ADB

Technical Assistance Consultant's Report

Project Number: 36525-01 (TA 3980-PRC)
May 2005

People's Republic of China:
Strengthening Public Debt Management
(Financed by the Technical Assistance Special Fund)

FINAL REPORT

Prepared by Charles Nicholas Morris, Joel Brewster Crane, Pauline Therese Gately

ACIL Tasman, Pty., Ltd.

Melbourne, VIC, Australia

For the International Department of the Ministry of Finance, People's Republic of China

Asian Development Bank

Improving Public Debt Management in the People's Republic of China: Issues and Recommendations

Report of a Technical Assistance provided by the Asian Development Bank under TA 3980/PRC

May 2005

ACIL Tasman

Economics Policy Strategy

ACIL Tasman Pty Ltd

ABN 68 102 652 148
Internet www.aciltasman.com.au

Melbourne office
Level 6, 224-236 Queen Street
Melbourne VIC 3000
Telephone (+61 3) 9600 3144
Facsimile (+61 3) 9600 3155
Email melbourne@aciltasman.com.au

Brisbane office
Level 15, 127 Creek Street
Brisbane QLD 4000
GPO Box 32
Brisbane QLD 4001
Telephone (+61 7) 3236 3966
Facsimile (+61 7) 3236 3499
Email brisbane@aciltasman.com.au

Perth office
Level 12, 191 St Georges Terrace
Perth WA 6000
PO Box 7035
Cloisters Square
Perth WA 6850
Telephone (+61 8) 9485 0300
Facsimile (+61 8) 9485 0500
Email perth@aciltasman.com.au

Canberra office
103-105 Northbourne Avenue
Turner ACT 2612
GPO Box 1322
Canberra ACT 2601
Telephone (+61 2) 6249 8055
Facsimile (+61 2) 6257 4170
(+61 2) 6249 7455
Email canberra@aciltasman.com.au

Darwin office
Suite 1/63 Marina Boulevard
Cullen Bay NT 0820
GPO Box 1000
Darwin NT 0801
Telephone (+61 8) 8981 2101
Facsimile (+61 8) 8981 2702
Email darwin@aciltasman.com.au

Sydney office
PO Box 170
Northbridge NSW 1560
Telephone (+61 2) 9958 6644
Facsimile (+61 2) 8080 8142
Email sydney@aciltasman.com.au

For information on this report

Please contact:

Nick Morris

Telephone (613) 9600 3144
Mobile (614) 17 601528
Email n.morris@aciltasman.com.au

Contents

Figures

Tables

Preface

Terms of Reference

This report provides an overview of the findings of Technical Assistance TA 3980/PRC and a series of recommendations. The terms of reference for this TA included requirements to:

Objectives…

- Evaluate the objectives of the PRC's PDM policy framework and its linkage to medium-term macroeconomic planning and forecasting.

…Institutional arrangements…

- Assess the legal, regulatory and institutional framework for PDM, with focus on intra- and inter-agency coordination among MOF, NDRC, and SAFE; assess the costs or losses incurred due to segmented regulation; and evaluate whether the PDM framework recognizes an appropriate interface between commercial and public policy interests.

..current approaches…

- Assess current approaches to and institutional capacity for research and analysis of various options for managing sovereign debt, including maturity structure, foreign currency exposure in relation to foreign exchange income and reserves, linkage with put/call options, downstream and on-lending arrangements, implicit or explicit contingent liabilities, and determination of guarantees.

..risk management…

- Examine risk management focusing on the exchange rate as well as interest rate risks, ALM systems, as well as performance measurement methods adopted by various agencies.

…PDM guidelines…

- Formulate PDM guidelines based on an evaluation of the PRC's adherence to the international guidelines on PDM.

…capacity building through workshops and a study tour

- Organize capacity-building initiatives, for key officials engaged in PDM - these programs will involve domestic and international seminars and study visits to selected developed and developing economies with advanced PDM practices.

Accordingly, the paper covers the key issues discussed above. A number of more detailed investigations have been carried out, particularly into aspects of the contingent liabilities the Chinese government faces in future, and these are reported in the detailed Technical Volume which accompanies this report. Where the detail is helpful to explain our main findings and to underpin our recommendations, this is referenced in the present report.

Workshops in Beijing

Three workshops have been held in Beijing on various aspects of public debt management, attended by Ministry of Finance (MOF) departments and State Administration of Foreign Exchange (SAFE) officials, and by officials from provincial governments involved in debt management. A sequence of meetings has been held with the relevant MOF departments and with SAFE and NDRC to clarify existing practices.

Study tour to Australia and New Zealand

A ten-day study tour to Australia and New Zealand was arranged for eight officials (six from MOF, one from a provincial government and one from

SAFE). This involved workshop sessions with the Australian Office of Financial Management, the Victorian Department of Treasury and Finance and the New Zealand Debt Management Office, as well as with academic and private sector groups.

Detailed notes and slide presentations from these meetings and workshops have been provided separately to ADB.

Evolution of work and focus on particular items has been guided by discussions

The work of the TA has evolved through these discussions, and in response to MOF requirements, with increased focus on contingent liabilities – particularly on pensions and the liabilities of SOEs - and on the role of the banking system in assisting in the control of liabilities. A parallel World Bank project was identified as implementing new data management systems and so the present TA avoided duplication with these activities.

List of Main Recommendations

Five categories of recommendations

Our recommendations for developing China's PDM process fall into **five broad categories**:

1. Institutional structure and inter-agency communication
2. Risk management and monitoring
3. Cash management
4. Contingent liabilities
5. The relationship of debt management to macroeconomic policy

Each of these is described in detail in the sections that follow, where a comparison of China's current practice to international best practice is made. The sections also seek to explain why the recommendations are important, what the benefits to China of implementing them would be and to provide practical guidance on implementation of the recommendations.

Part 1: Practical Reforms in the Short Term

Institutional structure and inter-agency communication

Step 1. Elevate legal basis for PDM in China.

The next four steps should occur simultaneously:

Step 2a: Establish a high level Leadership Group to harmonise PDM.

Step 2b: Set up a working office to support the Leadership Group.

Step 2c: The main implementation of PDM should be undertaken through a Co-ordination Committee.

Step 2d: Establish an Advisory Committee.

Step 3: Carry out systematic training in PDM.

Step 4: Move towards a single authority for debt management.

Risk management and monitoring

Step 1: Carry out a detailed audit of risk management in Chinese PDM.

Step 2: Ensure that sufficient staff trained in risk management are made available to the risk management function.

Step 3: Develop and publish a wider range of PDM risk measures.

Step 4: Develop a Debt Service at Risk (DSaR) measure.

Step 5: Develop an 'early warning system'.

Step 6: Define a suitable risk strategy for China.

Step 7: Develop and implement an Asset-Liability Management Framework.

Step 8: Roll out systematic risk management measures to local level.

Step 9: Introduce Integrated Treasury Management.

Cash management

Step 1: Implement immediate measures to reduce the amount of cash held in the Treasury account.

Step 2: Create guidance notes for those involved with cash management.

Step 3: Improve information flows.

Step 4: Develop a tailored forecasting system.

Step 5: Develop a forum for regular information exchanges between PDM managers and the PBOC.

Step 6: The liquidity needs of the evolving Chinese Capital Market should be identified.

Part 2: Potential PDM Issues in the Future

Contingent liabilities

Step 1: Carry out a detailed audit of compliance with existing rules.

Step 2: Establish a fiscal risk register.

Step 3: Establish the size, and potential growth in, explicit contingent liabilities.

Step 4: Establish the size of implicit contingent liabilities.

Step 5: Establish an electronic database, with suitable monitoring and updating procedures.

Step 6: Establish a centralised unit for monitoring contingent liabilities.

Step 7: Integrate risk management of contingent liabilities with the main risk management function.

