at its 2010 level. More generally, the assumptions underlying the DSPB in Fig. 9.5 are made to roughly assess the sustainability of fiscal policy in the region during, for example, 2011–13, if countries' growth, interest rates, and fiscal policy turn out to be similar to the levels observed during 2008–10. Arguably, the volatile macroeconomic environment and quick reversal of the fiscal stance since the GFC provide a plausible scenario, which well reflects the fundamental uncertainty underlying macroeconomic forecasts for the next few years.

[17]As previously mentioned, the prevalence of large average primary deficits during 2008–10 mostly reflects the strong fiscal stimulus packages enacted in response to the GFC.

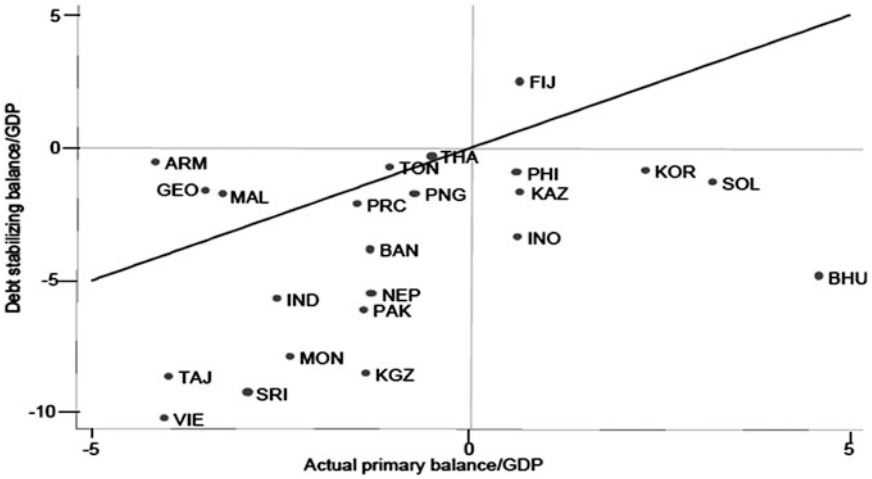

Fig. 9.5 Actual and debt stabilizing primary balance (2009–10 average growth and interest rates). *ARM* Armenia; *BAN* Bangladesh; *BHU* Bhutan; *FIJ* Republic of Fiji; *GDP* gross domestic product; *GEO* Georgia; *IND* India; *INO* Indonesia; *KAZ* Kazakhstan; *KGZ* Kyrgyz Republic; *KOR* Republic of Korea; *MON* Mongolia; *MAL* Malaysia; *NEP* Nepal; *PAK* Pakistan; *PHI* Philippines; *PNG* Papua New Guinea; *PRC* People's Republic of China; *SOL* Solomon Islands; *SRI* Sri Lanka; *TAJ* Tajikistan; *THA* Thailand; *TON* Tonga; and *VIE* Viet Nam. *Note* Assumed GDP nominal growth rates, interest rates, public debt, and primary balance ratios at 2008–10 average. *Source* Authors' estimates

possibility (mentioned in the previous section) for debt ratios to decline despite sizeable primary deficits, as long as the debt dynamics are dominated by a high-growth and low-interest environment. At least in the short term, then, debt in many of the region's economies would be deemed sustainable regardless of whether they exercise fiscal prudence. However, this does not hold true for countries above the intersecting line in Fig. 9.5. For those economies, the IRGD is not adequate to more than outweigh the fiscal stance, and thus, they are expected to experience upward pressure on their debt ratios. This is the case for Armenia, Fiji, Georgia, and Malaysia and, to a lesser degree, for Thailand and Tonga, which scatter more closely about the line.

Figure 9.6 confirms that the widespread fiscal comfort in the region derives mostly from an abundantly favorable IRGD, which in 2008–10 was negative for all but one country and exceeded −10 % for about half the countries in the sample. The role of this IRGD in driving debt dynamics arises most clearly from Eq. (9.3): When it is negative ($\theta_t < 0$), economic growth erodes the debt ratio more quickly than it is built up through accumulating interest. Moreover, a sufficiently large IRGD erodes the debt ratio by enough to more than offset debt accumulation through fiscal deficits altogether, causing debt ratios to fall, as is the case for the majority of economies in Fig. 9.5.[18]

[18]Further, when $\theta_t < 0$, the debt ratio converges to zero asymptotically and debt sustainability no longer requires a government to abide by the transversality condition and the government budget constraint. Essentially, in the "court of debt sustainability," a country can "get away with

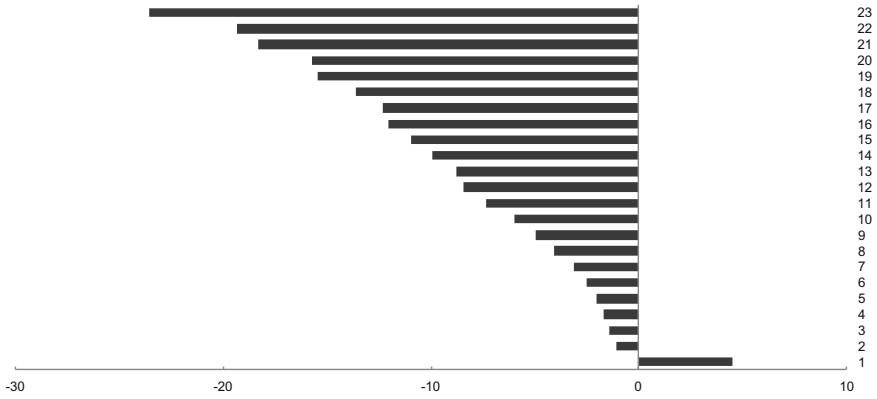

Fig. 9.6 Interest rate–growth differential (average % 2008–10). *Source* Authors' estimates

One example is Viet Nam, whose 4.1 % average primary deficit during 2008–10 fell considerably below the 10.2 % primary deficit it could run and still have its debt ratio stabilized as a result of the large negative IRGD.

By contrast, a positive IRGD $(\theta_t > 0)$ pushes up the debt ratio, because economic growth is insufficient to counter cumulating interests. Such a case is Fiji during 2008–10, when its economic growth rate slowed to average of 1.8 % while it was facing an effective interest rate of 6.3 % on its public debt outstanding. This explains why Fiji is not within the sustainable zone of Fig. 9.5, despite its average primary surpluses of about 0.7 % in the 3 years prior to 2010.

Adjustments are also required by countries with negative but narrow IRGDs, if they are insufficient to counter sizeable primary deficits. Armenia, for example, would have to narrow its primary deficit from an actual −4.2 % in 2008–10 to at least −0.6 % for its debt ratio to stabilize. Figure 9.5 suggests that similar adjustments would be necessary in Georgia, Fiji, and Malaysia and, to a lesser extent, in Tonga and Thailand.

Although a large negative IRGD favors debt dynamics in the medium term, it usually comes with its own hazards and is bound to narrow and eventually vanish in the longer term.[19] Periods of large negative IRGDs are typically associated with the development of macroeconomic imbalances in the relevant economies, such as large current account deficits, which frequently lead to the rapid expansion of credit; heightened vulnerability to growth fluctuations; or endogenous reactions by

(Footnote 18 continued)

murder" as long as $\theta_t < 0$, in that it may run sizeable fiscal deficits up to any point in time and yet have its debt ratio decline to zero eventually. (For a more comprehensive discussion on the implications of a negative IRGD, see Escolano 2010.)

[19]In addition, in the presence of negative real interest rates, the actual interest rates in the region may not reflect the true shadow price of debt, thus involving substantial economic costs and distortions, which themselves pose a significant risk to fiscal sustainability and macroeconomic stability more broadly (Adams et al. 2010).

the interest rate to rising default risk, whether actual or perceived. Some economies in the region showed many of these features when the AFC hit in 1998/99. More recent examples are Greece, Ireland, and Spain in 2010/11, when a sudden drop in market confidence caused government bond yields to spike against the backdrop of a sharp slowdown in economic growth. As a result, the IRGD in these countries turned positive after having been negative for the most part since the creation of the euro in 1999, and governments were forced to enact stringent austerity measures and deeply revise fiscal and primary balance targets previously deemed sustainable (Escolano 2010). Except for Greece, perhaps, none of these countries would have appeared to be at particular risk according to the debt indicators informing DSA, but their external imbalances during the run up to the crisis in the 2000s would have indicated risks of imbalance and possible distress in future.

In addition, there are structural reasons for the IRGD to narrow and eventually turn positive as countries reach a certain level of development. Upon reaching a certain level of GDP per capita, the rate of economic expansion slows and domestic interest rates tend to rise as financial repression loosens and financial sectors deepen (Escolano 2010; Eichengreen et al. 2011; IMF 2011a). Eventually, dynamic steady-state growth conditions of mature economies will require the IRGD to be positive.[20]

For these reasons, Asian economies will not be able to avoid a structural narrowing of the IRGD over time and, eventually, a sign reversal, upon reaching a certain level of development. In the meantime, these economies will be exposed to an array of temporary shocks to their growth rate, interest rate, or both, which may at any time jeopardize debt dynamics previously deemed sustainable.

To assess the region's vulnerability to temporary shocks to the IRGD, Fig. 9.7 recomputes debt stabilizing primary balances so as to account for a shock of one standard deviation narrowing economies' IRGDs for the period 2000–10. As a result, the DSPB shifts upward in Fig. 9.7 (compared to Fig. 9.5) for all economies by a distance proportional to one standard deviation of their historical IRGDs. To keep the debt ratio stable under this scenario, fiscal policy would have to make up for a less favorable growth performance, higher interest rates, or both. Borderline cases, such as the PRC, India, and Papua New Guinea, would first shift outside the sustainability zone because of a narrowing IRGD, and their return to it would require a sufficiently large adjustment to the actual primary balance, implying a movement to the right as in Fig. 9.7. Other economies, including that of Viet Nam, would still see their debt ratios decreasing under the given assumptions, although their fiscal space would be compressed substantially as a result.

[20]Akin to the "modified golden rule" in Blanchard and Fischer (1989), efficiency conditions associated with long-term economic growth and the intertemporal allocation of consumption by welfare-maximizing private agents require $\theta_t < 0$ to hold for any economy close to its steady state. Otherwise, welfare-maximizing agents would have an incentive to borrow at low interest rates and raise present consumption, and roll over their debts indefinitely (up until $\theta_t < 0$) in view of a declining ratio of debt to income (see Blanchard and Fischer 1989; Escolano 2010).

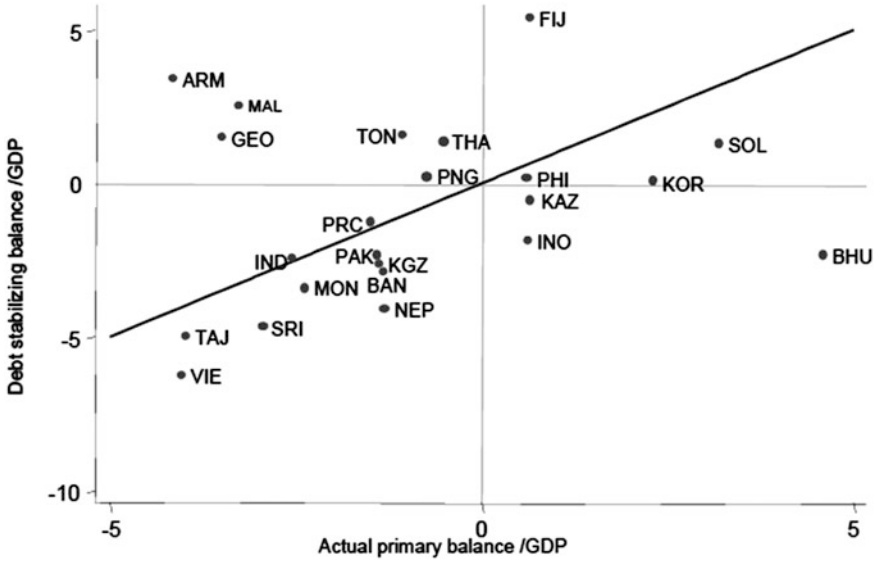

Fig. 9.7 Actual and debt stabilizing primary balance with one standard deviation shock on the interest rate–growth differential (shock on the interest rate–growth differential). *ARM* Armenia; *BAN* Bangladesh; *BHU* Bhutan; *FIJ* Republic of Fiji; *GDP* gross domestic product; *GEO* Georgia; *IND* India; *INO* Indonesia; *KAZ* Kazakhstan; *KGZ* Kyrgyz Republic; *KOR* Republic of Korea; *MON* Mongolia; *MAL* Malaysia; *NEP* Nepal; *PAK* Pakistan; *PHI* Philippines; *PNG* Papua New Guinea; *PRC* People's Republic of China; *SOL* Solomon Islands; *SRI* Sri Lanka; *TAJ* Tajikistan; *THA* Thailand; *TON* Tonga; and *VIE* Viet Nam. *Note* Assumed GDP growth rates and interest rates at 2008–10 average augmented by one standard deviation of the interest rate–growth differential over the period. Debt and primary balance at 2008–10 average. *Source* Authors' estimates

The effects of a more drastic scenario are shown in Fig. 9.8, which envisages a sign reversal in Asian economies with negative IRGDs, so as to bring it to positive 1 % for all of them.[21] In such an event—all else being equal—most economies would shift up and out of the sustainability zone as in Fig. 9.8, their return to sustainability requiring sufficiently sharp fiscal adjustments to cause a wide shift to the right on the graph.[22] Fiscal surpluses across the region would reflect the new reality of positive IRGDs, with the effect that repeated fiscal slippages would inevitably lead to snowballing debt ratios and the possibility of distress in future.[23]

[21]This roughly reflects the average θ for advanced economies of the G20 and represents a typical scenario assumption for this type of exercise (IMF 2011a: 52).

[22]Due to the need for different scales on the vertical and horizontal axes of Fig. 9.8, its separating line is drawn more steeply than the same line in Figs. 9.5 and 9.7. The interpretation of the line remains the same.

[23]The only exception among the 24 countries is Fiji, which would benefit from this scenario because it involves a positive IRGD that is narrower than what it has actually been facing.

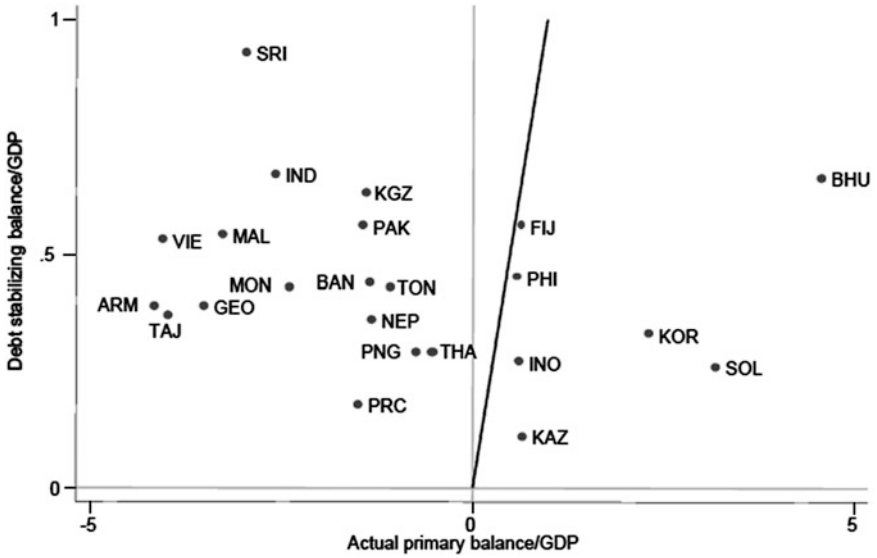

Fig. 9.8 Actual and debt stabilizing primary balance with a positive 1 % deviation on the interest rate–growth differential. *ARM* Armenia; *BAN* Bangladesh; *BHU* Bhutan; *FIJ* Republic of Fiji; *GDP* gross domestic product; *GEO* Georgia; *IND* India; *INO* Indonesia; *KAZ* Kazakhstan; *KGZ* Kyrgyz Republic; *KOR* Republic of Korea; *MON* Mongolia; *MAL* Malaysia; *NEP* Nepal; *PAK* Pakistan; *PHI* Philippines; *PNG* Papua New Guinea; *PRC* People's Republic of China; *SOL* Solomon Islands; *SRI* Sri Lanka; *TAJ* Tajikistan; *THA* Thailand; *TON* Tonga; and *VIE* Viet Nam. *Notes* Due to the need for different scales on the vertical and horizontal axes of Fig. 9.8, its separating line is drawn more steeply than the same line in Figs. 9.5 and 9.7. The interpretation of the line remains the same. Assumed GDP growth rate at 2000–10 average. Debt and primary balance at 2008–10 average. Interest rate now assumed at 1 % above 2000–10 growth rate. *Source* Authors' estimates

In such a scenario, fiscal responsibility would play a key role in assuring Asia's continued debt sustainability. Of course, nothing in such a scenario could ensure that the same incentives inducing fiscal responsibility would prevail in an Asia that is likely to find itself economically and socially transformed.

In sum, the DSPB approach suggests that most economies in the region currently fall well within the comfort zone of fiscal sustainability, which is in line with the findings of earlier studies (Horne 1991; IMF 2003; Mendoza and Ostry 2007; Adams et al. 2010). The analysis in this section also shows that the prevalence of large negative IRGDs throughout the region has been responsible for highly favorable debt dynamics, which overshadows the dampening effects of Asia's prudent fiscal policy on its debt ratios. However encouraging, these findings should not be seen as grounds for complacency. Economic circumstances, such as the interest rate on public debt being below the growth rate of the economy, are unlikely to hold indefinitely and are subject to sudden temporary reversals. For these reasons, robust debt stabilizing fiscal policies in the region would have to aim at a stable debt ratio also if the interest rate should rise above the growth rate.

9.5 Debt Sustainability Analysis Based on Macroeconomic Forecasts

Standard DSA projects the debt ratio based on the latest macroeconomic forecasts and fiscal policy assumptions, typically over a medium-term horizon.[24] Against the assumptions that concern the domestic and global macroeconomic environments, which are exogenous to the analysis itself, DSA assesses whether the projected path of fiscal policy (the baseline) is compatible with a sustainable—that is, stable—debt ratio over a horizon of usually about five years.[25] To account for uncertainty in the forecast parameters, DSA involves a number of stress tests. Leaving other variables unchanged, such tests involve raising the interest rate, the growth rate, or both by one standard deviation above the historical level observed for a particular country, to assess whether this would significantly alter the debt trajectory and the conclusions about the stability of the ratio.[26]

The debt accounting mechanism underlying IMF style DSA relies on an equation that relates changes in the public debt/GDP ratio $(b_{t+1} - b_t)$ to changes in the real interest rate (r_t), the real growth rate of GDP (g_t), the rate of inflation (π_t), the share of debt denominated in foreign currency α_t, and the exchange rate (ϵ_t, expressed as local currency units per United States [US] dollar)[27]:

[24]DSA is routinely implemented by ADB, the IMF, the World Bank, and other organizations in the context of country economic and financial reports, lending operations, and country assistance programs. The IMF has been leading the conceptualization and implementation of DSA for both market-access and poorer countries. It publishes debt sustainability assessments for its member countries, typically in the context of annual Article IV country consultations or IMF program reports.