The relationship of debt management to macroeconomic policy

Step 1: Establish more formal and closer links between PDM and macroeconomic policy.

Step 2: Standardised project management procedures should be defined and enforced.

Step 3: PDM managers should assist the main reform commissions in tightening lending controls.

Step 4: Effective fora for discussion of macroeconomic and PDM policy should be developed.

1 Introduction

Improvements in PDM practice

Public Debt Management (PDM) practice has evolved considerably over the last twenty years, in response to debt crises in numerous countries. Although China has a well developed institutional structure, and has historically been able to limit external debt exposure, the lessons from overseas are salutary. As **Table 1** shows, debt crises have hit a wide range of countries with different social and institutional structures, many of which were regarded as economically robust only a few years before the crisis occurred.

Table 1 Countries and Debt-Crisis

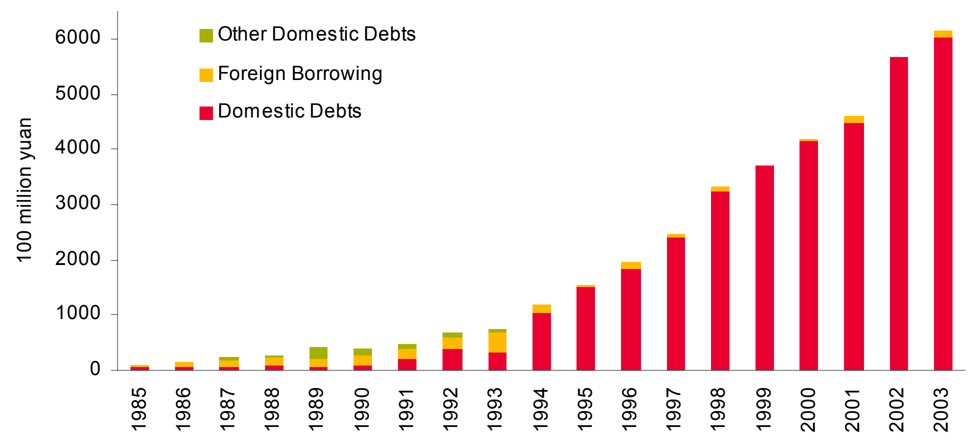
Countries	No. of crises	Average Length	Years in Crisis	Crisis episodes (entry-exit)
Argentina	3	5	15	1982-94,1995-96, 2001
Bolivia	2	6.5	13	1980-85,1986-94
Brazil	3	5.3	16	1983-95,1998-00,2001
Indonesia	2	2.5	5	1997-01,2002
Jamaica	3	4.7	14	1978-80,1981-86,1987-94
S. Korea	2	2.0	4	1980-82,1997-99
Mexico	2	5.0	10	1982-91,1995-96
Russia	1	3.0	3	1998-2001
South Africa	4	1.8	7	1976-78,1985-88,1989-90,1993-94
Thailand	2	1.0	2	1981-82,1997-98
Ecuador	2	8.0	16.0	1982 96, 1999 2001
Morocco	2	3.0	6	1983 84,1986 1991
Peru	3	6.3	19	1976 77,1978 81, 1983 98
Uruguay	3	2.0	6	1983 86, 1987 88, 1990 92
Venezuela	3	3.3	10	1983 89, 1990 91, 1995 98
Turkey	2	3.5	7	1978 83, 2000 2002
South Africa	4	1.8	7	1976 78, 1985 88, 1989 90, 1993 94

Data source: IMF Working Paper WP/)3/221: Predicting Sovereign Debt Crises, Standard & Poor's; World Bank; and Manasse, Roubini and Schimmelpfennig calculations

PDM increasingly important for China

Public debt is increasingly important in China. As shown in **Figure 1** there has been a steep increase in overall debt issuance, although the majority of this has been domestic. External debt has also risen steeply, but from 1995 onwards it rose at a similar rate to GDP, keeping the net external debt/GDP ratio to about 15% - well within internationally accepted norms – see **Figure 2**.

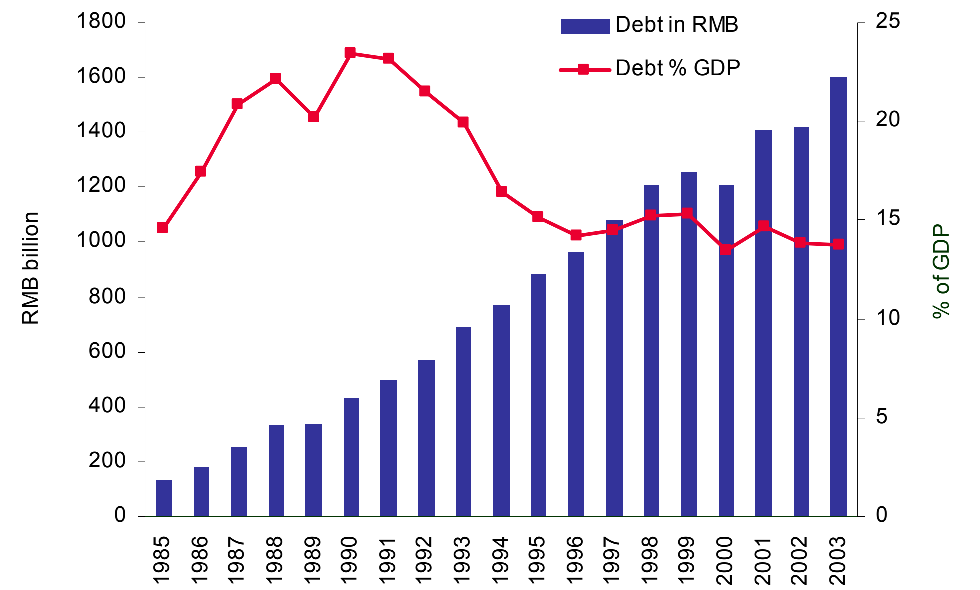
Figure 1 Government Debts Issuance



Note: Since 1999, other domestic debts were the sinking fund which come from the excessive part of the revenue from borrowings minus the expenditure for debts

Data source: *National Bureau of Statistics of China, 2004 China Statistical Yearbook*

Figure 2 Residual foreign debt and GDP – 1985-2003



Data source: *Data provided by SAFE*

2004 data shows steep rises in foreign debt

However, data released recently for 2004 by SAFE suggests that this may be changing. Foreign debt increased by 102.8% over 2003, while net foreign debt inflow increased by 360%. Outstanding foreign debts increased by 18.06% in the year – nearly twice China's growth rate of 9.5%.

PDM and contingent liabilities closely linked

Public Debt Management is very closely related to policy areas which create contingent liabilities. This is because contingent liabilities will become financing needs in the short, medium or long term and thus require financing through fiscal measures or by borrowing. Although, for example, banking,

SOE or pension reform are the direct responsibility of other departments or other agencies, it is essential that MOF, SAFE and NDRC are fully aware of the potential risks and the implications for public debt management. The need for this awareness is created by the likely future funding need involving public debt. In some cases, for example the restructuring of the banks and pension reform will need near-term funding.

China's needs for PDM are the inevitable result of impressive growth

It is not at all surprising that debt management is becoming more important in China. The very impressive growth rates of the last few years, which show little sign of slowing, would strain even the best run system. However, as well as managing fast growth, China is also implementing an ambitious program of introducing competition and market forces, which is requiring shifts in administrative and regulatory systems. It is doing this at the same time as developing embryonic capital markets and seeking to reform a problematic banking system.

That things are going as well as they are is a credit to the robustness of China's Public Debt Management institutions. However, there are in our view numerous places in which PDM in China can be improved, and the following sections explore these.