[25]This applies to countries with access to the international financial markets. A slightly different analysis is applied for low-income countries, which are mainly recipients of concessional loans, characterized by long grace periods and a high grant element. To reflect these features of public debt, DSA for poorer countries is conducted on the basis of net present value of debt over longer horizons of up to 20–30 years. See IMF and IDA (2010) for guidelines of their joint Debt Sustainability Framework for Low-Income Countries.

[26]See IMF (2008) for an outline of the stress tests typically conducted in relation to market-access countries.

[27]Equations (9.3) and (9.5) express the same accounting identity (apart from Z_t), showing the evolution of the debt ratio to depend on the real interest rate, the real growth rate, and the primary fiscal balance. Equation (9.3) subsumes inflation into the nominal growth rate and the interest rate, whereby the latter reflects the local currency equivalent of effective interest paid on both domestic and foreign currency denominated debt. Equation (9.5) more explicitly accounts for these individual factors, although a clean separation is not possible. For example, the denominator $(1 + g_t + \pi_t + g_t\pi_t)$ of the first three items of the right-hand side of Eq. (9.5) is a decomposition of the nominal growth rate in its real and nominal components, and the numerators of the first and third items include variables other than the interest rate and the exchange rate, respectively.

$$\underset{\text{change in debt due to:}}{b_t - b_{t-1} =} \quad \underset{\text{(real interest rate)}}{\frac{r_t - \pi_t(1+g_t)}{(1+g_t+\pi_t+g_t\pi_t)} b_{t-1}} \quad \underset{\text{(real growth rate)}}{- \frac{g_t}{(1+g_t+\pi_t+g_t\pi_t)} b_{t-1}} \quad \underset{\text{(exchange rate)}}{+ \frac{e_t \alpha_t (1+r_t)}{(1+g_t+\pi_t+g_t\pi_t)} b_{t-1}} \quad \underset{\text{(primary surplus)}}{-ps_t} \quad \underset{\text{(other factors)}}{+Z_t} \tag{9.5}$$

Other factors with a bearing on the debt ratio but not pertaining to the debt flow dynamics as such are subsumed in vector Z_t. Included are mainly off-budget (also labeled "hidden" or "below-the-line") operations, such as debt repayments out of financial assets, debt relief operations, implicit liabilities that were previously unbudgeted, or the realization of contingent liabilities adding to a country's debt stock (e.g., a government's bail out of the domestic financial sector). For developing countries in particular, hidden liabilities tend to affect the evolution of the debt ratio heavily and unpredictably.[28]

To provide an overview of IMF-type DSA projection for developing Asia, Eq. (9.5) is applied to the sample of 24 Asian economies. Average debt ratio projections are summarized in Fig. 9.9, for the five subregions and an additional aggregate of seven Asian economies: the PRC, India, Indonesia, the Republic of Korea, Malaysia, the Philippines, and Thailand.[29]

Figure 9.9 shows the evolution of the subregional average debt ratios over historical (2000–10) and projected (2011–16) time periods. Projections are based on the latest ADB and IMF country forecasts of primary fiscal deficits and the rates of economic growth, interest, and inflation, as well as of exchange rates to the US dollar.[30] Appendix 9.5 lists the average forecast assumptions underlying the 2011–16 baseline projection, as well as historical averages for 2000–10. With few exceptions, the macroeconomic forecast assumptions are roughly in line with 2000–10 historical averages. The outlook for economic growth in the region is thus strongly positive, combined with the expectation of continuing negative real interest rates and moderate inflation pressures in most of the subregions. The assumptions for fiscal policy in the region are somewhat less sanguine, with primary deficits expected to widen slightly in all the subregions except East Asia, which is expected to return to a sizeable surplus during 2011–16.

[28]Unfortunately, the higher the stock-flow reconciliations are through Z_t, the lower the usefulness of DSA is as an ex-post accounting tool of the changes in the debt stock by means of flow accounting alone.

[29]The aggregate of seven Asian economies was introduced in relation to the regression analysis in the first section of this chapter. The aggregate is included because it represents a largely representative sample of core Asian countries from the East, South, and Southeast Asian subregions, for which a consistent set of data is available.

[30]The forecasts are as of September 30, 2011. ADB macroeconomic forecasts are drawn from the *Asian Development Outlook 2011 Update* (ADB 2011b). ADB forecasts are integrated with IMF forecasts, as reflected in the *World Economic Outlook September 2011* (IMF 2011c) and in IMF country documents. The data sources underlying Fig. 9.8 are described in Appendix 9.2 (Table 9.5). For a detailed discussion of country-specific DSAs, rather than subregional aggregates, see the next section in this chapter.

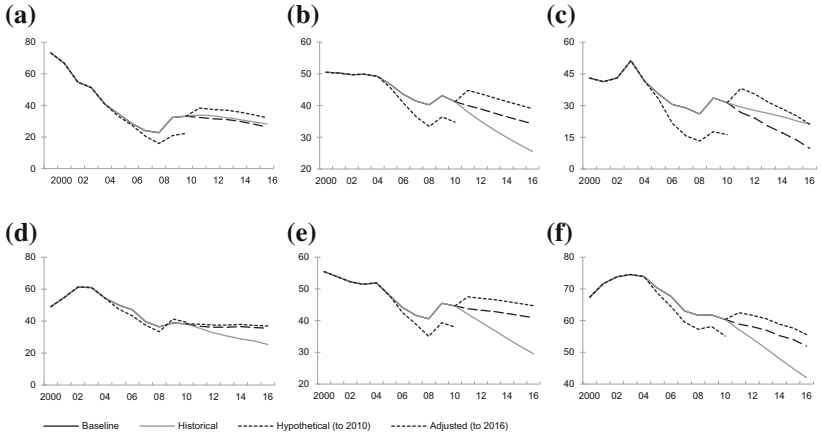

Fig. 9.9 Public debt scenarios by subregion (% of GDP). **a** Asia7, **b** Central Asia, **c** East Asia, **d** Pacific, **e** South Asia, **f** Southeast Asia. *GDP* gross domestic product; *Asia7* China, People's Rep. of; India; Indonesia; Malaysia; Philippines; Korea, Republic of; and Thailand. *Source* Authors' estimates

Based on these assumptions, baseline debt ratio projections are derived and are shown as dashed lines in Fig. 9.9. Baseline projections show a declining debt ratio for each subregion, which supports the view that, by and large, public debt is on a firm path of continued consolidation across developing Asia. Notwithstanding the GFC and the region's fiscal response to it, public debt sustainability would not appear to be at risk against the prospects of the region's macroeconomic and fiscal performance during the 5-year horizon, 2011–16. Clearly, average subregional baseline projections do not necessarily reflect how individual economies will fare, and they do not preclude that debt sustainability may very well be at risk in some instances. Moreover, as baselines are premised on the persistence of substantial negative IRGDs, this raises caveats similar to those mentioned in relation to the foregoing DSPB analysis, because nothing in the underlying DSA assumptions would rule out the possibility of a sudden, unexpected narrowing or even reversal of the IRGDs. However, these caveats do not invalidate the main thrust of the DSA analysis illustrated in Fig. 9.8, which yields an overly benign outlook about the medium-term fiscal dynamics in the region.

Figure 9.10 reveals the main drivers of the debt ratio in each subregion during 2000–10. The effects on the debt ratio of the primary balance, the real interest rate, the growth rate of real GDP, and the exchange rate are displayed. The percentage change in the debt ratio accounted for by each of these items is measured on the right-hand-side axis by the vertical distance from the zero line of the corresponding marker. Drop lines below (above) the zero line correspond to effects that lower (increase) the debt ratio. The debt/GDP ratio is shown as a line on the graphs, measured on the right-hand-side axis. By and large, the evidence emerging from Fig. 9.10 is that each subregion's favorable debt dynamics are strongly centered on

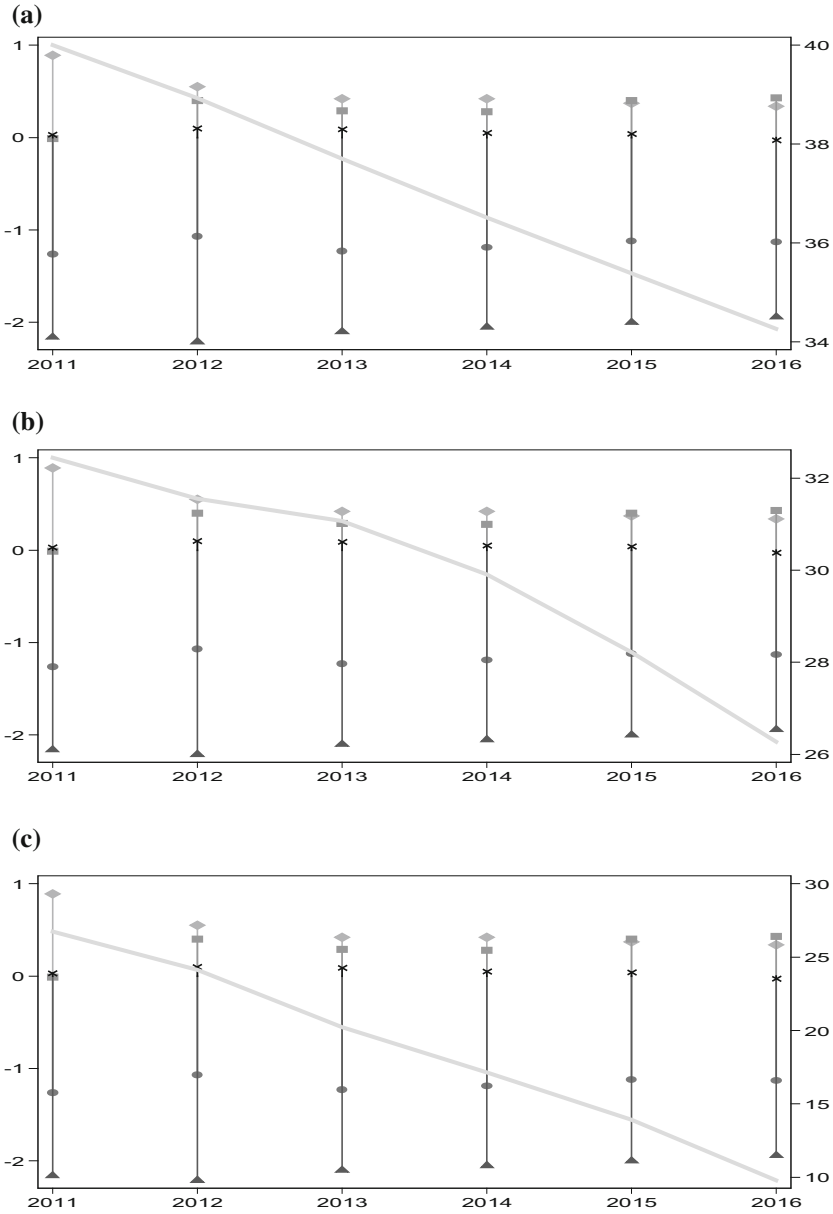

Fig. 9.10 Contributions to change in public debt in developing Asia. **a** Asia7, **b** Central Asia, **c** East Asia, **d** Pacific, **e** South Asia, **f** Southeast Asia. *GDP* gross domestic product, *Asia7* China, People's Rep. of; India; Indonesia; Malaysia; Philippines; Korea, Republic of; and Thailand. *Source* Author's estimates

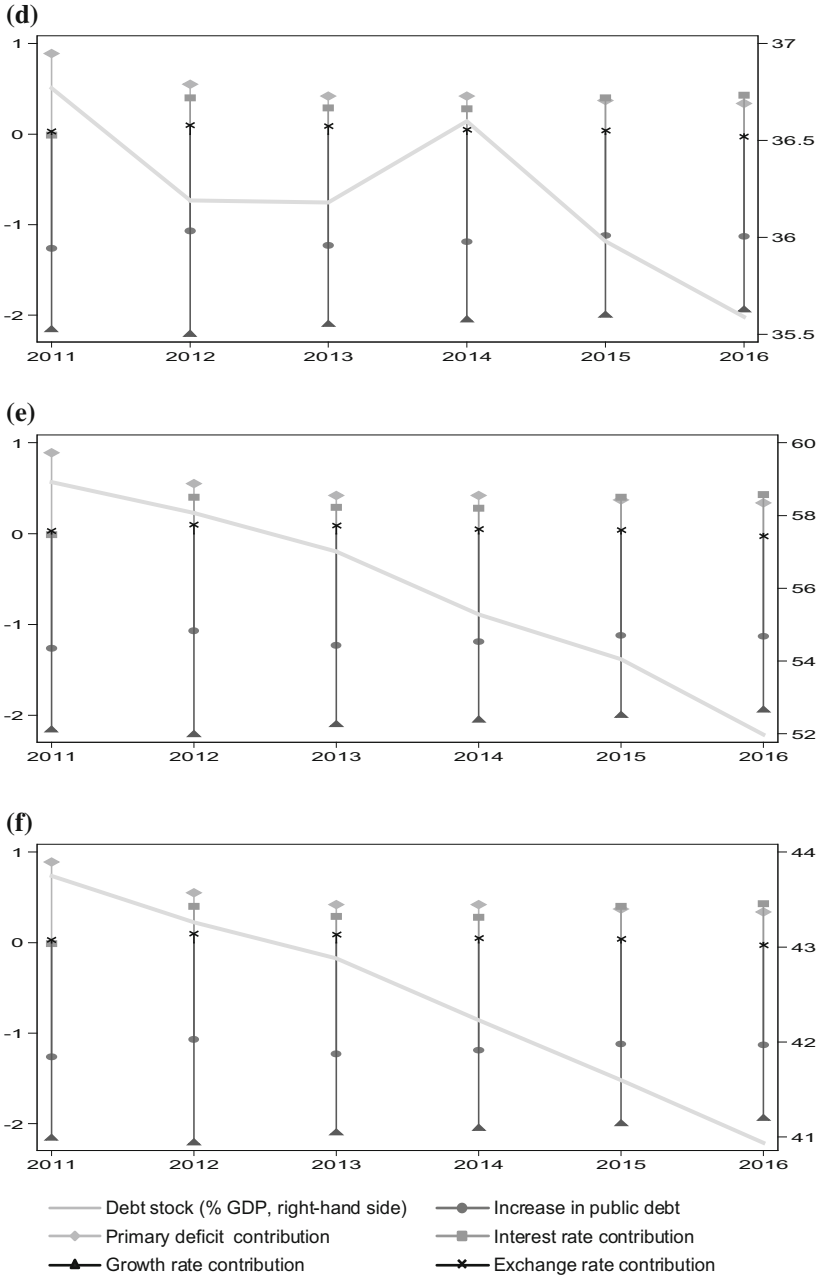

Fig. 9.10 (continued)

the assumption of low real interest and high growth rates, which erode debt ratios and more than outweigh the increase in debt from the accumulation of primary deficits and adverse exchange rate developments. Exceptions to this pattern are the aggregate of seven economies (Fig. 9.10a), where positive average real interest rates are expected to push up the debt ratio, and the East Asia subregion (Fig. 9.10c), where fiscal surpluses are assumed to lower the debt ratio during the projection period.

DSA projections are often accused of erring on the side of optimism regarding the underlying macroeconomic forecast assumptions.[31] To check the realism of the baseline projections, Fig. 9.9 includes a historical scenario (shown as a light gray line) that projects debt ratios with key variables kept at their 2000–10 historical averages, instead of reflecting the baseline assumptions. A visual comparison between the historical scenario and the baseline indeed suggests that the macroeconomic and fiscal forecasts for East Asian economies on average are more optimistic than what historical records would merit. The opposite appears to be the case for the other subregions and for Central Asia the two scenarios mostly overlap. By and large, the optimistic outlook for debt sustainability in developing Asia is not premised on overly optimistic assumptions when measured against the region's historical record of macroeconomic and fiscal performance. Of course, past experience is not necessarily a valid guide for expectations about the future, and the baseline assumptions underlying Fig. 3.9 may well not be substantiated in the future.

DSA analysis only captures changes to the ratio that are accounted for by the debt-creating flows identified in Eq. (9.5) and typically does not account for hidden liabilities or other debt/flow reconciliations that are subsumed in factor Z_t, unless they are explicitly foreseen and accounted for. The greater these factors' influences on the debt ratio, the less will be the DSA's capacity to correctly project the debt ratio, even if the DSA's other underlying assumptions are accurate. To take this into account, the DSA in Fig. 9.9 first computes the hypothetical evolution of the debt ratio during 2004 and 2010, according to the observed primary deficits, interest rate, inflation rate, growth rate, and exchange rate records. In any given years from 2004 to 2010, the vertical distance between the hypothetical debt ratio (shown as a dotted line) and the actual debt ratio thus provides a measure of the factors left unaccounted for by the DSA.[32] This measure is then added to the baseline from 2011 to 2016, to revise the projection by an amount equal to the average yearly "accounting error" in the previous five years, reversed in sign. In Fig. 9.9, the corrected baseline is displayed as a dotted line between 2010 and 2016. Although the baseline correction serves merely an illustrative purpose, it puts into perspective the size of the average margin of inaccuracy in the baseline projections on account of Z_t.

Apart from changes to the debt ratio on account of factors that are beyond the debt dynamics accounted for by DSA, there is of course the possibility of shocks to

[31] See, for example, IMF (2011a, b: 10–11).

[32] Any discrepancy between the two lines in any given year will accumulate over the years. This explains why, except for the Pacific, the two lines diverge quite strongly at some point, particularly for Central Asia and East Asia. The causes of large discrepancies are manifold and specific to individual countries.

the variables underlying those dynamics. In large part, DSA consists in assessing the likely impact of adverse shocks on the debt path and in judging a country's attainment of debt sustainability after the occurrence of any such shocks. Whereas the standard DSA framework assesses risks around the baseline through deterministic sensitivity analysis involving simple stress tests, a more sophisticated approach involves stochastic simulations that more fully capture the uncertainty surrounding the baseline scenario. These two approaches are discussed in the next section, with application to DSA specifically for selected countries in the region.

9.6 Assessing the Impact of Shocks in the Deterministic and Stochastic Debt Sustainability Analysis Frameworks

In the standard DSA framework, the impact of specific shocks to key variables underlying the debt dynamics is assessed through so-called bound or stress tests. Leaving all the other variables underlying the baseline unchanged, a typical stress test would thus envisage raising by one standard deviation above the historical level a country's interest rate, growth rate, or both, in order to ascertain whether this would significantly alter the debt trajectory and the conclusions on the country's debt. The main advantage of stress tests within standard DSA is that they offer a streamlined approach that has a relatively straightforward interpretation and is largely undemanding regarding the data input for analysis. The main disadvantage is that the approach does not take into account the interaction among economic variables. For example, a shock to the exchange rate is assumed to have no effect on output or the interest rate. Further, the approach is unsuitable to account for the so-called tail risks (risks related to less likely but extreme events), which constitute the main risk factor for debt sustainability.

Recent studies, mostly by IMF staff, have devised stochastic simulation methods to improve estimates of uncertainty about the realization of debt projections within a framework that allows for combined shocks to and feedback among interacting economic variables. Essentially, the stochastic DSA framework consists in a combination of vector auto-regression analysis, to estimate the correlation structure of the key macroeconomic variables with a bearing on public debt dynamics, and Monte Carlo analysis to randomly generate frequency distributions of the debt ratio for each year of a projection. In contrast to the deterministic version of stress testing, which merely effects a shift in the debt ratio as any one variable is shocked, the stochastic DSA yields a fan-chart enclosing a range of possible debt projections associated with narrowing levels of likelihood of occurrence.

This section compares standard deterministic with stochastic DSA based on applications with regard to the eight Asian economies listed in Table 9.3. Economies were chosen in order to represent each Asian subregion, within the given constraints of availability of high-frequency data for stochastic simulation.

Table 9.3 Fiscal characteristics of economies selected for debt sustainability analysis

Condition of primary balance (2011–16)	Share of foreign currency denominated public debt	
	Low	High
In deficit	India	Viet Nam
	Thailand	
Relatively balanced	China, People's Rep. of	Georgia
		Indonesia
In surplus	Korea, Rep. of	Philippines

Source Authors' estimates

This excludes from analysis the countries of the Pacific region. Within the remaining groups, the selected economies reflect different characteristics regarding their fiscal stance and the incidence of foreign currency denominated debt, in order to illustrate a broad range of sensitivities to the scenarios of fiscal and exchange rate shocks in the analysis that follows.

9.6.1 Standard Debt Sustainability Analysis Stress Tests

Figure 9.11 shows standard DSA debt ratio projections for each economy in Table 9.3 during 2011–16. Baseline projections reflect the same ADB and IMF macroeconomic country forecasts and fiscal policy assumptions underlying the analysis in the foregoing section and, as before, the historical scenario holds the key macroeconomic variables at their historical 10-year averages when projecting the debt ratio. A largely benign picture of debt sustainability in the eight economies emerges from the baseline and historical scenarios, much in line with the discussion of sub-regional trends in the previous section. Indeed, the baseline debt ratio is expected to decline in all economies but Thailand, where it is projected to increase slightly during the 5-year horizon. With respect to the determinants of the projected debt paths, Fig. 9.12 reveals that Thailand's debt ratio is mainly under pressure from the persistence of relatively high primary deficits. From 2013 onward, Thailand's deficits are expected to more than outweigh the debt erosion from a favorable real IRGD. But in the other economies, highly negative IRGDs dominate the debt dynamics, causing debt ratios to decline throughout 2011–16.[33] For India and Viet Nam, in particular, favorable interest and growth rates will be a key to keep debt ratios from rising against the backdrop of persistently high primary deficits.

Stress tests in Fig. 9.11 reflect the outcome of one standard deviation increase of the nominal interest rate or rate of inflation above baseline assumptions. Also

[33]The only exception is Georgia, for which projections show a slight increase in the debt ratio in 2012 and a decline thereafter.

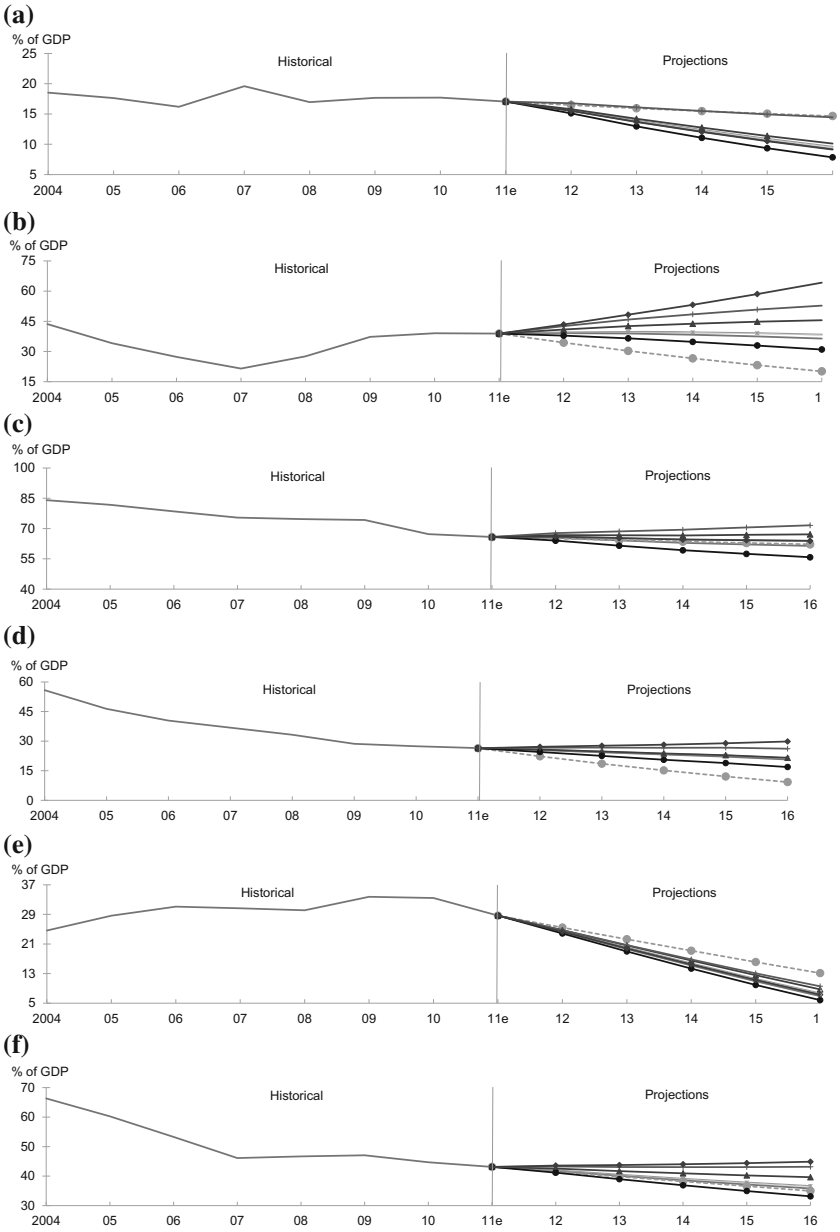

Fig. 9.11 Deterministic approach to debt sustainability analysis. **a** China, People's Rep. of, **b** Georgia, **c** India, **d** Indonesia, **e** Korea, Rep. of, **f** Philippines, **g** Thailand, **h** Viet Nam. *e* estimate, *GDP* gross domestic product, *NEFD* nominal exchange rate depreciation. *Sources* Asian Development Outlook database; International Monetary Fund. World Economic Outlook database, Article IV Debt Sustainability Assessments and Fiscal Monitor, various years

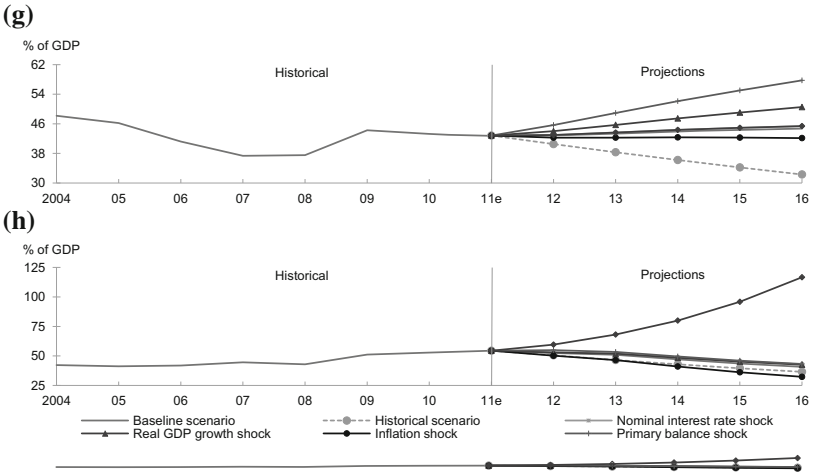

Fig. 9.11 (continued)

shown are stress scenarios in relation to a negative one standard deviation shock to the rate of real economic growth or the primary surplus. Finally, a foreign exchange rate shock envisages a 20 % nominal depreciation of the domestic currency against the US dollar. Each shock is introduced individually to the DSAs in Fig. 9.11, which is, affecting one variable at a time while the other variables remain unchanged with respect to the baseline assumptions.

By and large, the evidence from the stress tests is that shocks to output or the nominal interest rate do not alter debt paths significantly in most of the economies. Debt ratios are shifted up slightly as a result of narrowing IRGDs as a result of these shocks, but are not large enough to seriously interfere with the downward sloping trend.[34] Exceptions are Georgia and Thailand, where debt ratios increase significantly in reaction to a negative output shock.

An increase in inflation generally drives debt ratios down (Fig. 9.11), as it reduces the nominal value of outstanding debt. Debt ratio projections appear to be most sensitive to a one standard deviation increase in primary deficits. In such a scenario, the debt ratio increases drastically, particularly in countries with relatively higher deficits: Georgia, India, and Thailand. Finally, the effect of 20 % (permanent) exchange rate depreciation severely jeopardizes public debt sustainability in countries holding high shares of foreign currency denominated debt, such as Georgia and Viet Nam.

In sum, standard stress tests identify some of these economy's vulnerabilities and provide some measures of the direct impact on the debt ratio of some shocks, both of which are useful for DSA and for fiscal planning. However, this framework

[34]The size of the shock is country-specific, depending on the standard deviation of the country's interest and growth rate during 2001–10.

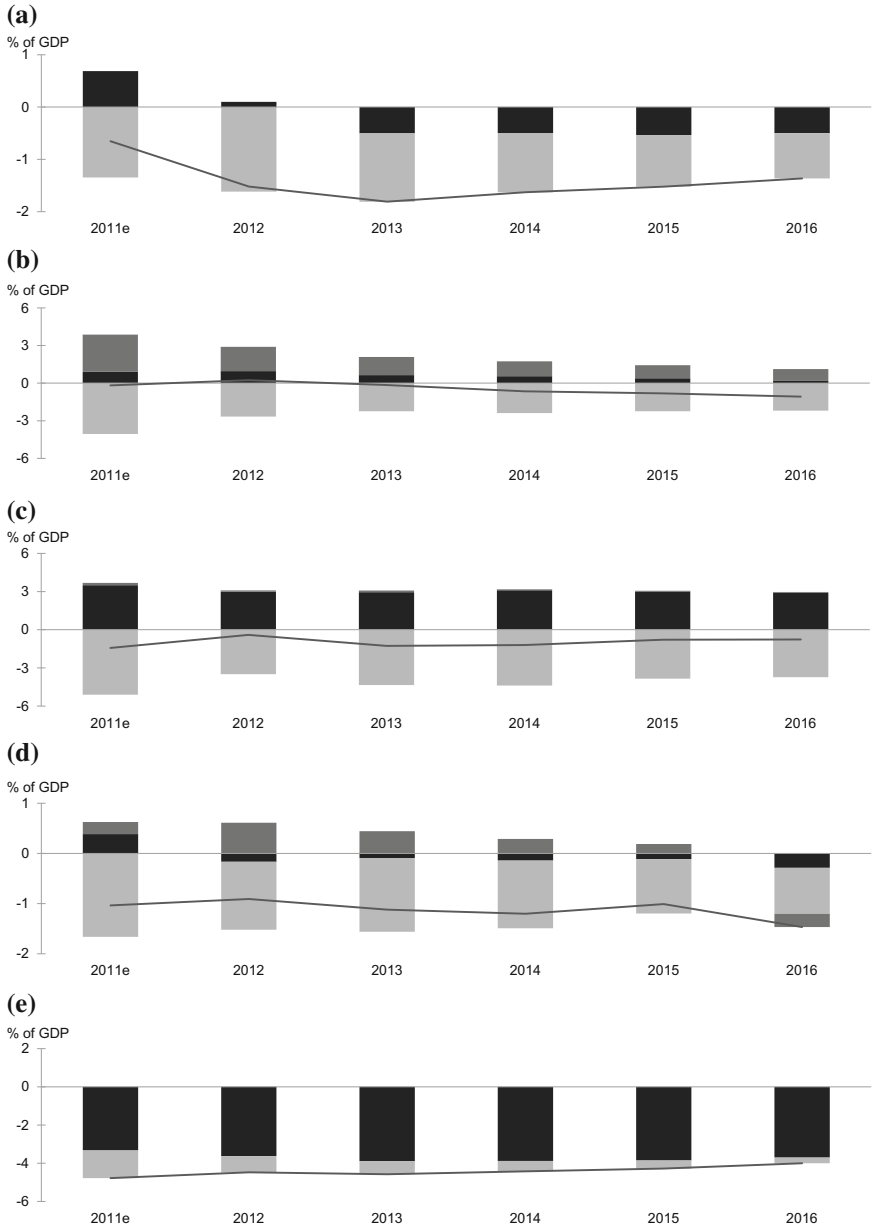

Fig. 9.12 Annual changes in the central government debt ratios, 2011–16. **a** China, People's Republic of, **b** Georgia, **c** India, **d** Indonesia, **e** Korea, Republic of, **f** Philippines, **g** Thailand, **h** Viet Nam. *e* estimate, *GDP* gross domestic product. *Note* Effect of interest rate–growth differential is computed as the difference between the effects of real interest rate and real GDP growth. *Source* Authors' estimates

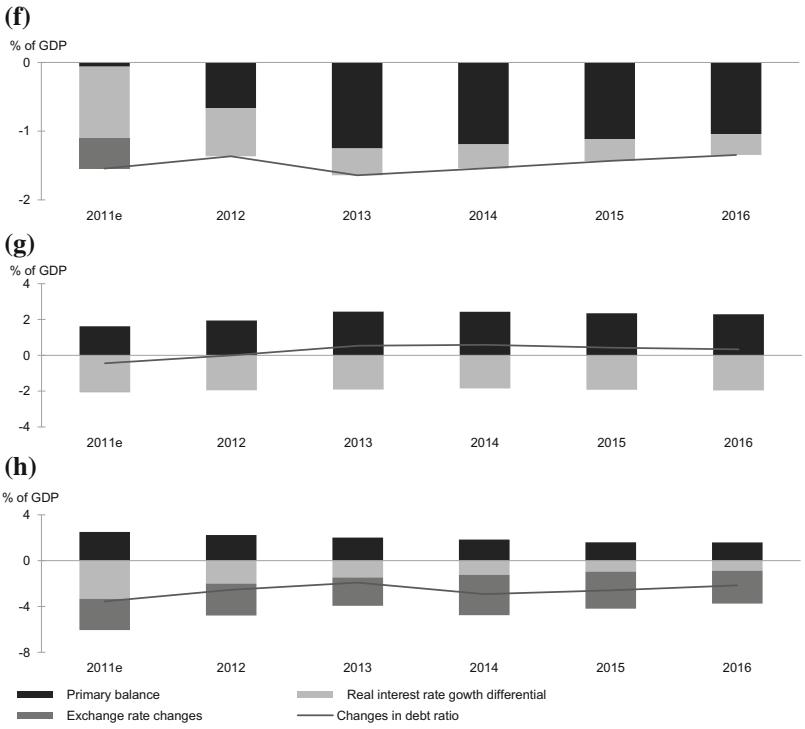

Fig. 9.12 (continued)

is largely unsuitable for assessing the fuller impact of shocks on the debt path through economy-wide effects. For example, a shock increasing the interest rate paid on public debt will affect the debt ratio directly by increasing the fiscal expense for the interest bill and indirectly by inducing a real exchange rate appreciation, deflationary pressures, or slowing growth. The net impact on the debt ratio of the initial shock will depend on a country's specific economic environment and the elasticities involved, but it is likely to diverge strongly from the direct impact on the interest bill alone.

9.6.1.1 Stochastic Simulations

The shortcomings of simple stress testing are partly overcome in the stochastic approach to DSA, which estimates the correlation pattern among the key macroeconomic variables to account for the basic feedback mechanism and to reflect the uncertainty surrounding baseline debt projections. Essentially, stochastic DSA relies on the estimation of a vector auto-regression that captures the correlation pattern of the (non-fiscal) macroeconomic variables underlying the evolution of the debt ratio. This information is then used to implement Monte Carlo simulations. In

contrast to the simple stress tests performed in the deterministic version of DSA, the stochastic approach to DSA randomly generates a large sample of stress tests from which frequency distributions of the debt ratio can be derived for each year of the projection. These are then laid out like a fan around the median projection, permitting a probabilistic assessment of sustainability.[35] (Appendixes 9.6 and 9.7 discuss the data and technical issues related to stochastic DSA.)

Stochastic DSA simulations for the eight Asian countries in this section are based on quarterly data on real growth (g_t), inflation (π_t), the exchange rate (ϵ_t), and the nominal interest rate (r_t). A four-variable unrestricted vector auto-regression system is estimated for each economy, to produce a variance–covariance matrix (Ω) of the residuals (υ_t):

$$[I - A(L)]X_t = \upsilon_t; \quad \upsilon_t \sim N(0, \Omega), \tag{9.6}$$

where $X_t = [\pi_t, \epsilon_t, r_t, g_t]$ is the variable matrix, I is an identity vector, $A(L)$ is a vector of lag operators, υ_t is a vector of residuals that is normally distributed $[N(.)]$ with mean 0 and variance Ω. For each economy and year during 2011–16, a probability distribution is generated from 10,000 random draws on the innovations to each of the variables in X_t, in correspondence with the variance–covariance structure determined by Ω and by taking fourth-quarter 2010 data as the initial values.

To derive fan-charts for the DSA, the quarterly frequency distributions in relation to the system of macroeconomic variables are first annualized and then combined with the baseline fiscal policy assumptions to yield yearly frequency distributions of the simulated debt ratio projections. The resulting fan-charts are shown in Fig. 9.13 (see pp. XX–XX), for each of the eight economies. Both 50 and 90 % confidence intervals are displayed about the median of the projected government debt ratio. For example, India's median debt ratio is projected to decline to about 54 % in 2016, down from 67 % in 2010. However, the 90 % confidence interval marked by the graph's shaded area suggests a 10 % combined probability that India's debt ratio by 2016 will either have climbed to 71 % or plunged as low as 41 % of GDP. Put differently, the broad range of possible outcomes suggests that India's estimated macroeconomic historical record gives rise to a significant degree of uncertainty about whether the variables driving its debt dynamics will eventuate. Indeed, the range of outcomes within the 90 % interval is such that an increase in India's debt ratio during 2010–16 could not be excluded entirely. Other country fan-charts suggest that the same is true also for Georgia, Thailand, and Viet Nam.

In terms of the sign of the projected changes in public debt ratios, the stochastic projections broadly validate the realism of a country's non-stochastic baseline assumptions. (Baselines are shown as solid lines in Fig. 9.13.) Indeed, median stochastic debt paths and baselines mostly point in the same direction, which would lead to roughly similar conclusions at least regarding the fundamental judgment of a

[35]For a review of the application of stochastic DSA to emerging economies, see Ferrucci and Penalver (2003), Garcia and Rigobon (2004), and Celasun et al. (2006).