Internal and external debt

There is often a distinction made in China between internal and external debt. Direct sovereign debt, both bilateral and multilateral, is clearly external, while the loans of wholly Chinese-owned and financed banks are clearly internal. However, even today, the distinction is blurred. Foreign investment banks – which will become increasingly important with China's accession to the WTO – are regarded as domestic for debt classification purposes. Guarantees made to foreign companies as part of Build-own-operate (BOT) schemes clearly incur foreign liabilities. Foreign owned corporations operating in China can borrow externally, as can those with listings on external stock exchanges.

Today's liabilities become tomorrows financing needs

A further reason why it is difficult to make a firm distinction between internal and external debt is that today's internal liabilities (including guarantees and contingent liabilities) are likely to become tomorrow's external debt. Even if, for example, the recent capital injections into the major banks are fully financed internally, this will have the effect of displacing other potential users of domestic capital and some, at least, of these will seek to borrow overseas. Arguably, a reason for the steep rise in external commercial loans in recent years has been a shortage of local capital.

Necessary to consider wider picture

So this report, while it is primarily focused on external debt management, has necessarily to consider the wider debt management picture within China. Without a clear understanding of the full asset-liability picture of the Chinese government, it is in our view impossible to chart a clear and effective path for public debt management.

International experience is valuable for China

In our investigation of appropriate directions of change in China, we have been guided by the lessons from the development of public debt management internationally. Responding to the various debt crises around the world has forced other countries and international agencies to develop effective debt management procedures, from many of which China can learn. China is different in a number of respects from other countries, but it also has many similarities. In the debt management area, there are numerous aspects of China's potential problems which have been addressed in other countries. This means that international best practice provides good guidance on how to develop China's PDM systems.

As Deng Xiaoping observed:

> *"No matter if it is a white cat or a black cat; as long as it can catch mice, it is a good cat."*

Globalisation and market economy

International practices present fundamental principles that are applicable to China. International experience with debt management is <u>increasingly relevant to China because:</u>

- China's market economy is developing fast;
- Globalisation and the accession to the World Trade Organisation (WTO) will mean more interaction between China and other countries;
- Good PDM practices will enhance China's reputation in the global market and hence attract investors and partners; and
- China's capital markets are developing rapidly and will become much more sophisticated in future.

Not all overseas lessons are relevant for China yet

However, we recognize that not all lessons from overseas PDM are relevant to China. There are two important respects in which the development of Debt Management Offices (DMOs) in developed countries are different:

1. Some countries (such as Australia) have paid off most or all of their debt and hence run their DMOs primarily to support the local bond market; and
2. Overseas DMOs interact strongly with local and international, sophisticated, capital markets.

Other countries' PDM relies heavily on capital markets

The latter point means that many of the control systems and support mechanisms that in China have to be provided by the PDM administration can in these countries be left to the market.

Contents of technical volume

This report is accompanied by a technical volume, which explores the issues discussed here in considerably more detail. It also contains case studies from other countries and more extensive consideration of the inter-relation between PDM and macroeconomic management. The five sections cover:

1. International Guidance on Best Practice
2. Risk Management Guidelines

3. Relevant Experience in other countries
4. China's public debt management system and its problems
5. Co-ordination of PDM with macroeconomic policy

Annexes to technical volume

Detailed annexes to the technical volume cover specific further issues, as follows:

A Responsibility for External Debt Management in China

B Regulatory and Legislative Structure for debt management in China

C SAFE data on debt structure

D Contingent liabilities, now and the future

E The Banking System and its role in controlling future liabilities

F Bibliography

Imminent problems

China faces potential problems in the near future with:

- Rapidly increasing foreign debt, as evidenced by the 2004 results;
- The need to finance major capital injections into the banking system, and to support pensions and SOE reform;
- Market and rollover risk because of a trend towards short-term borrowing;
- A blow-out in domestic borrowing, leading to further pressure on the banking system and hence on overall financing needs; and
- Debt-financed projects which are undertaken with inadequate screening and project management, because of limited controls over on-lending.

Need for future funding

The relevance of the above for PDM is that these issues will all emerge as a substantial need for additional funding, which is likely to require bond financing in the future. Efficient PDM systems will be essential to manage the process and control the resulting risks.

Lowest cost at prudent degree of risk

International best practice guidelines for PDM[1] emphasise *"the need to ensure that the government's financing needs and its payment obligations are met at the lowest possible*

---

[1] In December 2003, the IMF and World Bank issued the final version of their Guidelines for Public Debt Management (PDM).

UNITAR has also published a series of Discussion Papers on Best Practices in External Debt Management

No.1 Best Practices in the field of External Borrowing (August 2001)

No.2 Best Practices in External Debt Management (August 2001)

No.3 Best Practices in Drafting Techniques of a Loan Agreement (October 2002)

No.4 Best Practice and Key Issues in a PDM Regulatory Framework (June 2003)

cost over the medium to long term, consistent with a prudent degree of risk". Many countries also include the *"development and maintenance of efficient primary and secondary markets for government securities"* as a complementary PDM objective.

Major opportunities for improvement in PDM

The major opportunities for improvement of public debt management in China that the Technical Assistance has identified and explored are:

1. Institutional Structure and Inter-agency Communication
2. Risk Management and Monitoring
3. Cash Management
4. Contingent liabilities
5. The relationship of debt and macroeconomic management

Sections seek to identify actions that can be taken by MOF, NDRC or SAFE

The sections that follow seek to clarify issues in public debt management which can be addressed by Ministry of Finance (MOF) Departments, SAFE or NDRC. The intention is to present evidence of the problem, specify existing processes as closely as possible and be as precise as possible about the potential solution. Cross-reference to the technical volume is made wherever detailed information has been collected which supports the arguments below.

Structure of each section

Each of the sections that follows tackles one of the areas listed above and is divided into five subsections as follows:

- Identifying the scope for improvement;
- Describing current practice in China;
- Presenting international best practice and comparing this with China's practice;
- Analysis of the problem against this background, identifying any deficiencies; and
- Providing recommendations, specifying practical steps to achieve the improvement, why the improvement is needed and how it should be implemented.

Recommended steps

The recommendations are, in turn, presented as a sequence of sequential steps. In a few cases – for example the steps required to provide a co-ordinated management structure for PDM – these steps are recommended to be carried out simultaneously.

No.5 Best Practices for Poverty Reduction and Sustainable Development in Africa (July 2003)

No. 6 Best Practices and Key Analytical Functions for PDM (2004)

Part 1: Practical Reforms in the Short Term

2 Institutional structure and inter-agency communication

Identified problem

China's PDM processes

China's public debt management (PDM) system involves close co-operation between several different government agencies, and between departments within those agencies. This is necessary because China's overall governance involves functions which are carried out by planning, finance and other bodies. Planning is the responsibility of NDRC; fiscal policy and day-to-day financial control is the responsibility of the Ministry of Finance; and monetary policy is the responsibility of the People's Bank of China. These administrative arrangements are embedded into Chinese public administration and the PDM system of necessity follows this structure.

Segmentation of management

As a result, PDM processes in China are spread across numerous agencies and departments within those agencies, both at central and at local level. Technical Volume Sections 1 and 2 discuss these responsibilities in detail. Existing processes work reasonably well for the direct control and measurement of external debt. However the institutional structure is less co-ordinated than in many other countries. As previous studies have identified[2], the segmentation of management of the PDM system creates inefficiencies and may lead to duplication of some functions. This will become important as the demands made on the PDM system increase in future.

Separation of functions also at local level

This separation of functions between agencies extends to local and provincial level, where local Fiscal Bureaux and PDRC interact with each other repeatedly, with their central counterparts and with donor countries and multilateral agencies, to assess each project for which debt financing is sought. In most other countries, and in the international best practice (which we explore below, and in detail in the Technical Volume) these functions are concentrated into a smaller number of organizations. In China there is continuous interaction between all these agencies. In our opinion, the existing process requires more repeated discussions than is efficient.