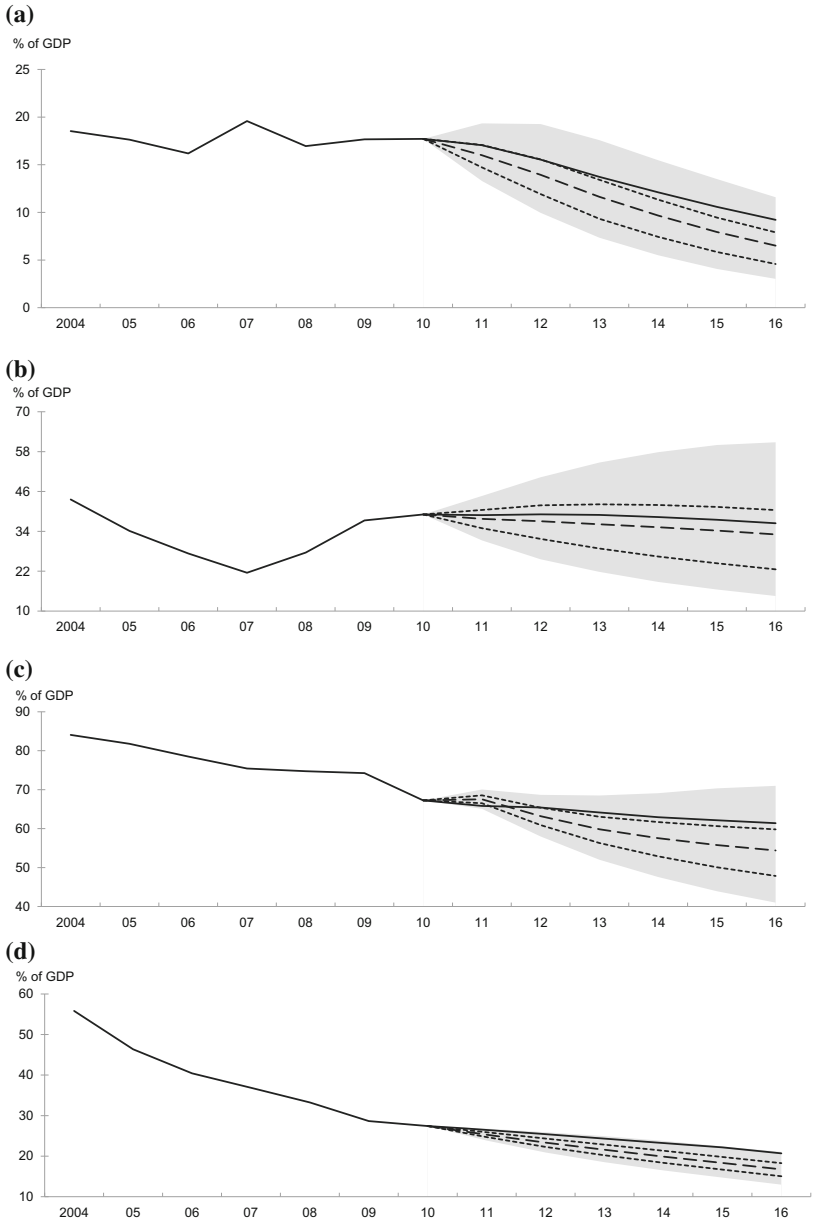

Fig. 9.13 Stochastic approach to debt sustainability analysis (% of GDP). **a** China, People's Republic of: Assumption—small deficits in the beginning followed by small surpluses toward the end. **b** Georgia: Assumption—running relatively small deficits. **c** India: Assumption—running budget deficits. **d** Indonesia: Assumption—near balanced primary budget with small surpluses. **e** Korea, Rep. of: Assumption—running primary surpluses. **f** Philippines: Assumption—running primary surpluses. **g** Thailand: Assumption—running budget deficits. **h** Viet Nam: Assumption—running primary deficits. *DSA* debt sustainability analysis; *GDP* gross domestic product. *Source* Authors' estimates

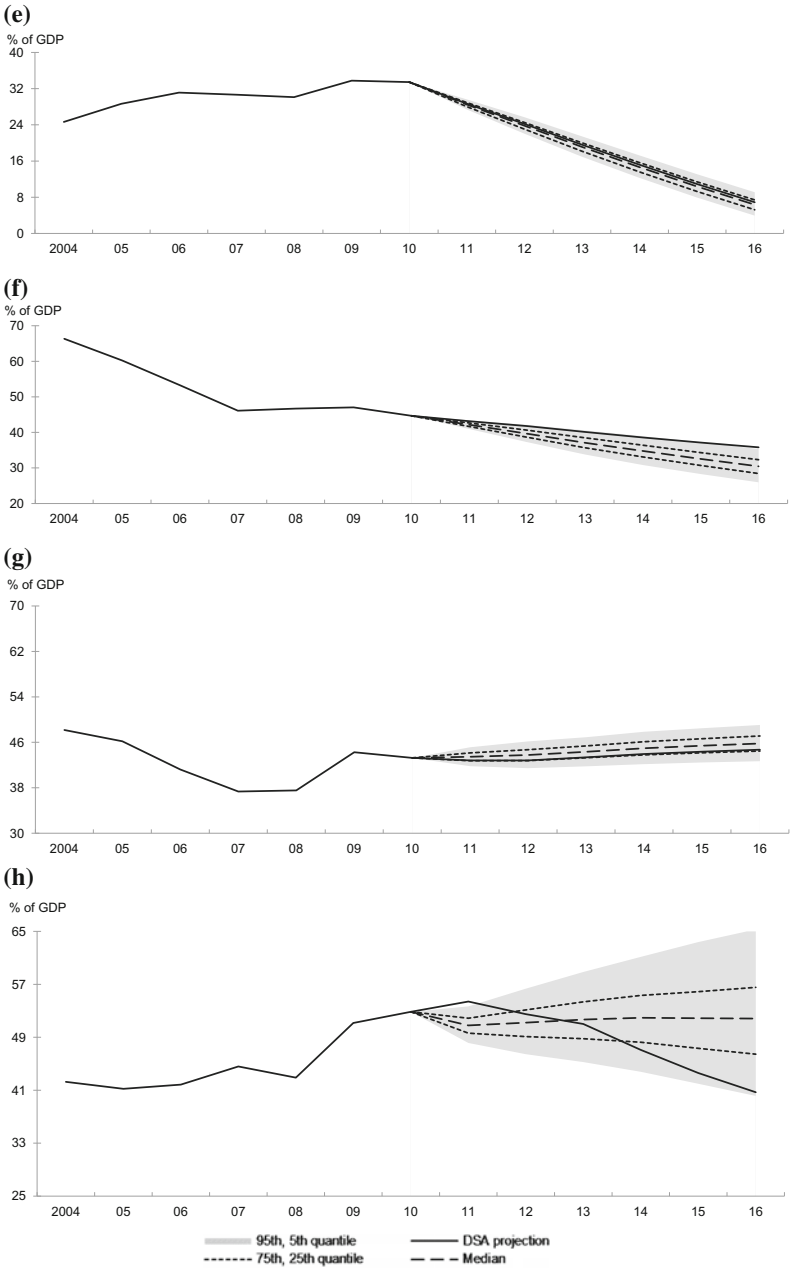

Fig. 9.13 (continued)

country's debt sustainability. The only exception is Viet Nam, which displays a baseline projection that slopes downward and a median stochastic projection that slopes upward. Although the baseline falls well within the shaded area and is thus consistent with the 90 % confidence interval of the stochastic distribution, the standard DSA for Viet Nam appears to rest on overly optimistic assumptions regarding its future economic development. From 2012 onward, the fan-chart attributes less than a 25 % probability that the assumptions underlying Viet Nam's baseline will be realized. By contrast, baseline assumptions appear pessimistic about the PRC, India, Indonesia, and the Philippines, which are closely within the upper edge of the confidence interval. The implications for the four economies' fiscal plans are that they should strengthen their fiscal positions in order to account for a macroeconomic environment that may fall short of expectations.

The fan-charts are also useful for assessing the degree of association between central government debt dynamics and changes in the structural feature of the economy, such as medium- to long-term changes in the fiscal policy stance. Figure 9.14 illustrates this point by imposing primary budget balance throughout the projection period—that is, forcing more stringent fiscal discipline on economies' running primary deficits (e.g., India and Viet Nam), and relaxing the fiscal position of economies with primary surpluses (such as the Republic of Korea and the Philippines).

More fiscal discipline in India significantly changes the prospects of its medium-term debt dynamics. With increased fiscal discipline, the path of India's debt ratio is likely to be brought down consistently from 2012 to 2016 for any possible realization of the underlying macroeconomic variables within the horizon. The case of Viet Nam also shows that more stringent fiscal discipline is required to drive down the debt path, suggesting that the country needs more budgetary discipline in order to lower its government debt ratio. The exercise on the Republic of Korea strongly suggests that the decline in its debt path hinges heavily on its ability to realize the projected primary surplus assumed in its baseline.[36] A more relaxed budgetary position would derail the country's attempt to sharply reduce its central government debt ratio. The Philippine case, on the other hand, suggests that the country still has room to increase its central government spending, as a more relaxed primary budget position does not seem to alter the country's target for reducing its debt ratio in the medium term.

In sum, stochastic DSA analysis broadly confirms the conclusions based on standard DSA in the preceding section. The outlook for debt dynamics in developing Asia is mostly benign, and among the economies considered in this section, there is no evidence of debt ratios that suggest a clear danger of spinning out of control during the horizon of projection. This is not, however, reason for complacency. Stochastic DSA highlights quite clearly that the spectrum of possible or indeed likely outcomes is substantially broader than what simple baseline analysis and related stress tests show. Indeed, even within the small sample of eight

[36]This is in line with the observation in Fig. 9.12, which suggests that high primary fiscal surplus is the main factor lowering debt ratios in the Republic of Korea.

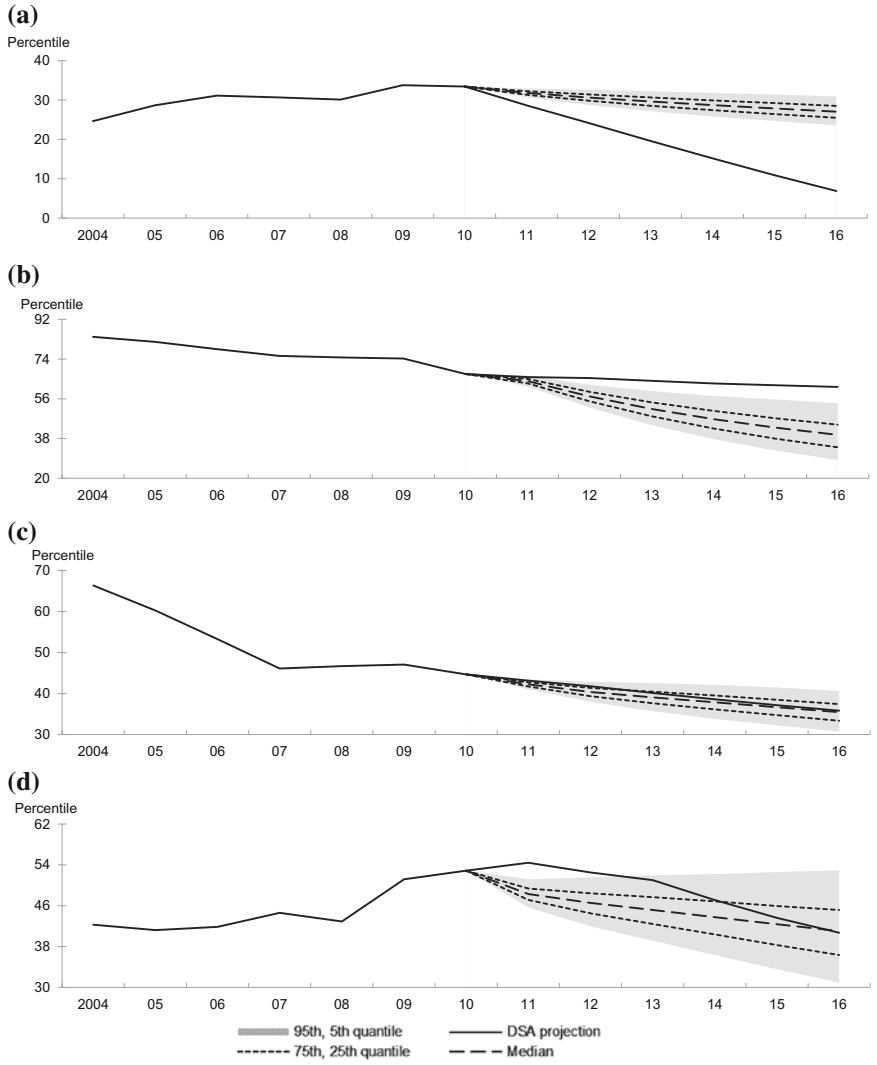

Fig. 9.14 Stochastic approach to debt sustainability analysis—primary budget balanced. **a** Korea, Republic of, **b** India, **c** Philippines, **d** Viet Nam. *DSA* debt sustainability analysis; *GDP* gross domestic product. *Source* Authors' estimates

economies considered in this section, fan-charts include instances where an increase of the debt ratio is fully plausible on the basis of the underlying macroeconomic forecasts and fiscal policy assumptions.

9.7 Conclusion

This chapter reviews the historical development of fiscal indicators in developing Asia since the early 1990s and analyzes the main factors that will determine the region's fiscal performance during the next few years, up to 2016. The chapter has attested to a pattern of fiscal responsibility among the economies in the region. Regression analysis estimating fiscal reaction functions for a sample of 24 economies confirms previous findings about governments' tendency to tighten fiscal policy to counter rising debt ratios. This display of prudence has served Asia well by keeping debt ratios under control, which constitutes the most fundamental of determinants to ensure debt sustainability in the region over the longer term—assuming this prudence persists despite the profound social and economic changes Asia is undergoing.

The analysis has also highlighted the profound benefit economies in the region derive from having relied on rapid economic growth and low interest rates, which together have tilted the debt dynamics in their favor by exerting a persistent downward pressure on debt ratios. Under such conditions, even a less prudent fiscal stance or the occurrence of occasional shocks increasing debt ratios temporarily is unlikely to overturn the benign outlook on debt sustainability. However, one cannot assume that negative IRGDs will persist for the longer term. IRGDs inevitably will shrink and eventually turn positive as growth in the region will have to slow at some point, and rapid development of the region's economies will have to lead to a gradual easing of the structural constraints and policies that have been keeping domestic interest rates artificially low. Simple graphical simulations of such a narrowing of countries' IRGDs have shown an environment that would be much less forgiving of the conduct of fiscal policy and the absorption of macroeconomic shocks than has hitherto been the case for the region. In such a scenario, Asia's fiscal prudence will have to be the ultimate guarantor of fiscal sustainability, as advanced countries facing positive IRGDs have been witnessing particularly during recent times.

The discussion then moves on to highlight the main elements of IMF style deterministic DSA analysis, focusing on subregional aggregates rather than individual economies. Based on the latest macroeconomic and fiscal policy forecasts, DSA analysis yields overwhelming evidence of a generally benign outlook for

public debt sustainability in the region. All of Asia's subregions (although not necessarily each economy in the subregions) are associated with declining or stable debt paths up to 2016, premised on the assumption of continuing strong growth, low interest rates, moderate inflationary pressures, and the gradual normalization of fiscal policy after region-wide expansion in relation to the 2008/09 GFC.

Finally, the results of standard DSA are compared with stochastic DSA, which more fully accounts for the interrelations among the variables driving debt dynamics and improves the estimates of uncertainty surrounding baseline assumptions. The evidence arising from comparative analysis involving eight economies in the region supports the conclusion that the fiscal outlook for the region is generally benign. More generally, the findings from stochastic DSA broadly align with those of standard DSA, thus validating the baseline assumptions underlying the latter. At the same time, however, the stochastic simulations highlight a large spectrum of likely outcomes regarding the macroeconomic realizations driving debt ratios, not all of which are compatible with stable or declining debt ratios as suggested by the baseline assumptions. The implication for countries with higher risk profiles of public debt is thus to revise fiscal policy to be able to accommodate a future macroeconomic environment that may be less favorable than that reflected in the baseline assumptions.

Appendix 9.1: Data Issues

Assessing public finances in the region is a daunting challenge and huge difficulties are encountered in assembling a comprehensive set of fiscal and public debt data for all the developing members of the Asian Development Bank (ADB). To the familiar problems of occasional missing observations over time and across countries are added a number of serious shortcomings in the availability of consistent and comprehensive fiscal data in some countries and, in particular, pertaining to public debt obligations. In addition, only a very limited number of countries publish public sector asset positions (as well as public debt data). Consequently, fiscal sustainability analysis needs, for the most part, to be based on only one part of the fiscal picture (liabilities rather than assets). Even in the case of countries that report interest payments on debt, consistent data are not generally available for the actual interest rates on public debt and the extent to which debt may be serviced at concessional or market interest rates. Moreover, to the extent that some countries issue public debt to "captive" local buyers (such as local banks and pension funds), the true economic costs of servicing that debt may be quite different from the recorded costs.

Another problem is that countries do not generally report contingent and other hidden (off-balance sheet) liabilities. Based on experience, these are often the key factors in influencing fiscal sustainability over time and are where the "fiscal surprises" often occur. For example, much of the deterioration in fiscal positions during the Asian financial crisis was associated with bailouts of distressed banks and other financial institutions. The omission of contingent fiscal liabilities implies that the approach adopted arguably represents the "best case" in so far as the accounting for hidden liabilities would likely lead to the possibility of higher rather than lower future debt ratios, and potentially larger threats to fiscal sustainability. (Chapter 4 discusses at length the implications of hidden liabilities for public debt sustainability for the case of the People's Republic of China [PRC]).

At the most fundamental level, there is also the issue of how broadly or narrowly the public sector should be defined. Ideally, fiscal sustainability analysis should cover all aspects of public sector operations and activities that have fiscal implications, suggesting a very broad and comprehensive approach. Such comprehensiveness is probably best achieved by focusing on the overall public sector (including all actual and quasi-state-owned enterprises and government-linked companies), but it is frequently difficult to draw the line in defining the public sector, and comprehensive data for the entire public sector are frequently difficult to obtain. Even in cases where only the (formal) government sector can be covered, there are often issues related to the availability of data for different levels of government (central, state, and local) and data consistency over time. There are no simple solutions to these and related "boundary" problems in defining the public sector. And, frequently, it is necessary to base the analysis on a "narrow" definition of government because data are not available for broader definitions of the public sector.

For the purposes of this chapter, annual data were assembled on government fiscal positions and debt (and other variables) for 45 ADB's developing members, from the early 1990s through 2010. The data were assembled from various International Monetary Fund (IMF) country publications and reports, such as IMF Article IV documents and Statistical Appendixes. Where possible, data for the general government were used but, in several cases, central government data had to suffice. Government debt and fiscal time series were integrated with additional data drawn from the IMF Government Finance Statistics database and from national sources. Data coverage varies across countries and spans a maximum of 21 years, 1990–2010. Macroeconomic variables were drawn from the ADB Asian Development Outlook database, the IMF International Financial Statistics, and the World Bank's World Development Indicators databases. Appendix 9.2, Table 9.5 provides a detailed description of the data sources underlying this chapter.

In some cases, series had breaks or gaps, causing the panel data to be somewhat unbalanced, with the most comprehensive time series coverage generally occurring in the more developed economies. To avoid inconsistencies from changing compositions of the subregional data aggregations over time, only 24 economies were retained for the descriptive analysis in this chapter. For the regression analysis, an unbalanced panel of 32 economies was retained after excluding those with interruptions in any of the time series underlying the analysis. The panel was further narrowed to 7 core economies, for which a fully balanced data set that includes all the relevant variables is available for regression analysis.

The descriptive overview relies mostly on country data grouped into five subregional aggregates, defined according to ADB's geographical subdivisions of its developing members: Central Asia, East Asia, the Pacific, South Asia, and Southeast Asia. One key question that arises when presenting and discussing the large amounts of country data concerns the way in which subregional aggregates are compiled. For example, ADB's *Asian Development Outlook* follows the practice of weighting relevant country measures by gross national income. Although this is appropriate when, for example, summarizing gross domestic product or average annual growth rates across the region, it obviously causes averages to represent mostly the largest economies in the region, such as the PRC (for East Asia) and India (for South Asia). For example, as a result of gross national income weighting, an economy such as the PRC inevitably ends up representing more than 40 % of the regional average. By contrast, without applying a concept of region-wide fiscal positions, it is not clear whether there is a meaningful way to devise weights in relation to fiscal variables, where economy size, however measured, has no evident bearing on its representativeness within some broader subregional or regional aggregate. Based on these considerations, all the fiscal aggregates for Asia presented in this chapter refer to unweighted simple arithmetic averages of data of individual economies by subregion or developing Asia as a whole, unless specified otherwise.

Appendix 9.2: Data Availability and Sources

See Tables 9.4 and 9.5.

Table 9.4 Data availability for Asian Development Bank developing member countries

Country	Year																				
	1990	91	92	93	94	95	96	97	98	99	2000	01	02	03	04	05	06	07	08	09	10
Armenia	…	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Azerbaijan	…	…	…	…	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bangladesh	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Bhutan	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cambodia	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
China, People's Rep. of	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Georgia	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hong Kong, China	…	…	…	…	…	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	…
India	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Indonesia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Kazakhstan	…	…	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Korea, Rep. of	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	…
Kyrgyz Republic	…	…	…	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	…
Lao PDR	…	…	…	…	…	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Malaysia	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Maldives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Marshall Islands	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	…	…
Mongolia	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Nepal	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pakistan	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Papua New Guinea	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Philippines	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Republic of Fiji	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	…
Singapore	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

(continued)

Table 9.4 (continued)

Country	Year																			
	1990	91	92	93	94	95	96	97	98	99	2000	01	02	03	04	05	06	07	08	09	10
Solomon Islands	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Sri Lanka	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tajikistan	…	…	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Thailand	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tonga	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Uzbekistan	…	…	…	…	…	…	…	…	…	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	…
Vanuatu	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Viet Nam	…	…	…	…	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

✓ data available; ... data not available

Source ADB TA7762 Database

Table 9.5 Data sources

Database	Variable	Country Coverage (years covered)	Description and Comments
World Economic Outlook (WEO), International Monetary Fund (IMF), September 2011.	**General government gross debt (level)**	Armenia (2000–2010); Azerbaijan (2000–2010); Bahrain (1990–2010, no debt sustainability analysis [DSA]); Bhutan (1993–2010); Brunei (1990–2010, no DSA); Fiji (1992–2010); Georgia (2004–2010); Hong Kong, China (2001–10); Maldives (1997–2010); Nepal (2000–2010); Philippines (1990–2010); Singapore (1990–2010); Solomon (1993–2010)	Central government Georgia and Kiribati not indicated, hence assumed as central government
		Cambodia (1996–2010), Indonesia (2000–2010), Kazakhstan (2002–2010), Rep. of Korea (1990–2010), Thailand (1996–2010)	Central and local government
		India (1991–2010)	Central and state
		China, People's Republic of (PRC) (1990–2010); Lao People's Democratic Republic (Lao PDR) (2001–2010); Malaysia (1990–2010); Pakistan (1994–2010); Viet Nam (2001–2010)	Central, state, and local government; For the PRC, 2010 is from April 2010 IMF WEO
		Kyrgyz Republic (2000–2010), Tajikistan (1998–2010), Uzbekistan (1998–2010)	Central, local, and social security funds Uzbekistan includes state
	Projections 2011–2016 (ratio of gross domestic product [GDP])	Bhutan, PRC, Fiji, India, Indonesia, Kazakhstan, Rep. of Korea, Kyrgyz Rep., Malaysia, Philippines, Thailand, Tajikistan	Used to compute average interest rates and/or share of foreign currency debt Coverage same as historical data For Rep. of Korea, interest rates were sourced from DSAs
	General government revenues and grants (level) Includes taxes, social contributions, grants receivable, and other revenue	Armenia (2000–2010); Azerbaijan (2000–2010); Bangladesh (1990–2010); Bhutan (1990–2010); Fiji (1992–2010); Georgia (2000–2010); Hong Kong, China (1990–2010); Kiribati (1990–2010); Rep. of Korea (1995–2010); Maldives (1990–2010); Nepal (2000–2010); Papua New Guinea (PNG) (1990–2010); Philippines (1990–2010); Tonga (1999–2010)	Central Government Georgia and Kiribati not indicated, hence assumed as central government
		Cambodia (1996–2010), Indonesia (1990–2010), Kazakhstan (1994–2010), Thailand (1995–2010)	Central and local
		India (1990–2010)	Central and state

(continued)

Table 9.5 (continued)

Database	Variable	Country Coverage (years covered)	Description and Comments
		PRC (1990–2010), Lao PDR (2000–2010), Malaysia (1990–2010), Mongolia (1990–2010), Pakistan (1990–2010), Viet Nam (1998–2010)	Central, state, local
		Kyrgyz Rep. (1993–2010)	Central, local, social security funds
		Mongolia (1990–2010)	Central, state, local, social security funds
	Projections 2011–2016 (ratio of GDP)	Armenia; Azerbaijan; Bangladesh; Bhutan; PRC; Fiji; Georgia; Hong Kong, China; India; Indonesia; Kazakhstan; Rep. of Korea; Lao PDR; Malaysia; Maldives; Mongolia; PNG; Philippines; Thailand; Viet Nam; Tonga	Ratios except Bangladesh, Bhutan, which were recomputed using calendar GDP Hong Kong, China data are in fiscal year Coverage same as historical data
	General government expenditure (level)	Armenia (2005–2010); Azerbaijan (2000–2010); Bangladesh (1990–2010); Bhutan (1990–2010); Cambodia (1996–2010); Fiji (1992–2010); Georgia (2004–2010); Hong Kong, China (1990–2010); Kiribati (1990–2010); Rep. of Korea (1995–2010); Maldives (1990–2010); Nepal (2000–2010); PNG (1990–2010); Philippines (1990–2010); Tonga (1999–2010)	Central government Georgia and Kiribati not indicated, hence assumed as central government
		Indonesia (1993–2010), Kazakhstan (2002–2010)	Central and local
		India (1993-2010)	Central and state
		PRC (1990–2010), Lao PDR (2001–2010), Malaysia (1990–2010), Mongolia (1990–2010), Pakistan (1993–2010), Viet Nam (1998–2010)	Central, state, local
		Kyrgyz Rep. (2000–2010)	Central, local, social security funds
		Mongolia (1990–2010)	Central, state, local, social security funds
	Projections 2011–2016 (ratio of GDP)	Armenia; Azerbaijan; Bangladesh; Bhutan; PRC; Fiji; Georgia; Hong Kong, China; India; Indonesia; Kazakhstan; Rep. of Korea; Lao PDR; Malaysia; Maldives; Mongolia; PNG; Philippines; Thailand; Tonga; Viet Nam	Coverage same as historical data
	Interest Payments (level)	Lao PDR (2000–2010); Malaysia, Maldives, Nepal (2000–2010); Singapore and Thailand (2000–2010)	Central

(continued)

Table 9.5 (continued)

Database	Variable	Country Coverage (years covered)	Description and Comments
	Derived as the difference between net lending and primary lending		Lao PDR data are from IMF WEO April 2011
		Kazakhstan (2002–2010)	Central and local
		Uzbekistan (1997–2010)	Central, state, local and social security funds
		Malaysia (1990–2010), Viet Nam (1998-2010)	Central, state, local
	Projections (2011–2016)	Kazakhstan, Lao PDR, Maldives, Nepal, Thailand, Uzbekistan, Viet Nam	Coverage same as historical data
	Nominal GDP, calendar year	All economies (1990–2010)	
	Nominal GDP, corresponding to fiscal year	Bangladesh; Bhutan; Hong Kong, China; India; Lao PDR; Thailand; Tonga	For comparison with IMF DSAs, DSAs using fiscal year are available for a few economies where fiscal year is applicable Final DSAs used calendar year GDP
	Real GDP (levels)	All economies (1990–2010) except Marshall Islands, Tajikistan, Thailand, Uzbekistan	
	Projections (2013–2016) per cent change	All economies	
	GDP deflator	All economies except Marshall Islands; Tajikistan; Thailand; Uzbekistan; Hong Kong, China	For Armenia and Azerbaijan, data are from IMF WEO April 2010
	Projections (2013–2016)	All economies except Marshall Islands	
	Nominal foreign exchange	Armenia (1992–2010)	Computed: nominal GDP local currency unit/nominal GDP ($)
IMF (2011d)	Interest Payments	PRC (2006–2016), India (2006–2016), Rep. of Korea (2011–2016), Malaysia (2011–2016), Pakistan (2006–2016), Philippines (2006-6)	

(continued)

Table 9.5 (continued)

Database	Variable	Country Coverage (years covered)	Description and Comments
IMF Article IV Country Report tables and statistical appendixes	Government debt, ratio or level	Marshall Islands (2000–2010), Nepal 1990–1999, Sri Lanka (1993–2010), Tonga (1993–2010)	Central government Ratios of GDP as indicated in source or recomputed using appropriate GDP levels
		Georgia (1996–2010), Indonesia (1996–1999), Mongolia (1992–2010), Vanuatu (1994–2010)	General government
		PNG (1990–2010)	Public sector (mixed coverage)
	Foreign currency denominated debt	Armenia and Azerbaijan (2002–2010); Bangladesh and Indonesia (2000–2010); Fiji (1997–2010); Kiribati (2007–2010); Rep. of Korea, Nepal, and Tonga (1993–2010); Solomon (2003–2010); Vanuatu (1994–2010)	Central government
		Bhutan (2007–2010); Cambodia, Kyrgyz Republic, and Lao PDR (2004–2010); PRC (2001–2010); Georgia, India, Mongolia, and Tajikistan (2002–2010); Pakistan (2000–2010); Uzbekistan (2003–2010); Viet Nam (1997–2010)	General government
		Malaysia (1995-2010), Maldives (2004–2010), PNG (1991–2010)	Public and publicly guaranteed public sector
	Revenues and grants, ratio or level	Armenia (1995–1999), Georgia (1995–1999), Lao PDR (1994–1999), Marshall Islands and Nepal (1993–1999)	Ratios of GDP as indicated in source or recomputed using appropriate GDP levels
	Expenditures, ratio or level	Georgia (1995–1999), Lao PDR (1994–1999), Marshall Islands and Nepal (1993–1999)	Ratios of GDP as indicated in source or recomputed using appropriate GDP levels
	Interest payments, ratio or level	Armenia (1997–2010); Azerbaijan (2002–2010); Bangladesh (1993–2010); PRC (2001–2004); Bhutan (1995–1998, 2001–2010); Cambodia, Fiji, Georgia, India (1990–2005); Indonesia (1992–2010); Kyrgyz Rep. and Lao PDR (1994–1999); Marshall Islands, Mongolia, Nepal (1993–1999); Pakistan (1994–2005); PNG and Tonga (1990–2009)	Ratios of GDP as indicated in source or recomputed using appropriate GDP levels
	Interest Payment Projections	Armenia, Bangladesh, Bhutan, Cambodia (2011); Fiji, Georgia, Kyrgyz Rep. (2011–2012); Marshall Islands and Mongolia (2011–2013); PNG (2011–2016); Tonga (2011–2012)	
IMF Article IV Debt Sustainability Analysis Tables	Government debt (ratio of GDP)	Bangladesh and Kiribati (2006–2010); Tonga (2003–2010)	Ratios of GDP as indicated in source or recomputed using appropriate GDP levels. Central government

(continued)

Table 9.5 (continued)

Database	Variable	Country Coverage (years covered)	Description and Comments
	Debt projections (ratio of GDP)	Solomon (2011–2012); Tonga (2012–2016)	Used to compute average nominal interest rate
	Public foreign projections debt (% of GDP and % of total debt)	All except Kazakhstan, Marshall Islands, Singapore, Thailand, Philippines (2011–2016)	Ratios of GDP as indicated in source or recomputed using appropriate GDP levels
	Interest on foreign debt	All economies where DSA data are available, various years	
	Contingent liabilities	All economies where DSA data are available, various years	
ADB Asian Development Outlook Database, 2011	Real GDP projections, 2011–2012	All economies	Per cent change Note: Base year varies across economies
	Inflation projections, 2011–2012	All economies	Based on consumer price index, except for India which is using wholesale price index; per cent change
IMF International Finance Statistics	Nominal exchange rate	All economies (1990–2010) except Armenia	
IMF Government finance statistics	Interest payments (levels)	Rep. of Korea and Hong Kong, China (1990–2009)	
World Development Indicators	Government debt	Indonesia (1990–1995), Sri Lanka (1990–1992), Pakistan (1990–1993)	
	Interest payments	Armenia (2006–2007), Bhutan (1990–1994, 1999–2000), Sri Lanka (1990–1995), Pakistan (1990–1993)	
	Domestic Inflation	Marshall Islands, Tajikistan, Thailand, Uzbekistan, Hong Kong, China (1990–2010)	
	Real GDP	Marshall Islands, Tajikistan, Thailand, Uzbekistan (1990–2010)	
	Nominal GDP	Marshall Islands (1991–2010)	
National sources (accessed through CEIC database or government sites)	Foreign currency public debt	Kazakhstan (2004–2010), Thailand (2004–2010), Philippines (1990–2010)	
	Interest payments	Philippines (1990–2005)	

Appendix 9.3: Regression Analysis Samples and Functions

See Tables 9.6, 9.7, 9.8 and 9.9.

Table 9.6 Samples for regression analysis

Subregion/Economy	Asia32	Asia7	Subregion/Economy	Asia32	Asia7
Central Asia			**South Asia**		
Armenia	✓		Bangladesh	✓	
Azerbaijan	✓		Bhutan	✓	
Georgia	✓		India	✓	✓
Kazakhstan	✓		Sri Lanka	✓	
Kyrgyz Republic	✓		Maldives	✓	
Tajikistan	✓		Nepal	✓	
Uzbekistan	✓		Pakistan	✓	
East Asia			**Southeast Asia**		
China, People's Rep. of	✓	✓	Cambodia	✓	
Hong Kong, China	✓		Indonesia	✓	✓
Korea, Rep. of	✓	✓	Lao PDR	✓	
Mongolia	✓		Malaysia	✓	✓
Pacific			Philippines	✓	✓
Republic of Fiji	✓		Singapore	✓	
Marshall Islands	✓		Thailand	✓	✓
Papua New Guinea	✓		Viet Nam	✓	
Solomon Islands	✓				
Tonga	✓				
Vanuatu	✓				

✓ included; *Asia32* 32 Asian economies, *Asia7* 7 Asian economies, *Lao PDR* Lao People's Democratic Republic
Source Authors' listing

Table 9.7 Fiscal reaction functions: panel regression results for 32 Asian economies

	FGLS	FGLS	OLS	OLS	SGMM	FGLS	OLS	SGMM
	Linear	Linear	Linear	Linear	Linear	Cubic	Cubic	Cubic
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Lagged debt	0.0237*** (0.00838)	0.0247*** (0.00846)	0.0302 (0.0216)	0.0339 (0.0214)	0.0285** (0.0120)	−0.0818 (0.0546)	0.0223 (0.147)	0.0312 (0.113)
Lagged debt^2						0.00226** (0.000964)	0.000184 (0.00261)	6.25e−05 (0.00207)
Lagged debt^3						−1.35e−05** (5.27e−06)	−1.19e−06 (1.46e−05)	−1.08e−06 (1.15e−05)
Lagged surplus					0.596*** (0.0566)			0.550*** (0.0521)
Real GDP	0.258*** (0.0303)	0.239*** (0.0312)	0.216*** (0.0516)	0.164*** (0.0514)	0.259*** (0.0556)	0.262*** (0.0313)	0.216*** (0.0518)	0.257*** (0.0491)
Real expenditure	−0.160*** (0.00986)	−0.160*** (0.00995)	−0.175*** (0.0169)	−0.168*** (0.0165)	−0.197*** (0.0330)	−0.159*** (0.00995)	−0.175*** (0.0171)	−0.212*** (0.0303)
Constant	−1.737** (0.721)	−1.811** (0.719)	−1.397*** (0.391)	−1.859*** (0.382)		−0.291 (1.152)	−1.312 (0.941)	
Controls	No	Yes	No	Yes	No	No	No	No
Dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	488	488	456	456	481	488	456	456
Economies	32	32	32	32	32	32	32	32
Chi^2/R^2_adj	975.4	956.4	0.165	0.210	368.5	857.6	0.161	413.2

(continued)

Table 9.7 (continued)

	FGLS	FGLS	OLS	OLS	SGMM	FGLS	OLS	SGMM
	Linear	Linear	Linear	Linear	Linear	Cubic	Cubic	Cubic
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
A/B order 1	…	…	…	…	−2.4729**	…	…	−2.4549**
A/B order 2	…	…	…	…	0.5098	…	…	0.50868

Dependent variable: primary fiscal surplus

… data not available, *AR* autoregressive, *CPI* consumer price index, *FGLS* feasible generalized least squares estimation, *GDP* gross domestic product, *HP* Hodrick–Prescott, *OLS* fixed effects ordinary least squares estimation, *SGMM* system generalized method of moments Blundell–Bond linear dynamic estimation

Standard errors are in parentheses. Significance levels: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Notes

- The regressions are fitted to an unbalanced panel of 32 economies with data from 1990 to 2010 (depending on data availability for individual economies; see Table 9.5)
- FGLS assuming country-specific heteroscedasticity and AR(1) autocorrelated errors
- OLS: assuming first-order autoregressive errors (AR1)
- SGMM: (Arellano and Bond 1991; Blundell and Bond 1998)
- All variables are expressed as ratio of GDP
- Lagged debt: MA2 debt stock lagged one year. Lagged debt^2 is squared lagged debt and lagged debt^3 is cubic lagged debt
- Real GDP: HP-trend deviation of real GDP
- Real expenditure: HP-trend deviation of real government expenditure
- Controls: World oil price indicator, non-food commodity price indicator (deviations from HP-trend), and CPI inflation (two-year moving average). Coefficients not reported
- Dummies: Country and year dichotomous variables included in regression (coefficients not reported)
- Chi^2/R^2_adj: Overall fit statistics; Chi^2 for FGLS maximum likelihood regressions, and adjusted R^2 for OLS regressions
- Control is a vector of control variables, including oil price and non-fuel commodity price indexes, computed as deviations from the HP filter. Both variables are interacted with a dichotomous variables taking value 1 for oil and non-fuel commodity exporting countries in the region and zero otherwise. As a further control, also included are CPI ratios, computed as two-year moving averages

Source Authors' estimates

Table 9.8 Fiscal reaction functions—splined regressions for seven Asian economies

	Feasible generalized least squares estimation	
	2 splines	5 splines
	(1)	(2)
Lagged debt S1	0.0800** (0.0382)	
Lagged debt S2	0.0638*** (0.0197)	
Lagged debt S1		0.185** (0.0743)
Lagged debt S2		0.0621 (0.0661)
Lagged debt S3		−0.0365 (0.0604)
Lagged debt S4		0.0563* (0.0320)
Lagged debt S5		0.116*** (0.0358)
Real GDP	0.159*** (0.0562)	0.128** (0.0557)
Real expenditures	−0.102*** (0.0180)	−0.114*** (0.0177)
Constant	−2.952** (1.170)	−4.426*** (1.338)
Controls	No	No
Dummies	Yes	Yes
Observations	133	133
Number of economies	7	7
Chi^2	286.0	302.2

Dependent variable: primary fiscal surplus

AR autoregressive, *FGLS* feasible generalized least squares, *GDP* gross domestic product

Standard errors are in parentheses. Significance levels: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Notes