Segmentation may provide 'checks and balances'

We have explored the detailed methodology for these processes for both bilateral and multilateral loans and have discussed the rationale with MOF, SAFE and NDRC officials. These are described in more detail below.

---

[2] See, for example, "A review of China's Existing Debt Monitoring Systems and Recommendations for Future Enhancements" prepared as part of

Although officials recognize the problems with segmentation of management, it is sometimes argued that this is inevitable for a country as large and complex as China, and that the 'checks and balances' that having both planning and financial agencies create are helpful for good governance.

Communication difficulties

The division of responsibilities between departments within agencies and between agencies inevitably leads to communication difficulties. As responses to particular situations often require flexibility it is often hard to define these by regulation or decree – good and efficient central and local processes are essential.

Legal structure uncertain

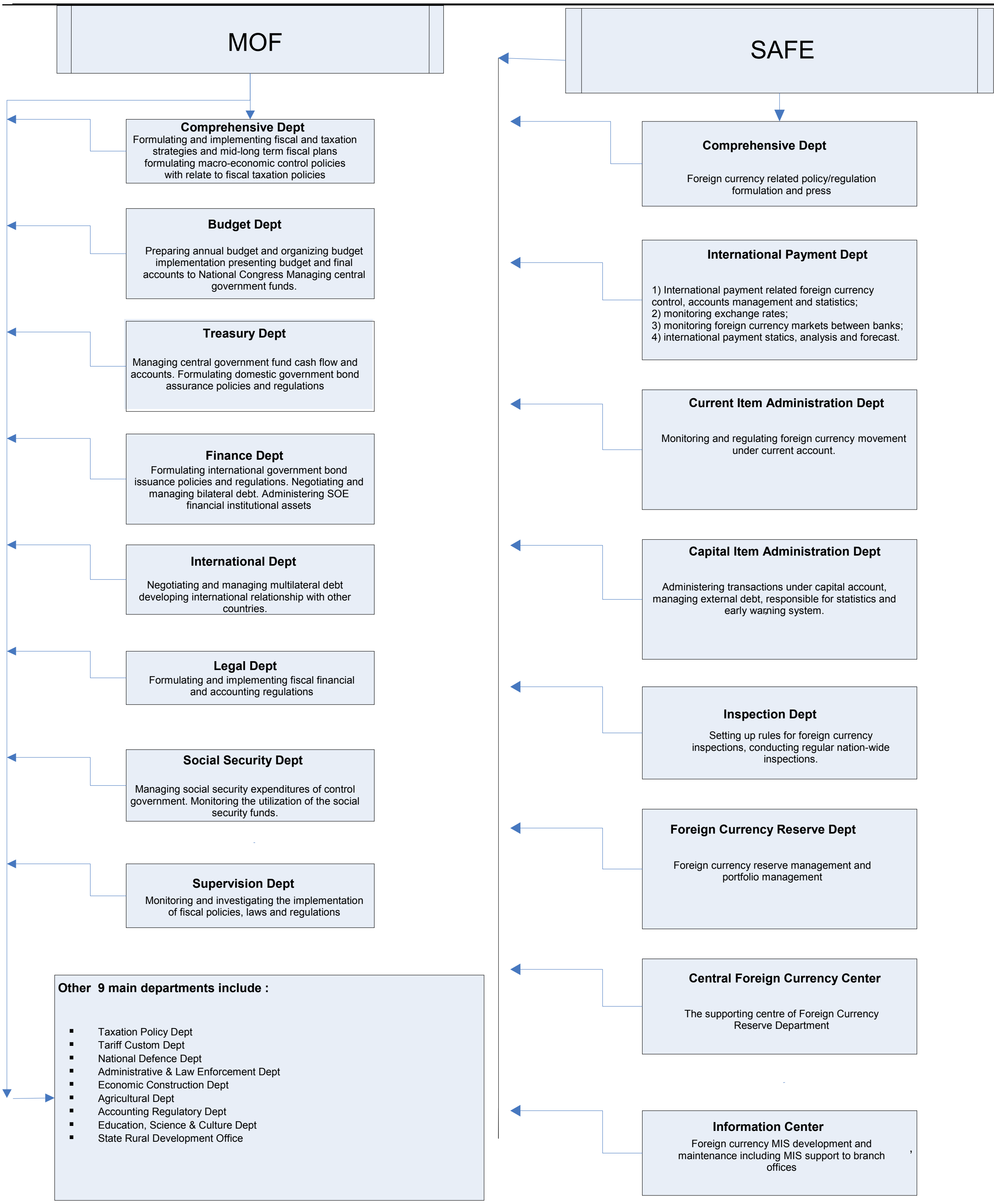
There is a further potential problem that the underlying definition of responsibilities for debt management consist of interim regulations recommended and passed at ministerial level. These could be changed at any time, again by ministerial decree, creating uncertainty in the system. Such uncertainty adds to the cost of financing and may deter overseas investors. Rationalisation of the system and its underpinning by stronger legal structures will help to set parameters for greater external understanding and greater efficiency.

Description of China's current practice

Division of responsibilities

Broadly, MOF is responsible for sovereign debt, NDRC is responsible for planning of future debt levels and SAFE is responsible for disbursements and for the collection and dissemination of statistics. Within MOF and SAFE there are numerous departments responsible for aspects of PDM, and these responsibilities are summarized in Figure 3 below. In SAFE, external debt management is co-ordinated by the Capital Item Administration Department. Various Departments within MOF carry out specific parts of the PDM process, but there is little formal co-ordination.

Figure 3 MOF and SAFE Institutional Structure



Multilateral Loans

Interim rules

China's PDM practice with respect to multilateral loans is described in a variety of documents including the Interim Rules on Debt Management for International Financial Institutions (IFI) (Jan. 2000). The IFI loans are the sovereign debt of the Chinese government.

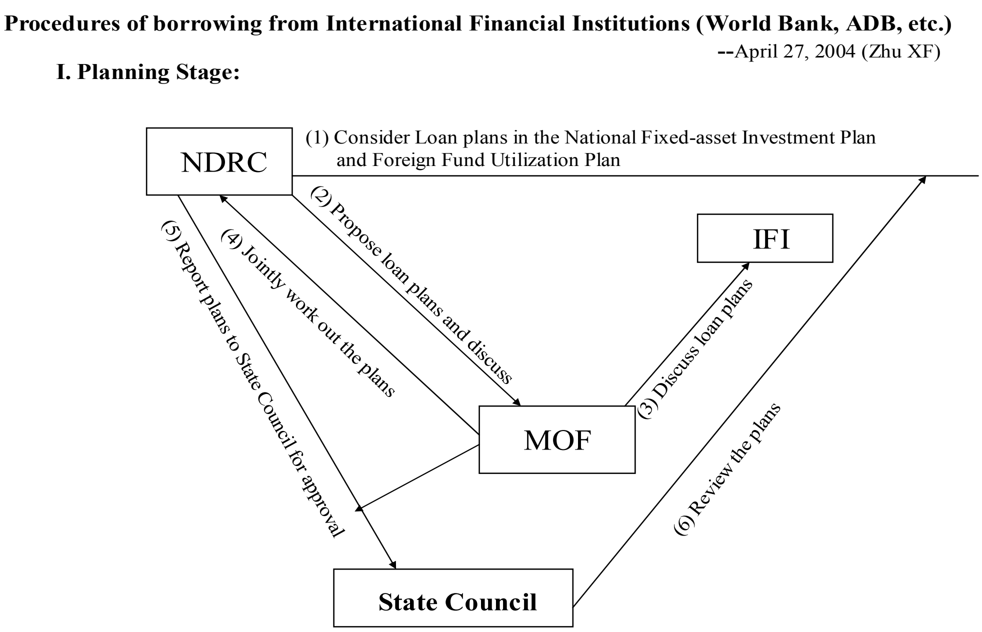
IFI and JICB loans

The MOF International Department is in charge of the IFI loan. It is responsible for consulting, negotiating and signing the loan agreements on behalf of the Chinese government, for IFI loan related domestic administration and for external coordination.

Extensive interaction

Figure 4 summarises the planning process for multilateral loans. There is extensive interaction between NDRC, MOF and the State Council to set the National Fixed Asset Investment Plan and the Foreign Fund Utilisation Plan.

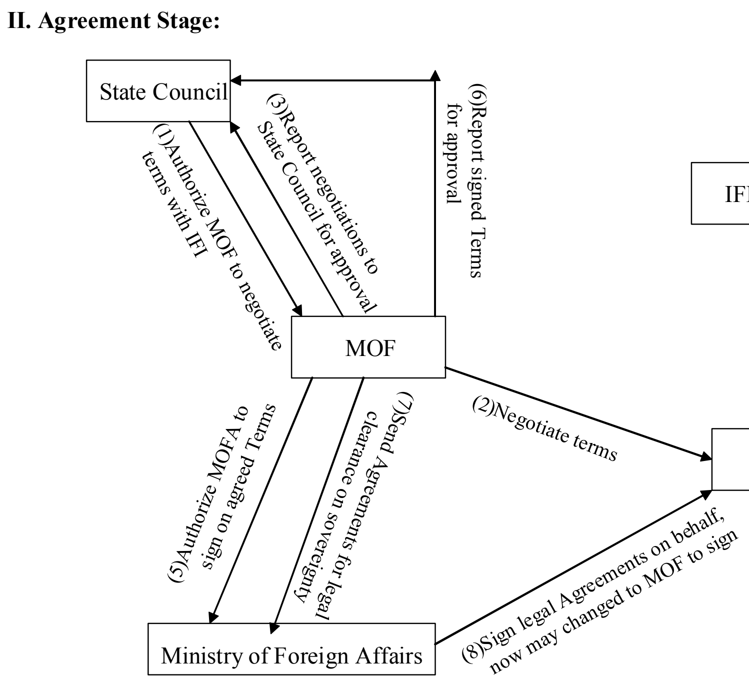
Figure 4 Planning stage for multilateral loans



Involvement of State Council and Foreign Affairs

Each IFI loan agreement is subject to the procedures identified in **Figure 5** below. This requires the involvement of both the State Council and the Ministry of Foreign Affairs before the MOF is authorised to negotiate final terms with the IFI.

Figure 5 **Agreement stage for multilateral loans**



NDB on-lender for IFI and BOC for JICB

The National Development Bank (NDB) is approved by the State Council as the major on-lender for the IFI loans. Subject to the MOF's overall arrangements, they are responsible for on-lending to the assigned projects and for the management of the projects.

Local fiscal bureaux

Local fiscal bureaux (the "local FBs") are the on-lenders for projects carried out through local governments. They are responsible for the project management and the repayment of the loans on behalf of the local governments. On-lending banks also include approved SOE banks and non-banking financial institutions.

On-lending to local authorities

IFI loans to projects with strong public benefits (such as healthcare, education, water, environment, poverty reduction, agriculture, forestry and city infrastructure) are on-lent to the local governments through the local FBs.

IFI loans for profitable infrastructure projects (such as energy, transportation, telecommunication, agriculture and forestry etc) are on-lent to the NDB or Bank of China (BOC) and through them to the assigned projects. The NDB bears all the credit risk and foreign currency risk in relation to the on-lending.

Commercial projects

IFI loans to commercially-viable projects, mainly in the industrial sectors, are on-lent to the approved SOE commercial banks or the non-banking financial institutions and through them are on-lent to the assigned projects. These on-lending banks manage and supervise the on-lent projects, collect payments from the projects and pay back to the MOF the loan-related principal, interest and fees on behalf of the projects. They also bear all the credit risk and foreign currency risk in relation to the on-lending.

Service charges

As an on-lending service charge, the NDB can add up to 0.4% per annum to the prevailing on-lending rate and the BOC can add up to 0.6% per annum. Other SOE banks and the non-banking financial institutions can decide at their own discretion a service charge, subject to the requirements of the IFI.

Guarantees

The on-lending banks may request the project sponsors to provide guarantees for the loans. Such guarantees can be in the forms of guarantees provided by banks or enterprises. However, they cannot request guarantees from any local governments, which are prohibited from providing any guarantee to the on-lending banks or the project sponsors.

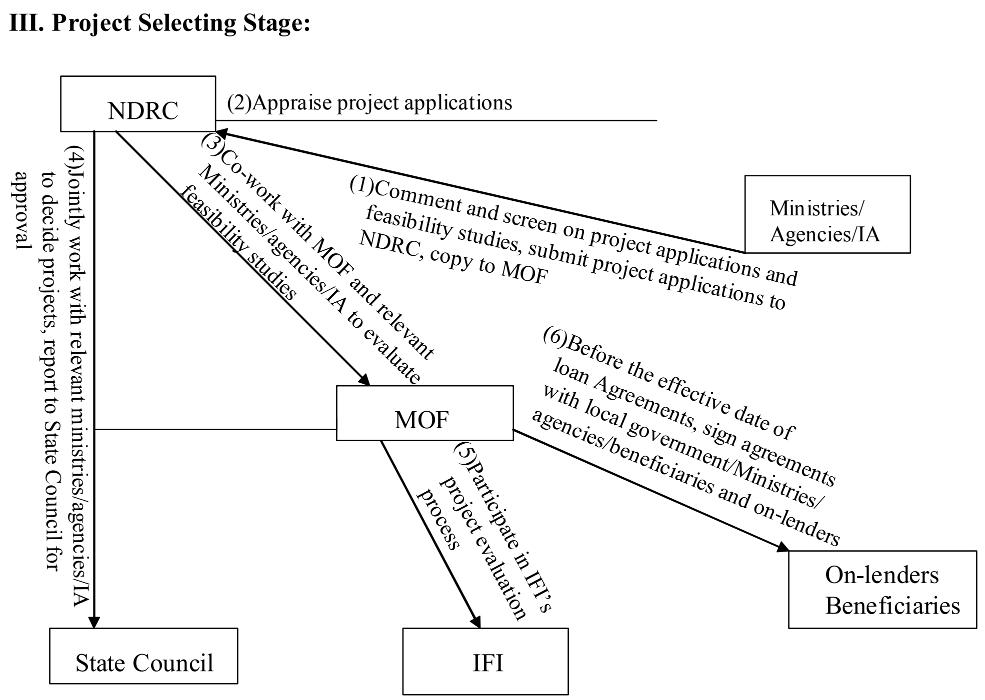
MOF and NDRC select together

All on-lending projects are selected by the NDRC and the MOF, working together. However, each on-lending bank has the right to conduct its own detailed financial analysis and project assessment to decide whether it takes the project or not. In pre-agreed cases, the on-lending bank may also have the right to decide certain subprojects. If the on-lending bank declines the project, MOF may choose another willing on-lending bank or directly on-lend it to a local government.

Selection stage

Figure 6 summarises the project selection stage at the central level. This involves detailed interaction between the ministries and agencies, NDRC and MOF. The State Council is informed of the process by NDRC, working with the relevant ministries and agencies. MOF then participates in the IFI project evaluation process and signs agreements with the on-lenders and other beneficiaries.

Figure 6 Project selection stage for multilateral loans



Daily management

At the local level, the relevant local Fiscal Bureaux (FBs) are responsible for loan-related daily management, including the project instructions, coordination, supervision and the relevant financial management and repayment. A project execution office (the "local PEO") under the relevant local administrative departments (normally by industrial sector) may also be set up to support the project, including providing instructions on project preparation and execution. The local PEO is subject to the supervision of the relevant local FBs.