- FGLS: assuming country-specific heteroscedasticity and AR(1) autocorrelated errors
- 2-Splines: The distribution of the public debt ratio is split once, at the median (38.48 %) of the data
- 5 Splines: The distribution of the public debt variable is split at the 20th, 40th, 60th, and 80th percentiles of the data. The corresponding knots are 15.70 % (20th), 29.03 % (40th), 44.68 % (60th), 65.04 % (80th)
- This table reports the results from estimating two such spline regressions. The first column divides the sample of seven observations into two, according to whether they are associated with a debt ratio below or above the median. The coefficient estimates reported in the first two rows of the table suggest that fiscal response at 0.080 on average is higher in the below-median section than it is above, at 0.064. However, more nuanced is the results of the spline regression in column 2, where the debt ratio is split into five sections, divided by the 20th, 40th, 60th, and 80th percentiles of the distribution of debt ratios in the sample. What emerges is a clear pattern of increasing coefficient estimates in relation to higher debt ratio segments, which roughly corresponds with the pattern of the cubic function estimated earlier. Indeed, Fig. 9.4 shows the two estimated functions to largely overlap. The difference in the splined regression is that the fiscal response is estimated to take a negative sign over the median (3rd) segment, while the cubic function is strictly monotonic; however, the spline estimate in relation to that particular section lacks precision. The lack of statistical significance in some segments along the spline (the 2nd and 3rd in this case) is rather unsurprising given the limited sample size of 133 observation that is split into 5 segments each with a proportionally lowered number of degrees of freedom

Source Authors' estimates

Table 9.9 Fiscal reaction functions—splined regressions for 32 Asian economies

	Feasible generalized least squares estimation	
	2 splines	5 splines
	(1)	(2)
Lagged debt S1	0.00522 (0.0206)	
Lagged debt S2	0.0331*** (0.0106)	
Lagged debt S1		−0.00837 (0.0285)
Lagged debt S2		0.0268 (0.0421)
Lagged debt S3		0.00499 (0.0467)
Lagged debt S4		0.0495* (0.0285)
Lagged debt S5		−0.00377 (0.0168)
Real GDP	0.259*** (0.0310)	0.259*** (0.0314)
Real expenditures	−0.162*** (0.0100)	−0.159*** (0.0100)
Constant	−1.195 (0.944)	−0.922 (1.059)
Controls	No	No
Dummies	Yes	Yes
Observations	488	488
Number of economies	32	32
Chi^2	898.4	871.5

Dependent variable: primary fiscal surplus

AR autoregressive, *FGLS* feasible generalized least squares, *GDP* gross domestic product

Standard errors are in parentheses. Significance levels: ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$

Notes

- FGLS: assuming country-specific heteroscedasticity and AR(1) autocorrelated errors
- 2 splines: The distribution of the public debt ratio is split once, at the median (46.00 %) of the data
- 5 splines: The distribution of the public debt variable is split at the 20th, 40th, 60th, and 80th percentiles of the data. The corresponding knots are 28.52 % (20th), 41.38 % (40th), 51.47 % (60th), and 71.04 % (80th)

Source Authors' estimates

Appendix 9.4: Estimating Fiscal Reaction Functions

The regression specification applied in this chapter is guided by optimal taxation theory, as in Bohn (1998). Simply put, this theory postulates that temporary government spending and declines in income cause budget deficits to temporarily rise above normal levels and to revert to their optimal trend thereafter. In addition to assuming a linear relationship between debt stock and primary deficit ratios, we test for the possibility that this relationship takes a nonlinear form, evidence for which has been found in other studies, such as IMF (2003), ADB (2010a), or IMF (2011a). The Bohn-type regression equation augmented by quadratic and cubic debt regressors and a set of dichotomous variables specific to the panel setting takes the form:

$$ps_{it} = \rho_1 b_{it-1} + \rho_2 b_{it-1}^2 + \rho_3 b_{it-1}^3 + \beta_1 \tilde{y}_{it} + \beta_2 \tilde{g}_{it} + \beta_3 c_{it} + \beta_4 d_{it} + \varepsilon_{it} \tag{9.7}$$

$$\varepsilon_{it} = \varphi \varepsilon_{it-1} + \gamma_{it} \quad \text{and} \quad \gamma_{it} \sim \left(0, \sigma_\gamma^2\right) \tag{9.8}$$

where

- all variables are expressed as a ratio of gross domestic product (GDP);
- subscript i is a country (panel) indicator, and t indicates time, measured in years;
- ps_{it} is the primary fiscal surplus, defined as government fiscal income minus expenditure;
- b_{it-1} is the two-year average debt stock lagged one year with respect to the primary balance;
- b_{it-1}^2 and b_{it-1}^3 are the quadratic and cubic debt stock ratios, respectively;
- ρ_1 is the key coefficient of interest in this regression when it is estimated in its linear form, i.e., excluding quadric and cubic debt: ρ_1 measures the sign and intensity of the fiscal reaction across countries and time;
- ρ_2 and ρ_3 are the core coefficients defining the fiscal reaction function, jointly with ρ_1, when it is estimated as a cubic relationship;
- $\tilde{y}_{it}$ is the output gap or business cycle, measured as the deviation from trend of real gross domestic product (GDP), whereby the trend is determined by the Hodrick–Prescott filter[37];
- $\tilde{g}_{it}$ is temporary fiscal outlays, measured as the deviation from trend of real government expenditure, whereby the trend is determined by the Hodrick–Prescott filter;

[37]The Hodrick–Prescott filter removes the trend γ from y (or g) by minimizing with respect to γ_t:

$$\min \sum_{t=1}^{T} \left\{ (y_t - \gamma_t)^2 + \varphi \left[(\gamma_{t+1} - \gamma_t) - (\gamma_t - \gamma_{t+1}) \right]^2 \right\},$$

where $y_t - \gamma_t$ is the business cycle component or temporary output gap that is assumed to affect the primary surplus.

- c_{it} are control variables, including oil and non-food commodity prices—both measured as trend deviations—and average CPI inflation rates;
- d_{it} is a matrix including country dichotomous variables, a time trend, and the regression constant;
- β_1 to β_4 are the additional coefficients estimated; and
- ε_{it} is a first-order autoregressive error term, AR(1), which in the feasible generalized least squares (FGLS) estimation also allows for cross-sectional correlation and heteroscedasticty.

Equation (9.7) is estimated by FGLS. Compared to ordinary least squares (OLS), the FGLS method allows for a variance–covariance matrix that accounts for correlation and heteroscedasticity across countries as well as for country-specific autocorrelation. Put differently, FGLS accommodates the possibility that the relationship between fiscal policy and the variables influencing it may be correlated, and that variances across these variables as well as autocorrelation structures be not the same across countries. To check the robustness of the estimates to changes in the estimation method, we estimate Eq. (9.7) also by OLS. The latter also allows for AR(1) disturbances across panels, but not for heteroscedasticity and country-specific correlation of the error terms, as within-estimates are now produced through OLS, not FGLS.[38]

In addition to the static model specification, we estimate Eq. (9.7) as a system general method of moments (SGMM) dynamic panel model, the dynamism or feedback mechanism of which derives from including lagged primary fiscal surplus as an additional regressor, shown on the right-hand side of Eq. 9.9. More specifically, the latter enters the regression as the so-called general method of moments (GMM)-type instrument, (αs_{t-i}), which captures the dynamics of the primary fiscal surplus variable and its dependence on itself through time, as well as the system-type instruments, which are the debt, GDP, and expenditure ratios taken in differences (signed by a dot). Omitting the cubic specification of the debt stock ratio for simplicity, the SGMM is estimated as[39]:

$$ps_{it} = \alpha s_{it-1,2} + \rho b_{it-1} + \beta_1 \tilde{y}_{it} + \beta_2 \tilde{g}_{it} + \rho \dot{b}_{it-1} + \beta_1 \dot{y}_{it} + \beta_2 \dot{g}_{it} + \varepsilon_{it} \tag{9.9}$$

$$\varepsilon_{it} = \varphi \varepsilon_{it-1} + \gamma_{it} \quad \text{and} \quad \gamma_{it} \sim (0, \sigma_{\gamma}^2) \tag{9.10}$$

The main advantage of SGMM estimation is its explicit accounting for the inertia of primary fiscal deficits. For example, government fiscal reaction may be constrained when current outlays are largely predetermined by extant commitments for multiyear investment projects or government consumption, such as public sector

[38]The interested reader can find a discussion about the differences between these methods in Greene (2012).

[39]SGMM builds a system of two equations including the original equation as well as the transformed equation, in differences. It rests on the assumption that first differences of the instrument variables are uncorrelated with the fixed (country) effects. See Arellano and Bond (1991) and Blundell and Bond (1998) for a discussion of the SGMM method.

payrolls. To the extent that current fiscal revenue and expenditure (net of interest payments) tend to correlate with those of the previous years, SGMM adds an important dynamic element that increases the regression fit and hence its accuracy above that of FGLS and OLS.

However popular a tool of cross-country analysis may be, a number of caveats and qualifications need mentioning in relation to the results presented in this section. In view of serious data limitations and the considerable heterogeneity within the region, the econometric results are to be treated with care. Indeed, although a fully balanced set of data allows robust panel estimation for the sample of 7 Asian economies, the results are far less robust across alternative samples including larger groups of economies. This arises from Appendix 9.3 (Tables 9.7, 9.8, and 9.9) summarizing the outcomes from regressions on the sample of 32 economies. Whereas the large-sample results can be seen to qualitatively overlap with those of the sample of 7 economies, the economic and statistical significance of the fiscal reaction coefficients tends to be lower for the former. However, differences in outcomes are most pronounced in the cubic regressions, which present different signs on the key parameters, implying a shape of the reaction curve that would be different from that in Fig. 9.4.

The sensitivity of the regressions to sample inclusion derives from the dominance of single country experiences in the results during certain years, which is felt particularly strong when estimating small samples. Lest outliers are to drive the results, regression analysis has to make do with a small subsample of countries for which a full series of data of sufficient quality are available, as was done in this chapter. Even then, however, panel regressions of fiscal reaction functions are best interpreted as a pattern indicative of a regional context such as for Asia and not as proof of a consistent fiscal response function specific to any individual country. To achieve country-specific conclusions, the empirical strategy would have to take exclusive focus on countries one by one, studying the time series properties and unit roots of the relevant variable over an extended period of time, probably not less than 40–50 years. Whereas Bohn's groundbreaking work in the estimation of fiscal reaction functions could rely on roughly two centuries of data on fiscal policy in the USA (Bohn 1998), such a rich data set is usually not available for emerging economies. Thus, researchers are regularly forced to use a panel setting across countries, although the concept is strictly country specific and its hypotheses can ultimately only be refuted against country data series spanning a reasonably long time period.

Appendix 9.5: Assumptions Underlying the 2011–16 Baseline Projections

See Table 9.10.

Table 9.10 Assumptions underlying the 2011–16 baseline projection

Subregion and period	GDP growth rate (%)	Inflation rate (%)	Average interest rate (%)	Revenue (% of GDP)	Expenditure (% of GDP)	Average share of FCD debt (% total debt)	Primary deficit* (% of GDP)
Central Asia							
2000–10	0.081	0.111	0.026	−0.081	0.023	0.809	−0.033
2011–16	0.049	0.071	0.027	−0.044	0.030	0.759	0.054
East Asia							
2000–10	0.073	0.065	0.033	−0.032	0.004	0.328	−0.330
2011–16	0.088	0.048	0.031	−0.017	0.022	0.302	−1.532
Pacific							
2000–10	0.020	0.058	0.044	−0.012	0.020	0.543	−1.256
2011–16	0.041	0.068	0.047	−0.021	0.027	0.613	0.634
South Asia							
2000–10	0.059	0.068	0.053	−0.014	0.026	0.512	1.199
2011–16	0.064	0.076	0.063	−0.014	0.046	0.492	1.413
Southeast Asia							
2000–10	0.053	0.060	0.049	−0.010	0.008	0.371	0.476
2011–16	0.057	0.048	0.047	−0.001	0.019	0.300	1.263

FCD foreign currency denominated; *GDP* gross domestic product
Note –*sign* deficit in the primary deficit column
Source Authors' estimates

Appendix 9.6: Data Issues in Stochastic Debt Sustainability Analysis

Stochastic debt sustainability analysis (DSA) relies on country time series of the key macroeconomic variables, from which to estimate the variance–covariance matrix as a gauge of the basic correlation structure underlying debt dynamics. As is the case for all analysis involving time series data, for vector auto-regression (VAR) analysis to yield meaningful results, estimations must rely on a minimum number of observations. Although no clear rule exists in this regard, a typical rule of thumb for VAR regressions would indicate 40 as the minimum number of observations, below which the time series properties of the underlying data series cannot be adequately established and estimates tend to lack the minimum degree of precision and reliability required. Without consistent annual data series spanning at least 40 years or so, researchers and analysts often resort to using quarterly or monthly data. The higher frequency of such data more easily fulfills the minimum data requirement, reducing by a factor of 4 or 12 the number of years that historical data series are required to go back in time.

Unfortunately, the data available for developing countries, and low-income countries in particular, often do not meet the minimum requirements for this type of analysis. For many of these countries, fiscal and debt data are typically available for a short time series and exclusively with annual frequency. Further, in the exceptional instances, when long enough time series are available for all the variables to be analyzed, the data tend to be inconsistent because of significant structural shifts —such as in relation to the Asian financial crisis—which significantly complicates estimation on technical grounds.

Recent attempts to circumvent these difficulties include Garcia and Rigobon (2004), who estimate a VAR system for Brazil based on monthly observations of debt stocks, the real interest rate, inflation rate, and the exchange rate. In this approach, the data gap pertaining to primary fiscal balances and gross domestic product, which are not available on a monthly basis, is closed by deriving suitable series from quarterly data adjusted for inflation. An alternative approach, also followed in this chapter, uses quarterly macroeconomic data to estimate a VAR system from which to derive a quarterly probability distribution. The latter is then annualized for the construction of fan-charts, which are easily reconciled with the annual frequency of the usual DSA framework (Ferrucci and Penalver 2003; Celasun et al. 2006).

For the stochastic analysis in this section, quarterly data for each of the eight economies on real growth, inflation, and the exchange rate were drawn from national sources. Quarterly data for the nominal effective interest rate on central government debt are not available in the DSA data set of any of these economies and had to be generated instead. This process involved identifying, for each economy, the annual interest rate series among those available in the International Monetary Fund's International Financial Statistics database that most strongly correlates with the interest rate series of the annual DSA data set. The difference

between the annual International Financial Statistics series and the effective rate of interest applied in country DSAs was then used to proportionally adjust the corresponding quarterly International Financial Statistics series, to ensure that it corresponds with the DSA annual effective rate of interest when annualized after simulations.

Appendix 9.7: The Stochastic Simulation Analysis

Stochastic simulation is performed according to Eq. (9.5), defining the debt dynamics, and Eq. (9.6), representing the vector auto-regression (VAR) system of the macroeconomic variables affecting the debt dynamics. The VAR system in Eq. (9.6) can also be expressed as a reduced form VAR as follows:

$$X_t = A_0 + \sum_{k=1}^{p} A_k X_{t-k} + \upsilon_t, \quad \upsilon_t \sim N(0, \Omega) \tag{9.11}$$

where X_t is a vector of variables, A_0 is a vector of constraints, k and p are the beginning and ending lagged values, t is the time, and $\upsilon_t \sim N(0, \Omega)$. is a vector of residuals that are normally distributed with mean 0 and variance Ω. The residuals contained in υ_t may be contemporaneously inter-correlated as characterized by the structure of its variance–covariance matrix (Ω). Thus, Ω provides the contemporaneous joint statistical properties of the macroeconomic disturbances affecting the debt dynamics.

Alternative paths for each of the macroeconomic variables are simulated by using the estimated VAR in (9.11), taking lagged values of X as the initial condition and the draws of the corresponding residuals for each period. An appropriate correlation matrix is needed to ensure that the draws are consistent with the estimated distribution of the residuals to reflect the underlying properties of the data. To that end, a Cholesky decomposition is applied to Ω, to derive a consistent correlation that determines the random draws on the residuals. The simulations involve 10,000 draws on the stochastic residuals, from which the distributions of X over the projection period are derived. These projections of X_t are first annualized, to produce an annual spectrum of values for the macroeconomic variables determining debt dynamics over the horizon of projection. The spectrum of the corresponding debt paths is then computed recursively according to Eq. (9.5), assuming a certain path of primary budget balance and the share of foreign currency denominated debt over the projection period, together with the spectrum of annualized macroeconomic variables projected from the quarterly VAR above.

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Chapter 10
Round Table

Debt Management: Panel Discussion

Charan Singh

10.1 Introduction

In India, debt is managed by the Central and state governments, and the RBI, but a conflict of interest between debt management and monetary management arises due to the choice of keeping debt servicing costs low. A separation of these two was expected to improve debt management by entrusting it to portfolio managers with expertise in modern risk management techniques. The move has been advocated by various expert committees since the late 1990s. Despite consistency in recommendations to separate debt management from monetary management, there has been hesitancy on part of the RBI and GOI. Setting up a specialized framework on public debt management to manage liabilities of the government would also imply that the borrowing programme would have to be completed without any support of the regulator. However, it will also enable a focused approach to asset–liability management of government, undertake risk analysis and also help the government to prioritize public expenditure through higher awareness of interest costs. The complications have been discussed in the following round-table discussion.

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10.2 Discussion

Charan Singh (CS): The central bank's effective autonomy remains somewhat ambiguous till date; hence, it is possible that the Reserve Bank of India may become vulnerable to the populist policy measures of the Central government? In that case, meeting policy objectives including debt management will be practically difficult. Under such circumstances don't you think a separate Debt Management Office (DMO) with autonomous powers would serve the purpose more effectively?

Harun Khan: The public discourse has focussed on three kinds of conflict in sovereign debt management being done by the central bank: (a) The objective of the RBI as a public debt manager may conflict with the prevailing monetary policy stance and the market participants; the central bank may not be increasing interest rates to keep borrowing costs low and thereby compromising on inflation management; (b) The central bank, being also a debt manager, could take government debt on its balance sheet to ensure successful government borrowing, implying that the government borrowing plan is completed without any shortage of resources to the government; and (c) The imperatives of the government borrowing programme may influence the decision of the RBI as regulator of banks, to reduce the statutory liquidity ratio requirements. In my view, the institutional arrangements for debt management must take into account the country-specific context and requirements. To set the context for this debate, we can examine the conflict of interest argument in the Indian context. Even as the government's borrowings went up both in absolute and proportional terms, the RBI raised policy rates several times during the past five years; clearly indicating its commitment to price stability. The FRBM Act, 2003, which precluded the RBI from participating in the primary auction of government bonds has resolved the conflict of interest with monetary policy. Monetary signalling in India is now done by the repo rate (policy rate) under the liquidity adjustment facility (LAF) and not the bond yields. While theoretical formulations can conjecture conflicts of interest, the validity of assumptions needs to be tested by

evaluation of experience/performance and on that count, conflict of interest cannot be established with regard to the RBI.

K. Kanagasabapathy: The RBI is legally not an autonomous institution. It claims often to enjoy a certain degree of operational independence in the area of monetary management. But, in the present arrangement where the RBI is burdened with the responsibility of internal debt management, the RBI's use of monetary instruments especially for liquidity management such as cash reserve ratio, liquidity adjustment facility, and open market operations can be clouded easily by the compulsion to achieve the objectives of debt management such as smooth conduct of the government's market borrowing programme and keeping the government securities' yields under check. Otherwise, how one can explain consistently negative yield of 10-year maturity prevalent in the market in recent times? In that process, the government securities (G-Sec) yield curve which is expected to serve as the benchmark for debt and credit markets in general gets distorted. The interest rate channel of monetary policy is rendered ineffective. In this environment, creation of a separate DMO with independent objectives can definitely help in freeing the RBI from the use of monetary instruments for debt management and to avoid mispricing of government securities yields.