Central project evaluation office

For projects across provinces, a central project execution office (the "central PEO") may be set up by the relevant administrative ministries (normally by industry). The central PEO coordinates with the local FBs and the local PEOs and provides necessary instructions and support on project organization, execution and technology assistance.

FB participation

The local FBs also participate in the loan application and project preparation process for loans through the on-lending banks. They are responsible for project supervision and statistics, but not for project execution, daily management or loan repayments. The local FBs often set up specific departments and recruit qualified staff to fulfill such management functions.

Joint screening

For locally proposed projects, the local PDRC and the local FBs jointly screen the proposed projects and apply to the NDRC and the MOF. For projects proposed by the administrative ministries, the relevant ministries screen and submit the proposals to the NDRC and the MOF. Written clarifications from both the local FBs and the local PDRC are also provided.

Local planning and application

The local FBs participate in the screening of all projects in the region, regardless of whether the projects are proposed by the local FBs or the administrative ministries. They also participate in the loan planning and application process. Only upon confirmation from the NDRC and the MOF can the local FBs or the administrative ministries start the process of project preparation, including proposal drafting, reporting and approving.

Project sponsors draft proposals

The project sponsors then draft the project proposals and submit them to the local NDRC and the local FBs for screening. For projects exceeding the investment ceiling for small projects (US$5 million), the local PDRC and the local FBs submit to the NDRC and the MOF for approval. For projects below the investment ceiling, the local PDRC and the local FBs jointly have the right to decide and the MOF only provides endorsement The on-lending banks also participate in the project preparations for the proposed on-lending projects.

Project preparation

Project preparation includes project feasibility studies, loan utilization plans, environmental assessment reports, migrant settlement plans, etc. Each project, with the assistance of the IFI, prepares viable project execution plans. Project sponsors participate in project preparation, while MOF instructs and oversees nationwide project preparation activities. Local FBs oversee and participate in the preparation process for the projects to be on-lent through local governments. In addition, they also provide to the MOF comments in writing on aspects of the economic, financial, execution, loan utilization and repayment schedules for these projects.

Independent assessment

The on-lending banks also participate in the preparation process for the projects to be on-lent through them. They conduct their own independent project assessment simultaneously with the project preparation and assist with the IFI's project assessment. The assessment reports prepared by the on-lending banks are submitted to the NDRC and the MOF and copied to the local FBs.

National Bidding Evaluation Committee

Figure 7 summarises the processes that are followed for project implementation. Both NDRC and MOF participate in the work of the National Bidding Evaluation Committee, while the State Council has quite an active role in providing authorisations. Other ministries are involved as appropriate, while Customs and SAFE play supporting roles.

National Auditing Bureau

The National Auditing Bureau is responsible for the annual auditing of each project with the support of the local FBs, the project sponsors and the on-lending banks. The National Auditing Bureau reports to the MOF any important findings and provides audit reports to the IFI, with a copy to the MOF.

The MOF is responsible for general guidance, supervision and policy instructions on all projects, including dealing with serious business and policy related issues arising from project execution, and coordinating with the IFI.

Project execution

The project sponsors are responsible for direct project execution. This project execution follows any requirements of the IFI and requested procedures/rules set by the MOF. Project execution includes procurement bidding, payment of the loan funds, fund withdrawal, financial statements and reporting, detailed implementation of technology assistance and staff training, and project execution and supervision, as well as regular reporting.

Fiscal Bureaux responsibilities

The local FBs are responsible for the supervision and financial management for all projects on-lent through the local governments, including:

- Rules and supervision for project financial management.
- Instructing and supervising the financial management.
- Managing the escrow accounts for the fund payment, fund withdrawal and the regular financial reporting. Subject to the approval and authorization of the MOF, the local FBs may mandate the project sponsors or the lower level local FBs to take in charge of the daily management of the escrow accounts.
- Loan repayment including the repayment on principal, interest and commitment fees/charges.
- Availability of the domestic funds and the utilization of such funds.

Machinery & Equipment Import Approval Office Of State

- (1)Approve import for necessary materials, equipment and raw materials for IFI funded projects
- (2)Approve documentations of international bidding and purchasement

IV. Project Implementation Stage:

NDRC

- (1)Arrange domestic funds for part of the selected projects
- (2)Participate in the work of National Bidding Evaluation Committee

MOF

- (1)Investigate, supervise project implementation
- (2)Participate in the work of National Bidding Evaluation Committee
- (3) Issue regulations and rules on utilization of IFI loans

Machinery & Equipment Import Approval Office Of State Council

- (1)Approve import for necessary materials, equipment and raw materials for IFI funded projects
- (2)Approve documentations of international bidding and purchasement
- (3)Take lead on the work of National Bidding and Evaluation Committee
- (4)Approve import-related formalities

IV. Project Implementation Stage (con'd):

Other Ministries/ Agencies/IA

- (1) Provide domestic funds for part of the selected projects
- (2) Coordinate, guide, supervise and provide service to IA and projects

Customs Duty

- (1)Consultation with MOF and State Taxation Bureau, set out Customs Duty on imported goods for the purpose of IFI-funded projects

State Auditing Bureau

- (1)Its Foreign Fund Department: audit projects on behalf and report to IFI

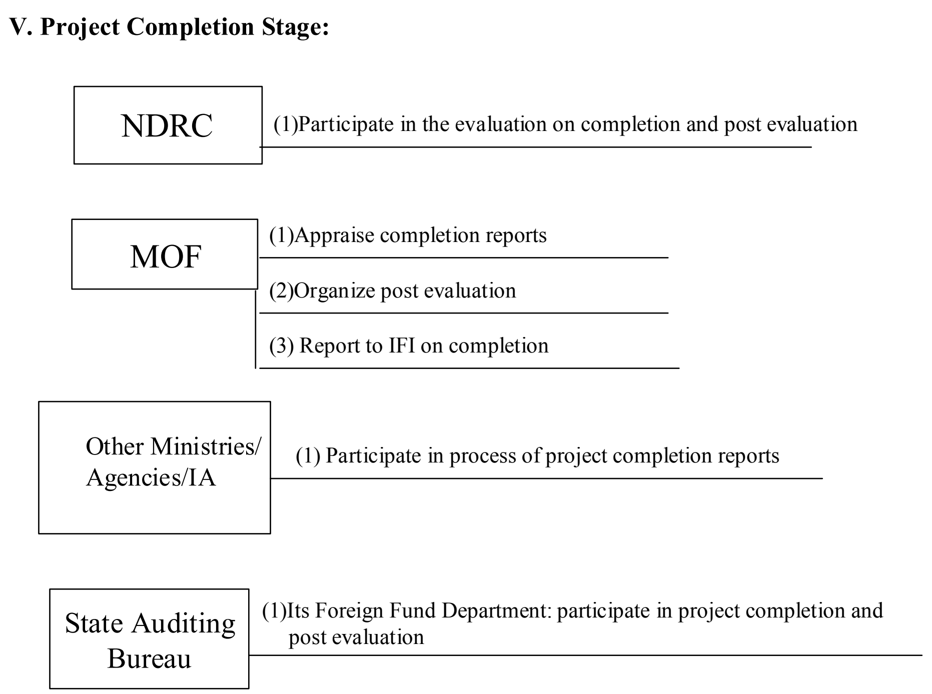
SAFE

- (1) Based on the State Council's approval on foreign currency needs, provide foreign currency and exchange service
- (2) Responsible for foreign debt statistics and registration

Financial Report and project assessment

Upon the completion of the project construction/execution, the project sponsors prepare a financial report and a thorough project assessment report to the local FBs or to the on-lending banks. The local FBs and on-lending banks participate in the post-evaluation of the projects and report to the MOF the financial reports and the project assessment reports.

Figure 8 Project completion for multilateral loans



Transfer of ownership

In principle, the ownership of a project after execution can be transferred or restructured, including forming joint ventures, joint co-operatives, and offshore public listing. For projects under execution or yet to be paid back to the IFI, the ownership change is subject to the prior approval of the MOF and the IFI and agreement on the revised loan repayment schedules.

Loan repayment

The local FBs and the on-lending banks are responsible for ensuring repayment of the loan principal, interest and commitment fees according to the

loan agreements. They also are expected to provide forecasts of loan repayment schedules and prepare funds to make such payments on schedule. All local governments, the project sponsors and the on-lending banks are required to set up loan repayment reserve funds (LRRF), according rules set by MOF, in order to ensure the repayment of the IFI loans. If the loan repayment is suspended, fines are imposed on the suspended amounts on a daily basis.

Bilateral loans

23 sponsor countries, 2000 projects

The Finance Department of the Ministry of Finance is responsible for developing relationships with 23 sponsor countries and 6 regional development agencies. The total volume of these loans in 2004 was 43 billion US$ of protocol value and 41 billion US$ of contract value, in total covering some 2,000 projects. The sectors covered include environmental protection, infrastructure, health, education, SMEs and other social development fields. The main geographic concentration was in the coast to middle-west area.

These loans are Sovereign Debt, where the Chinese Government provides an 'Umbrella Guarantee'. Some contain grant elements. In some cases, the loans are tied aid, although those from JBIC, KFAED, SFD and AFD are untied.

Mof and NDRC responsibilities

Each sponsor applies different procedures and regulations, although most follow OECD guidelines. The MOF is responsible for fund raising, negotiation, transaction, borrowing, project management and repayment, while the NDRC carries out project pre-selection, appraisal and approval. We understand that sometimes projects selected by NDRC are later rejected by MOF because of differing views on a beneficiaries' ability to repay the loan.

As with multilateral loans, the banks are usually the on-lending agencies, supported by procurement agencies which deliver a tendering and contracting service. There are sometimes difficulties between the procurement agencies and the final beneficiary. Various other Ministries and Administrations are responsible for tax clearance foreign exchange regulation, etc.

Project identification

Figure 9 and **Figure 10** illustrate the process for small and large scale bilateral projects respectively. They show the close interaction between MOF and NDRC, and their local equivalents, the Fiscal Bureaux and the PDRC. On most projects there are repeated interactions between local and central bodies and between the planning and finance bodies at both local and at central level.

Figure 9 Bilateral Project Identification – small scale projects

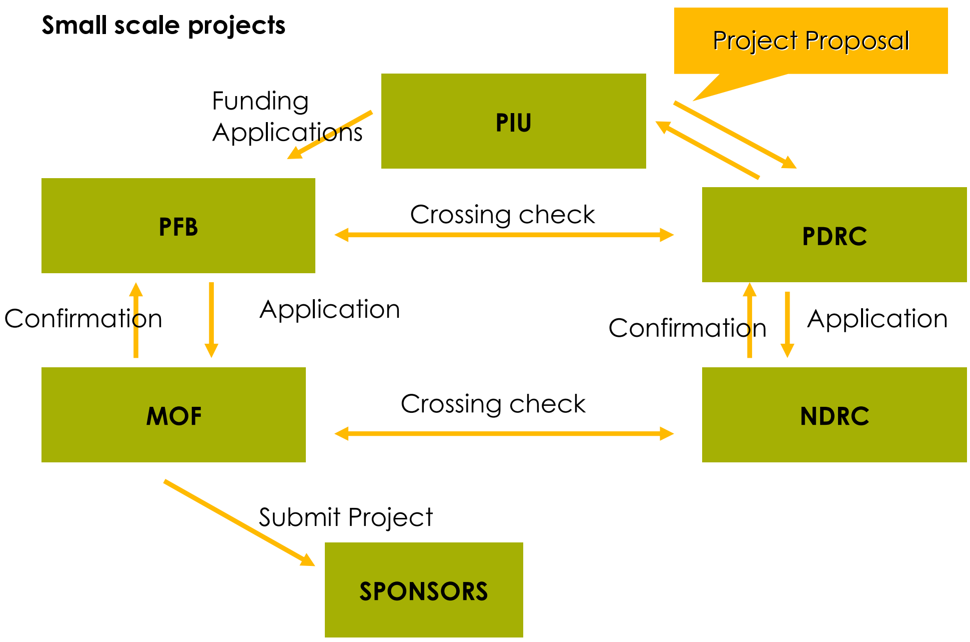
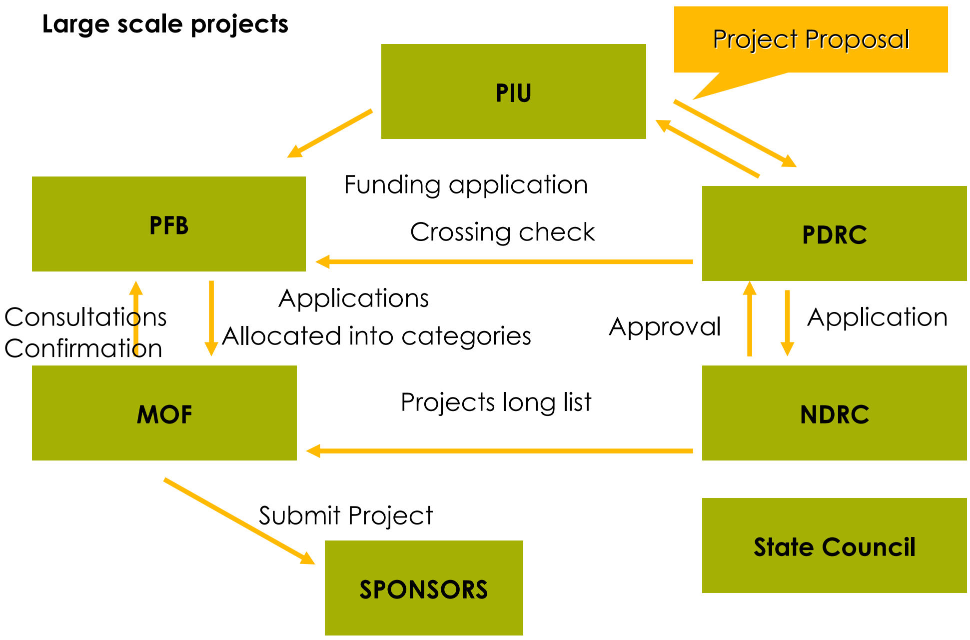


Figure 10 Bilateral Project Identification – large scale projects



Source: Ministry of Finance – Finance Department

Project size

Projects applying for more than 5 million US$ foreign loans (regarded as 'large') are subject to approval by NDRC for pre-selection. Projects applying for less than 5 million US$ foreign loan are subject to approval by PDRC for pre-selection. Bilateral projects are divided into three categories –see **Figure 11**.

Figure 11 Bilateral loan project categories

Category I	Borrower, Ministries, Provincial Finance Departments, Implementation Unit, Final Beneficiaries	Top priorities, non - profitable public expenditure progress
Category II	Guarantor, Ministries, Provincial Finance Departments, Borrower, Final Beneficiaries Implementation Unit, Final Beneficiaries	Other priorities, environmental protection progress
Category III	Borrower, On-lending Banks Implementation Unit, Final Beneficiaries	Other priorities Profitable projects SMEs etc

Category I

Category I projects are high priority social development projects for which the government takes full responsibility. Examples are waste water, sewage treatment and mining. These tend to be in priority areas and are less likely to be in coastal regions. The MOF and local FBs seek to ration these, but often projects are chosen because of the strong political influence of local governments. On these projects, NDRC reports to the State Council, but we understand that its recommendations are rarely rejected.

Category II

Category II projects are of similar importance to Category I, but are allocated to this category because of the limited ability of the local government to repay the loan. Again, the choice of such projects is subject to considerable political influence. For Category I and II projects, MOF-FD goes straight to the sponsors as soon as the project is confirmed on the long list to check that the project meets sponsor requirements.