Peeyush Kumar: The argument is self-defeating. It must be appreciated that the debt obligations of the government flow out of its fiscal operations. There is parliamentary control on the fiscal policy, which in turn determines the borrowing obligations of the government. Moreover, under the FRBM regime, levels of deficit are subject to direct legislative control. Subject to these parliamentary controls, debt management is purely an executive function of the government. There is a little sense in talking of an independent debt authority. Presently, debt is managed by the RBI as an agent of the government. If the government so chooses, it can take up debt management directly or through an attached office. In any arrangement, debt functions will by definition continue to be intimately linked to fiscal policy of the government. Therefore, it cannot be argued that independent debt management will better serve the cause of seclusion from the populist measures of the government. On the contrary, the RBI may be at arm's length from the government in this respect as compared to any other alternative.

R.K. Pattnaik: There has been some debate in the past on the separation of debt management from the RBI. A perusal of the debate revealed that in the RBI itself there were differences of opinion. Nevertheless, the statement of the then RBI Governor (Dr. Subbarao) against the separation was praiseworthy, particularly in the context of the proposal in the Union Budget 2011–12 to introduce the Public Debt Management Agency Bill. The MOF of the government of India should consider revisiting the whole issue in the light of the governor's public statement and also Deputy Governor Mr. Khan's views expressed in this conference as, globally, there is wide recognition that debt management is no longer a routine exercise. For prudent fiscal, monetary, and debt management, it is advisable that debt management should continue with the RBI. The separation of debt

management from the RBI will have an adverse impact on the market. It is pertinent to note that in the dynamic environment created by the introduction of the LAF in 2000 and the prohibition on RBI's participation in the primary market under the FRBM Act, 2003, the primary market interest rates, which are auction-driven, are no longer viewed as interest rate signalling by the RBI. Therefore, the conventional argument that there is conflict of interest does not have much validity. Furthermore, the cost of government borrowings is inextricably linked to the level of fiscal deficit rather than the arrangement for debt management by the central bank. Evidence suggests that the smooth conduct of the government's large borrowing programme has been facilitated because the RBI, apart from being the banker and debt manager to the government, also has a broad range of responsibilities, including regulation and surveillance of financial institutions, financial markets, and market infrastructure.

Ritvik Pandey: If it is perceived that the RBI's autonomy is at risk due to populist policy measures of the Central government, it is hard to believe that a newly constituted DMO can maintain its autonomy. Over the years, the RBI has earned its autonomy and independence in the system and would be far more capable of handling populist policy measures than any other body.

CS: What is the right model for a separate DMO? Should it be with the government, the RBI or an independent debt management body?

Harun Khan: To put the debate in its historical context, with regard to the location of sovereign debt management functions, a multiplicity of arrangements exists around the world: in the MOF, central bank or autonomous debt management agency. Cross-country experience shows that there is no international best practice and the adoption of any particular model could depend on country-specific circumstances. In the 1990s, several OECD countries entrusted debt management to separate agencies with the objective of providing monetary policy independence to central banks so that they could concentrate on inflation management and not be impacted by the conflicting objective of raising debt for the sovereign at low cost. It was also perceived that independent DMOs would improve operations of debt management through improved accountability and specialization. Many developed nations have followed suit.

Vijay Singh Chauhan: Debt management function performed by the RBI is an agent function performed on behalf of the GOI as the principal. In fact, the GOI pays debt management fees to the RBI for the same. In such a scenario, the issue also merits consideration from the point of view of the principal's freedom to choose the agent.

Peeyush Kumar: I would like to refrain from voicing a personal opinion in the matter, as I am directly dealing with the subject in my official capacity. Suffice it to say that the government has announced its decision to separate debt functions from the RBI. It is desirable that the government and the RBI work out the mechanism jointly so as to ensure that the emerging structure is ably designed.

R.K. Pattnaik: Debt management should be with the RBI. Independent management and issuance of government debt could distort the sovereign yield curve in a thin market, jeopardizing the monetary signalling and its transmission across the yield curve. In my considered view, a likely outcome of the separation could be the emergence of multiple debt management agencies, viz. one for the state governments' market borrowings and another for the Central government borrowings. What will happen to the public debt offices of the RBI? In such a scenario, coordination among debt managers will be difficult and will eventually lead to conflict and confusion.

K. Kanagasabapathy: In creating a new institution for public debt management, the complex nature of government liabilities has to be prominently kept in mind. First, government liabilities include other liabilities besides market debt. Second, it includes both internal and external borrowings. Third is the three layers of government—centre, states, and local bodies. An independent DMO should be able to integrate all these. Apart from Central and state governments, the RBI is also a stake holder because of the close nexus between fiscal and monetary management. Therefore, an ideal structure would be an independent statutory body owned jointly by Central and state governments and the RBI with arm's length relationship with all these stakeholders. This structure can enable a holistic view of public debt, its sustainability and related risks and also ensure that governments do not fail to meet the fiscal rules and discipline as demanded by the fiscal responsibility and budget management legislations and related commitments.

CS: Would a separate DMO help in making monetary policy more independent?

Harun Khan: The process of managing public debt is an onerous responsibility, with implications for financial stability in the short to medium term and inter-generational equity in the long run. Our debt portfolio is reasonably stable and sustainable, and due to our conscious strategy of elongation of maturity, low level of foreign currency debt, and large domestic investor base, risks are at a low level. There is, however, an unfinished agenda of consolidation of public debt, and we are moving towards this goal by active debt management through reissuances, buybacks, and switches. More efforts are needed to develop a deep and liquid G-Sec market that allows the government to borrow more efficiently, different classes of investors to enter and exit the market freely, and private sector issuers to price their offerings transparently. We are, therefore, committed to improving liquidity. The RBI has discharged its mandate of managing the public debt in an efficient and effective manner. There is merit in continuance of the present institutional arrangement. If at all separation of debt management from central bank has to be effected, it should be preceded by a well thought strategy focussing on perfect coordination among the DMO, the MOF, and the RBI.

Peeyush Kumar: The idea of separation of debt functions from the central bank emanated because of inherent conflict of interest between the debt functions and other obligations especially with the central bank's role in targeting inflation through interest rates. Internationally also it is unanimously accepted that there is an inherent conflict of interest. However, there are differences on how to resolve this

conflict. While some countries have argued for separation of the two functions, it is also generally agreed that there has to be close coordination between debt management, fiscal policy, and monetary policy; liquidity management is contingent upon debt function and has to be calibrated in tandem. Therefore, by definition, the debt manager, the government and the RBI need to work in close coordination. It is the institutional arrangement required for this harmonization that is under discussion. Under the existing scheme, RBI manages the debt functions and liquidity internally, with effective synchronization by the government of the former. Once the debt function is segregated from RBI, the policies will have to be synchronized between the government, central bank and debt manager effectively.

R.K. Pattnaik: Not necessarily. The RBI has been successfully managing the government borrowing programme with its knowledge and experience in studying market liquidity, investors' appetite and risk constraints, apart from timing of debt issuance in line with its avowed objective of maintaining financial stability. There has not been any empirical research to prove that the monetary policy function has been adversely affected because the RBI is the debt manager. Furthermore, evidence suggests that cash management of the government has remained poor and inefficient. The RBI, as banker and debt manager, has been helpful in accommodating the deficit and surplus mode, taking into account the absorptive capacity of the market. One doubts if an independent body will have the experience to handle cash management of such magnitude and varying degree. In the post-crisis environment globally, there has been a renewed focus on debt management as being a critical element in overall conduct for financial stability, as events in Greece have shown. Studies undertaken by multilateral agencies such as the World Bank, International Monetary Fund (IMF) and Bank for International Settlements (BIS) observe that there is merit in leaving debt management with central banks. The BIS study (November 2010) particularly noted that debt management can no longer be viewed as a routine function that can be delegated to a separate, independent body. Instead, such management lies at the crossroads between monetary and fiscal policy. The study further opined that during difficult times, government securities market conditions are better managed by the central banks. In view of this, the study recommended that the central banks should be encouraged to revert to their role of managing national debt. The recent handling of the market borrowing programme by the RBI in a non-disruptive manner in its capacity as debt manager and monetary authority clearly indicates that there exists a strong confluence of interest in debt and monetary management, contrary to conventional view that there is a conflict of interest. In view of above factors, it is imperative that debt management continues with the RBI. The Middle Office that has been set up within the MOF may be further strengthened to coordinate and provide technical and analytical input to cash and debt management committee. The GOI may reconsider introduction of the bill on Public Debt Management Agency with an emphasis on separation of debt management from the RBI.

K. Kanagasabapathy: Operational independence in monetary policy would require some legislative changes. Even in the absence of that, separation of debt

management can help making monetary policy more independent than what it is today.

CS: In the current economic situation, when debt to GDP ratio has been declining, would separating debt from monetary management be useful for India?

Harun Khan: A point that merits attention is that the proponents of separation, while citing examples from countries which differ significantly with regard to institutional milieu from India, pay little attention to nuances of debt management operations. For instance, domestic debt in the UK is managed by the DMO, whereas external debt is the responsibility of the Bank of England. The whole concept of an "all-in-one debt office" is a theoretical construct rather than a real organization. It is also important to note that sovereign debt management (SDM) is much more than a mere resource raising exercise especially in a developing country context like ours. The size and dynamics of government market borrowing have a much wider influence on interest rate movements and systemic liquidity. An autonomous DMO, driven by specific objectives exclusively focussing on debt management, may not be able to manage this complex task involving various trade-offs. With regard to autonomous DMOs focussing on specific responsibilities, the experience of European debt managers is instructive. The experience of the DMO in the Euro area (especially Greece, Portugal and Ireland) has been less than satisfactory. The independent DMOs seemed to have been guided by perverse incentives and issued short-term/foreign debt in a disproportionate fashion, intensifying roll-over risk, sovereign risk, and financial instability. The debt management strategy and operations have resulted in a skewed maturity profile with balloon payments. For instance, Greece has bunched maturities during 2010–19 with interest payments on public debt constituting nearly 40 % of Greece's budget deficit during 2009. Large proportion (above 70 %) of debt of Portugal, Greece, and Ireland was held by non-residents. As foreign investors turned risk averse and started withdrawing investments, rating agencies downgraded the debt of these countries. The debt management strategy has jeopardized the fiscal situation and financial stability. Therefore, an autonomous DMO focussing on specific objectives, such as cost minimization in isolation and not in conjunction with other macroeconomic policies may result in sub-optimal debt management outcomes. Persistent fiscal deficit warranting huge borrowings, often at the cost of flow of reserves to the private sector, has been the predominant feature of the Indian economy. Increasing borrowings by the government, the central and the state governments, has to be strategically planned and tactically executed keeping in view the market conditions, liquidity situation, and macroeconomic implications. Thus, given the persistently large size of the market borrowings, there is a strong case for confluence of interest between monetary policy and debt management in India. In a situation of excess capital flows requiring forex intervention from the RBI and the consequent sterilization through issuance of government securities under the Market Stabilization Scheme (MSS), the coordination of debt management with these operations needs to continue. Separation of debt management from the RBI will make it very difficult to harmonize these operations as is done at present.

In India, the genesis of the proposal could be traced back to various committees/working groups, such as Committee on Capital Account Convertibility (1997); Review Group of Standing Committee on International Financial Standards and Codes (2004), Percy Mistry Committee (2007), Internal Working Group on Debt Management, MOF (2008), and finally Financial Sector Legislative Reforms Committee (2013), which suggested separation of debt management from monetary management. During this phase, the RBI, while suggesting separation, has made it conditional on attainment of three milestones: development of the G-Sec market, durable fiscal correction, and an enabling legislative framework. It is argued that a separate DMO will help establish transparency and assign specific responsibility and accountability on the debt manager and could lead to an integrated and more professional management of all government liabilities, with a focussed mandate. The significant impact of government borrowing on the broader interest rate structure in the economy and, therefore, on the monetary transmission process in financial markets, makes it a critical component of the macroeconomic management framework. In such a scenario, central bank involvement in managing the market volatility and market expectations arising out of government debt borrowing becomes necessary. Past experience, reinforced by recent developments regarding huge market borrowing of the government, has shown the necessity of this approach. Such will be the case even if the central bank is disassociated from the operational aspects of debt issuance. This being so, it is better for the central bank to have hands-on involvement. It is, therefore, imperative that future course of action needs to be decided based on ground realities of our country rather than from an ideological perspective emerging from post-crisis international experience and the fact that the separation of debt management from the central bank could compromise the effectiveness of monetary policy, efficiency of debt management, and stability of financial markets. Therefore, there is a strong case for continuance of present system of central bank managing debt management in India. In case, however, a decision is taken to move the debt management function to a separate unit, and it needs to be preceded by well thought out strategy on timing of commencement of its operations, selection of personnel, their incentive structure, performance evaluation benchmarks from the long-term debt sustainability points of view and arrangements for perfect institutional and operational coordination among the debt management unit, the MOF and the RBI.

Peeyush Kumar: There is no good time for separation of debt functions. Of course, the RBI has raised the issue of high levels of debt and prevailing macroeconomic conditions to argue for deferring the segregation of the debt function to a more opportune time, but the merit of this argument is debatable. It is a fact that high levels of government borrowings require active liquidity management by the bank. Since the central bank does not issue its own securities, it may require using government borrowing for market interventions under special circumstances. This brings back the argument that there has to be close and effective coordination between debt operations and market operations. An independent debt manager leads to another layer in this coordination matrix and may lead to difficulty if this is

not managed with dexterity. But that is an argument for better institutional arrangement; the timing of this arrangement is not the issue, and it would be critical to design appropriate institutional mechanisms at whatever juncture it is attempted.

R.K. Pattnaik: The Indian economy in the post-crisis period has been characterized by deceleration in growth and persistent inflation. The main contributing factor to such economic malaise is poor fiscal management. Even under the given FRBM Act, the Indian authorities were unsuccessful in adhering to the golden rule of government finance, that is, the elimination of revenue deficit. Thus, the borrowings by the government are pre-empted for meeting current consumption expenditure. The continuation of revenue deficit has adversely affected growth through dissaving of the government. Furthermore, this has led to a lower provision for capital outlay. Inflation management is difficult as expenditure pattern of the government fuelled demand side, thereby making monetary policy ineffective. It has also constrained the scope of fiscal space.

As long as revenue deficit remains in the fiscal sector the threat to fiscal deficit and debt continues. One wonders whether the GOI, which has failed to put in place an effective and efficient cash management system, can handle debt management with a separate debt management office. The RBI is right in its recent assertion that the separation of debt management from RBI is a sub-optimal choice. In the same spirit, one could also argue that fixation of ways and means advances (WMA) limits with mutual agreement, which has largely remained arbitrary, is also a sub-optimal choice. It is important to note that poor cash management practice not only wastes money, but also inhibits the development of local financial markets and undermines the effectiveness of monetary policy. First, the limits could be formula based as it is for the state governments. Second, in order to even out bunching of receipts from advance income tax payments, a monthly-basis system could be considered against the present system of quarterly basis. Third, the receipts given to state governments in terms of grants and tax could be reworked taking into account cash flows. Fourth, since consolidated sinking fund has not been put in place so far for the GOI, it may be considered, to take care of the repayment system. Fifth, the calendar for market borrowings and treasury bills to a large extent takes care of repayments, but it could be re-examined taking into account the cash flow statement. For this to be effective, all the agents have to be proactive, not leaving the management to the RBI. Sixth, the approach so far has been to treat cash management of GOI and state governments separately. It is appropriate to put in place a comprehensive approach. Seventh, it would be advisable to have an expert committee to review the current arrangements for WMA/overdraft/surplus and prescribe limits and other related arrangements.

CS: How do you explain difference in the fiscal deficit and borrowing requirement of the Central government observed in many of the years?

Vijay Singh Chauhan: In theory, the fiscal deficit of the government will equal the net borrowing (i.e. net of repayment), adjusted for the changes in the cash balances. In the case of GOI, the position is rather complicated. Firstly, Central government has a single cash balance account covering the consolidated fund, the public

account, and the contingency fund. As you know, fiscal deficit relates only to transactions covered by consolidated fund. Therefore, surpluses in public account reduce the market borrowing requirement. Secondly, cash balance account of all state governments and the Central government is linked through the mechanism of ad hoc treasury bills. Put simply, cash balance surpluses of state governments get transferred as borrowing to Central government. Since state governments have been running cash surplus for many years now, market borrowing requirement of Central government can be reduced to that extent. Thirdly, there exists the mechanism of Market Stabilization Scheme (MSS) which provides for GOI borrowing in excess of its requirement, at the request of RBI for sterilization purposes. Since borrowed funds are not available for spending and are sequestered, it does not impact fiscal deficit.

CS: In the pre-crisis period, a dominant view was emerging that cash, debt, and liquidity management should be segregated. What are the reasons after the global financial meltdown that led to a predominant shift in that view? What according to you would be the correct approach for India to follow?

Harun Khan: In the pre-crisis phase, the functions of monetary policy, financial stability, and sovereign debt management (SDM) used to be looked upon as an "impossible trinity". Post-crisis, their interdependence is increasingly being recognized. Unlike in the past, central banks' operations are not currently confined to the shorter end but are carried out across the yield curve. Similarly, government debt managers, opportunistically or under compulsion, are increasingly operating at the shorter end. This has intensified the interaction between monetary policy and SDM, warranting greater coordination in the interest of policy credibility and financial stability. Internationally, there has been a rethinking on the issue of debt management by central banks, with scholars like Charles Goodhart articulating that debt management being a critical element in the overall conduct of macroeconomic policy, central banks should be encouraged to revert to their role of managing national debt. In this context, the cause of coordination is always better served under the same roof than by a separation from the central bank, accompanied by a closer inter-institutional coordination. There could be an argument that coordination mechanism could be designed between the central bank and the DMO either by statute or executive order. The experience of coordination mechanisms between the DMO and the central bank, which are vital for economic management, is however, far from satisfactory and has impacted debt management. There have been instances of failed auctions, in the UK (March 2009) for instance, causing reputation risk for both the authorities. Against this backdrop, it is strongly felt that given the large size of market borrowings, there is a confluence of interest between monetary policy and debt management in India.

K. Kanagasabapathy: Cash and debt management functions are inseparable by definition since it is the need for cash that necessitates borrowings. Also the situation of cash surplus needs to be handled in an integrated manner. Liquidity management is essentially a monetary operation. The liquidity management by the central bank should ensure that quantum channel of monetary policy operating

through its liquidity management is consistent with its tight or easy policy stance. For instance, when a tight monetary policy stance is taken it is necessary that the liquidity is also kept tight in the system. If enormous liquidity is provided when the policy stance is tight, it will not ensure effective operation of the interest rate channel. When cash and debt management is combined with liquidity management, then the liquidity management can be clouded by the objectives of debt management. This is one reason why the G-Sec yields get mispriced contrary to monetary policy stance. While liquidity management is to be independent of cash and debt management, it is still necessary that the monetary authority is kept informed of cash and debt flows impacted by debt management agency's actions since the total liquidity in the system is influenced by movements in cash balances of governments and also primary issuances of government debt. This information sharing will ensure smooth operation of liquidity management consistent with monetary policy stance.

Peeyush Kumar: The US Fed policy of quantitative easing was to a great extent responsible for the bubble that was created in years preceding global financial crisis (GFC). The 2008 crisis was also the result of reckless debt practices adopted by some countries, especially in the European Union. Thus, analysis of financial crisis faced at global level led to growing sense that cash, debt and liquidity management functions must be discharged in tandem by central banks. It was in some way a reversal of the earlier stance of segregation of these functions, and there was general consensus that there had to effective dovetailing of these policies even when they were being performed separately. India has had a record of prudent financial systems which was demonstrated by the fact that GFC did not have any direct impact on Indian financial markets. There can be no denying the fact that debt policy and liquidity management functions are intertwined and even if they are to be segregated there will be need for synergy in policy. Much depends on institutional arrangement and its functioning.

R.K. Pattnaik: A very careful decision needs to be taken. One has to note that cash, debt, and liquidity management are public goods. The persistence of large surplus in recent times by government with the RBI has adverse implications for fiscal policy, monetary and liquidity management, and domestic public debt management. Unlike cash deficit management, cash surplus management has not received adequate public attention. This could be because in public policy, it is apparently assumed that emergence of surplus is "good" and deficit is "bad". The persistence of cash surplus also makes debt management difficult. In recent times, there were instances of cancellation of auction of dated securities and treasury bills implying that the calendar of issues becomes redundant and there is a stress on price discovery process in subsequent auctions. We have a Cash and Debt Management Committee which is an excellent institutional arrangement with representatives from the RBI and the government. Further strengthening of this institutional mechanism could be a better option than separation of functions. A few policy options for consideration of the committee are in order.

First, introduction of an ex ante cash flow statement on a daily basis to analyse the cyclical and structural factors. Second, elimination of structural factors contributing to cash surplus and fixing a limit of surplus for the government in the same manner as WMA. Third, transferring the investment in 14-day intermediate treasury bills with immediate effect to "consolidated sinking fund" investment to address the humps in debt repayment in the immediate future. Fourth, advance tax collection on a monthly basis in place of a quarterly basis. Fifth, in order to ensure transparency, the Central government and the RBI may consider disseminating data to the public on the modalities of surplus investment, which includes the volume, rate of interest, and maturity. Sixth, one option which needs serious consideration of the authorities is investment of government surplus in market through an auction system.

CS: What are your views on debt sustainability? Is there an internationally accepted benchmark for assessing the sustainability of domestic debt? If not, what is the underlying mechanism adopted by the GOI to identify the threshold range of sustainable debt?

Benno Ferrarini: International bodies, such as the IMF, have adopted a debt ratio of 40 % to GDP as a rule-of-thumb benchmark for emerging markets. Unfortunately, it is far from straightforward to establish a relevant benchmark, or debt limit, that distinguishes a safe debt ratio from a perilous one. Such a benchmark should reflect a country's debt tolerance; i.e. its capacity to successfully manage fiscal policy as debt rises. But debt tolerance depends on a wide range of country-specific factors, including debt structure, hidden liabilities, economic volatility, institutional quality, adjustment record, and default history that are difficult to translate into a benchmark. In the case of India, the benchmark is likely much higher than 40 % to GDP. The country's share of external debt is small, which limits exposure to foreign sentiment and discipline about debt sustainability. Moreover, debt financing and management in India is greatly facilitated by the fact that the public sector itself, through shares in banks and insurance companies, holds a significant share of GOI securities. Finally, nearly all of the government debt is in fixed interest loans and average residual maturity of the Central government debt is relatively long by international standards, so the refinancing risk is low. Notwithstanding these considerations, there is no room for complacency and the public debt ratio must be held closely in check. The global financial crisis in 2008 —and a marked slowdown of GDP growth more recently underscore the need for continuing policy focus to ensure fiscal sustainability and financial stability, and for further action towards strengthening the practices India employs in managing its public debt.

Peeyush Kumar: There are no internationally accepted benchmarks for sustainable levels of debt. Some advanced economies have very high levels of debt without any major macroeconomic instability, while a few countries with relatively lower levels of debt have faced serious crisis. Interestingly, emerging economies generally have more stable debt levels. Debt sustainability has to be viewed in the specific macroeconomic framework of the country; pertinently in the context of debt profile, external risk, financial systems etc. In the Indian context, where debt is

predominantly exchange-rate shock free and domestically held in fixed tenor instruments, level of debt is not an overwhelming concern. Of more immediate concern is the increasing size of gross borrowing especially with roll-over raising the gross borrowing? With increase in government borrowing, crowding out of private investment has a deleterious impact on the growth cycle. The government has, under the new FRBM regime, limited its borrowing levels to provide impetus to private investment and revival of growth cycle.

R.K. Pattnaik: Our empirical exercise reveals that the tax buoyancy for the centre is around 1.35 and the total revenue buoyancy is 1.17, whereas the expenditure elasticity is 1.22. This indicates that an elimination of revenue deficit in the medium term looks difficult unless tax buoyancy is further increased with emphasis on minimizing the structural component. In non-interest revenue expenditure, the structural component predominates. However, the share of development expenditure in this category is lower than the non-development components. The persistence of revenue deficit accentuates the vicious cycle of deficit and debt. The current debt to GDP ratio at around 50 % for India seems to be lower than the European economies, the USA and Japan. However, a sheer low number is meaningless until the sustainability factor is suitably addressed by elimination of revenue deficit. In a federal set-up like India, the analysis of fiscal sustainability is incomplete without addressing underlying issues in state finances. Evidence suggests that fiscal consolidation in terms of reduction in revenue deficit has been more encouraging in case of state governments. However, our technical analysis suggests that this improvement has been achieved to a large extent by the Finance Commission (FC) awards. Thus, the indicative ceiling on overall transfer to states on the revenue account is set at 39.5 % of gross revenue receipts of the centre on the basis of the recommendation of the Thirteenth FC. Thus, the elimination of revenue deficit will have implication for state finances in terms of the tax devolution to states as well as grants-in-aid to states. For example, the share of grants in the total transfer has come down from 18.9 to 15.1 % from the Twelfth to Thirteenth FC.

Ritvik Pandey: While the state debt was relatively steady at around 20–22 % of GDP till the year 1997–98, it started increasing sharply after that. The fiscal deficit also remained below 3 % of GDP till 1997–98, but increased to 4.5 % by 1999–2000. One main reason for this sharp increase was implementation of Fifth Pay Commission report by the states and poor revenue performance by the states. By the end of 2003–04, the debt levels touched almost 32 % of GDP. To give a historical perspective, the debt to GDP ratio in 1971–72 was 20 % compared to 4 % in 1951–52. It came down to 18 % by 1983–84 and increased to 20 % by 1988–89. Therefore, the debt stress witnessed by the states during the first few years of this century was unprecedented and took its toll on delivery of public services. The states found it difficult to even pay salaries and repeatedly faced cash crunch. The debt of the state has to be approved by the Central government. This had been the primary source of control over the state debt till the Twelfth FC recommended that states legislate their FRBM Acts. The Twelfth FC also mandated states to chalk out

a debt consolidation roadmap in accordance with broad targets recommended by it. Later, the Thirteenth FC refined the debt consolidation roadmap and gave a formula for determining the borrowing ceiling of a state by the centre. Normally, the overall borrowing ceiling is decided by the formula given by the Thirteenth FC and then using a projected amount of inflows from other sources, the amount to be raised through market borrowings is determined based on which the RBI draws a borrowing calendar. Experience has shown that debt and deficit levels prescribed by the successive FCs, which now form part of the FRBM Acts of the states have worked well. It is not an easy job to fix an exactly optimally sustainable debt level. However, from a practical viewpoint, a good benchmark is one that is acceptable, implementable, and maintains the balance between affordability and development needs of the government. To this effect, current ceilings have passed the test of time.

CS: What has been the impact of low buoyancy of Central transfers and spillover of Central pay revisions on state finances?

Peeyush Kumar: The transfer of funds from the centre to the states has been increasing on two counts. One, successive FCs have been increasing the state's share of devolution, and the centre has been increasing the plan scheme allocations both under the centrally sponsored schemes and Central assistance to states. As a result of increasing devolution from the centre, state finances have shown marked improvement. With development functions being largely taken care by the funds from the centre, states have not only adhered to their respective fiscal targets but to a large extent achieved surplus on revenue account, despite pay revisions.

Ritvik Pandey: State finances have seen many cycles of ups and downs since independence, and states have adopted different strategies to cope with financial challenges that they faced from time to time. The states' capacity to deal with challenges differs widely. While some states are largely self-reliant, others heavily rely on Central financial assistance. While some face resource disability due to structural issues, others have been facing problems due to poor fiscal management over long term. Similarly, the cost disabilities faced by each state also differs. These disparities have led to each state being in a different status when it comes to debt and deficit management. While state finances have been primarily guided by factors such as composition of economy, demography, social development, and geography, there even have been certain one-off events that have had lasting or even permanent impact on a few states. For example, terrorism in Punjab has had almost a permanent impact on debt levels that the state has been into. There are certain events that have impacted the debt levels of all states but have had different impact on different states depending on their fiscal capacity, such as in the case of pay commissions. Overall, states have evolved their own strategies for debt and deficit management depending on their strengths and challenges. However, there has been some uniformity in their approaches, especially recently, mainly due to the overall legal framework, role of the centre and other central bodies like the RBI and the approach followed by the central finance commissions.

CS: The FRBM guidelines necessitate significant reduction in fiscal deficit, which may eventually affect government expenditure on the social sector. In this regard, to what extent will the FRBM Act be feasible for an emerging country like India?

Peeyush Kumar: Fiscal responsibility and budget management is the mechanism of legislative control over debt. It is not only desirable, but also essential in a parliamentary system to have such a control on one of the most important parameters of fiscal policy. The constitutional provisions of budgetary control provide for expenditure control, but since there is no direct control on revenues, deficit is incidental rather than a principal policy instrument. Fiscal responsibility and budget management brings back the focus on deficit and requires government to determine the size of borrowing upfront. In this sense, FRBM changes the orientation of fiscal policy. Since the turn of this century, it has become the mainstay of fiscal policy both at the centre and state level. In emerging countries like India, there is a definite need to provide for welfare and social sectors to cater to the vulnerable sections. However, it is also incumbent on the government to provide the right policy direction to growth to meet the growing aspirations of the nation. Governments have to be responsible enough to provide impetus to growth, which in turn allows access to more resources for welfare measures. There is a fine balance between the competing demands, and FRBM enjoins the government to follow a prudent debt and fiscal policy.

R.K. Pattnaik: The preamble to the FRBM Act 2003 states that it is: "An Act to provide for the responsibility of the Central government to ensure inter-generational equity in fiscal management and long-term macroeconomic stability by achieving sufficient revenue surplus and removing fiscal impediments in the effective conduct of monetary policy and prudential debt management consistent with fiscal sustainability through limits on the Central government borrowings, debt and deficits, greater transparency in fiscal operations of the Central government and conducting fiscal policy in a medium-term framework and for matters connected therewith or incidental thereto". Fiscal responsibility and budget management is based on the above objectives. Therefore, in the long run it is growth and social sector supportive. The fiscal consolidation through FRBM should emphasize the four Fs of fiscal empowerment (maximize revenue to the budget), fiscal transparency (avoidance of any creative accounting), fiscal marksmanship (maintaining budget integrity avoiding large deviation in the budget estimates, revised estimates, and accounts figures) and fiscal space (counter cyclical policies to manage the fluctuations in business environment due to exogenous shocks). If these four wheels are strong the fiscal sector, cart will have a smooth run.

Ritvik Pandey: Reduction of deficit does not necessarily mean reduction in expenditure. In fact, in India, fiscal reforms have been mainly revenue led. Governments at both levels realized that the revenue realization has been at a sub-optimal level and embarked upon ambitious revenue reforms, many of which were targeted towards fixing tax administration. Expenditure reforms in India are yet to take off full steam. Impact of some of the reforms like the shift to a

contributory pension scheme will be visible only after a decade or so. Social sector spending should only be the last causality of fiscal reforms since many other opportunities exist.

CS: What are your views on the introduction of the concept of effective revenue deficit in fiscal calculus?

R.K. Pattnaik: Introduction of effective revenue deficit (ERD) is a classic case of creative accounting and is against any norm of fiscal prudence. What are the advantages of ERD? The union budget makes a distinction in functional expenditure categories. Capital grants should not be part of revenue expenditure as it is meant for creating capital assets. What are the disadvantages of ERD? It is against the constitutional provisions of budget making. Annual financial statement (AFS) presented to the parliament according to Article 112 of the Constitution treats all grants as revenue expenditure. Effective revenue deficit suffers from time inconsistency. This was introduced as the GOI realized that elimination of revenue deficit (RD) looks difficult within a span of five years. Fiscal transparency suggests that sudden shocks to accounting arrangements should best be avoided. What are the net implications for the general government finances with ERD? Since grants, whether capital in nature or otherwise, are treated as non-tax revenue receipts, these are in AFS of state governments meant to finance revenue expenditure. To the extent, Central government reduces its RD and if these are not treated as revenue receipts of states, RD of states goes up by similar amount of reduction and has no impact in the general government RD. Since RD is not eliminated, there are macroeconomic implications in terms of savings and growth, and the vicious cycle of deficit and debt! Should we abandon the concept of ERD? In the interest of constitutional budgetary accounting coupled with adverse macroeconomic implications for savings and growth, the concept of ERD may be revisited and could be dispensed with.

Vijay Singh Chauhan: Deficit is an important indicator of the health of the economy, and different measures are intended to highlight different perspectives with which government deficit can be looked at. The GOI plays an important role of a financial intermediary, a role which has been declining over time for a variety of reasons. Thus, loans as an expenditure item have been going down. Significant changes in accounting practices, most important of which is in relation to small savings towards the end of the last millennium, also resulted in the decline in capital expenditure of the government. Effective revenue deficit seeks to address some such concerns.

Peeyush Kumar: The first version of FRBM, which was enacted in 2003 required elimination of RD while limiting the fiscal space. However, it was soon realized that there are certain problems in this approach essentially due to the federal nature of our financial system. As per accounting standards, all transfer payments are treated as revenue even when the amount is used for creation of capital assets. In other words, elimination of RD meant severe restrictions on the centre's ability to borrow resources even for capital spending in the states. This required the centre to deploy only balance from current revenues for development purposes which was

greatly constrained due to other compelling demands. It was felt that the FRBM regime was too restrictive and needs to be rationalized. Thus, in the new FRBM regime, the concept of ERD has been introduced and defined as difference between the RD and grant-in-aid for creation of capital assets (GIA Capex). By limiting RD below 2 % and setting the goal for elimination of ERD, the new version of FRBM provides for scope of mobilizing additional resources which can be exclusively set aside for the creation of capital assets in the field. Given the federal nature of government structure and accounting treatment of transfer payments, ERD is a novel approach to allow borrowings for capital use. It addresses the quality of government spending while keeping quantitative tap on borrowing levels.

Ritvik Pandey: The concept of ERD is the least understood concept and has been attracting unnecessary criticism. It has been widely acknowledged that the fiscal reform strategy should consist of twin efforts of reducing the fiscal deficit and eliminating the revenue deficit. While the first focusses on the quantity of debt, the second focusses on the quality aspect, that is, do not incur revenue expenditure out of borrowed funds but only create assets out of borrowed funds. If we accept this as a viable and desirable strategy, the problem at hand is the distortion associated with the revenue deficit, especially given the peculiar nature of the fiscal federal structure that involves a large amount of fiscal transfers. In the current context, grants for a scheme like Pradhan Mantri Gram Sadak Yojana (PMGSY) are classified as revenue expenditure although it leads to creation of assets in the economy. Similar is the status of Accelerated Irrigation Benefit Programme and many other such programmes.

If RD has to be reduced, outlays under these schemes also have to be reduced, which defeats the purpose as the purpose is to divert more resources towards capital expenditure. Therefore, it is desirable to devise a parameter that excludes these kinds of expenditure and target elimination of that parameter. The argument made in response is that the asset so created does not "belong" to the Central government. This is an extremely misplaced notion as the assets created by any level of government "belongs" to all levels of government. The returns on government's investments come in the form of higher economic growth and therefore higher revenues. To that effect, it is irrelevant which level of government builds roads or dams, and it will eventually have the same effect on industrial or agricultural growth. The question of implementation should be left to the efficiency. It is better if the Central government builds rails, state governments build state highways and panchayats implement PMGSY, but the impact of all these on the economy would be the same. If the Central government itself would have implemented PMGSY, it would have been out of the RD definition and just because it transfers that money to panchayats, it gets included in the RD. Therefore, to meet the requirement of "create assets out of borrowed funds", it is better to devise a parameter that is independent of the "implementation question". This purpose is served by the ERD.

Contrary to what is claimed by many people, ERD is hardly an accounting parameter. It is more of an economic concept. While this correction may not be relevant for countries that have occasional fiscal federal transfers, it is extremely critical for a country like India, where federal transfers are substantial and are of all

types. It makes the parameter more focussed. While some more distortions in the RD may still exist, it is at least one less.

CS: The Financial Sector Legislative Reforms Commission (FSLRC) Report recommends setting up of an independent debt management agency. Do you think the draft "code" in its present form will ensure the desired independence?

K. Kanagasabapathy: While the report of the Commission in its first volume recommends an independent debt management agency, the draft code presented in the second volume does not reflect either in spirit or letter the intention of the Commission in its first volume. The FSLRC envisages an independent public debt management agency (DMA) combined with a specialized framework on public debt management. The draft code is intended to create a specialised statutory public debt management agency that is equipped to manage the liabilities of the government in a holistic manner. This agency is expected to have independent goals and objectives—but as an agent of the Central government. The DMO is to be guided by an advisory council and run by a management committee with representation from the RBI and the Central government. The principles of governance, including transparency and accountability, will apply to all functions of the agency, its committee and council. The draft code, however, deprives both management committee and the advisory council of any independent functioning. The DMA will function under the overall superintendence of the finance ministry and will have to necessarily follow the instructions of the Central government. Thus, the DMA has been made subservient to the ministry and will not enjoy any independence. In the proposed arrangement, there is potential for the ministry to interfere in the day-to-day functioning of the DMA. The existing arrangement where the RBI performs the debt management function seems to be more independent than the proposed DMA.

Peeyush Kumar: As stated above, "independent" debt management is a misnomer. By definition debt policy is intimately linked to, in fact is part of, the fiscal policy. There can be various legislative controls on the policy, but it cannot be conceptually independent. The debt functions are an integral part of the government functions. Thus, there are examples of government, and through it the treasury department, directly discharging the debt functions or through an attached office. Alternately, in some countries including India, the central bank performs this function. Independence here refers to the operational aspect of the debt management, rather than the policy part, which needs some expertise. Since such expertise is difficult to develop in the ministries the preferred option is either through the central bank or an attached office with independence in market operations. Such independence is there under the existing system with the RBI and has been sufficiently built into the proposed system.

CS: This brings us to the close of our round-table discussion. There are a number of issues involved in separating debt from monetary management. In the initial years, it was the RBI which was suggesting that the separation would be helpful in policy making but in recent years, probably because of the financial crisis, 2008, the RBI does not consider the separation as appropriate. In the literature and as per the

empirical literature, many countries have separated debt from monetary management to pursue focussed objectives of debt and monetary management separately. The separation will help the interest rates to be market determined, as well as force the government to expand investor base to mobilise additional resources to meet the ever expanding demand from rising fiscal deficits.