Category III

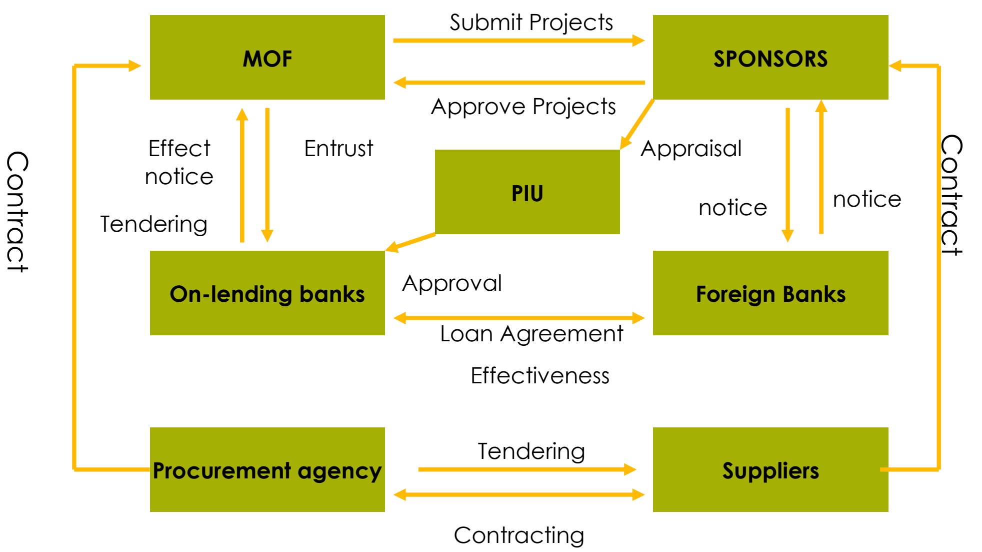
Category III projects are profitable, with risk transferred to the on-lending banks. The banks use their own rating systems and add margins to the original loan terms to allow for risk. As an example, funds which were provided on a 35 years maturity, 18 years grace, interest rate 1.7% from the sponsor might be provided by the on-lending bank with 15 years maturity, 5 years grace and at a

2-3% interest rate. There is now strong motivation in the banks to reduce non-performing loans, and manager remuneration is linked to this.

On-lending, procurement and repayment

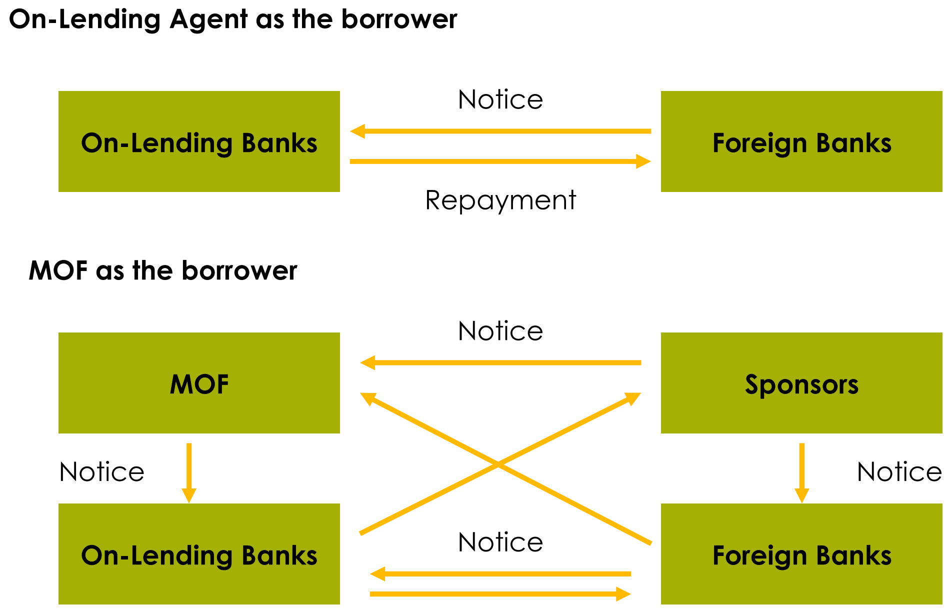
Figure 12 and **Figure 13** illustrate the procedures for on-lending, procurement and repayment of these projects. Again, there is much interaction.

Figure 12 On-lending and procurement procedures



Source: Ministry of Finance – Finance Department

Figure 13 Repayment procedures



Source: Ministry of Finance – Finance Department

Audit process

The National Audit Office does annual auditing of projects on behalf of the National People's Congress and the State Council. This includes some 'efficiency analysis' with particular concentration on ministries in rotation, and on MOF.

BOT schemes

BOT schemes are not usually financed by bilateral loans, although this is occasionally done to enhance the credit of the Chinese consortium.

How does China compare with international best practice?

Close co-ordination required

International best practice involves close co-ordination between all those involved in debt management. Most countries now consolidate responsibilities into a single debt management office.

PDMO the best outcome

It is now generally accepted that the most efficient organization of a Public Debt Management Office (PDMO) will follow normal private sector practice of having 'front', 'middle' and 'back' offices. In most developed countries, all three functions are contained within the DMO. However, there still remains the need for co-ordination between the DMO and the monetary authority (usually a Reserve Bank) and the macroeconomic planner (usually the Treasury or Ministry of Finance). **Figure 14** lists the main responsibilities of each function.

Figure 14 **Functional Organisation of EDM**

External Debt Management		
Front Office	**Middle Office**	**Back Office**
Loan Mobilization & Management	***Debt & Risk Management***	***Debt Service Payment &MIS***
Creditor/Donor coordination	Portfolio analysis	Recording and administration of transactions
Implementation of borrowing plan	Debt sustainability analysis	Debt service payments
Project formulation and prospectus preparation	Debt indicators and benchmarks	Maintenance of loan databases
Loan negotiations and capital market issues	Borrowing policy and plan	Cash management
Loan utilization and project monitoring	Borrowing strategy	Statistical reports
On-lending	Risk analysis	Loan accounts
Issue of government guarantees	Vulnerability analysis	
Hedging and derivatives transactions	Policies on on-lending & government guarantees	
	Estimation of contingent liabilities	
	Policy on loan loss provisioning	

Middle office relatively weak

In China, the Front Office is handled by a combination of NDRC (planning) and MOF (mobilization and management), while the back office is mostly handled by SAFE. We believe that the Middle Office function in China is weak by international standards, and explore this in more detail below. The particular areas that can be strengthened in China relate to risk management and better forecasting of likely funding needs.

Assessment of degree of development

Figure 15 shows our assessment, based on discussions and the investigations carried out by the TA, of the current degree of development in China of each specific function. We have used the following scale to develop these assessments:

*	= underdeveloped
**	= only slightly developed
***	= adequate
****	= well developed
*****	= world class

In the medium term, China should be seeking a '****' ranking or above for each area.

Figure 15 Degree of development of EDM functions

Front Office	Middle Office	Back Office
Loan Mobilisation and Management	*Debt and Risk Management*	*Debt Service Payment and MIS*
Creditor/Donor co-ordination ****	Portfolio analysis ***	Recording and administration ****
Implementation of borrowing plan ****	Debt sustainability analysis *	Debt service payments ****
Project formulation and prospectus **	Debt indicators and benchmarks **	Maintenance of loan databases ***
Loan negotiations ****	Borrowing policy and plan ****	Cash management **
Capital Market issues *	Borrowing strategy ***	Statistical reports ***
Loan utilisation and project monitoring **	Risk analysis **	Loan accounts ****
On-lending ***	Vulnerability analysis *	
Hedging and derivatives transactions *	Policies on on-lending and government guarantees **	
	Estimation of contingent liabilities *	
	Policy on loan-loss provisioning *	

Debt cycle

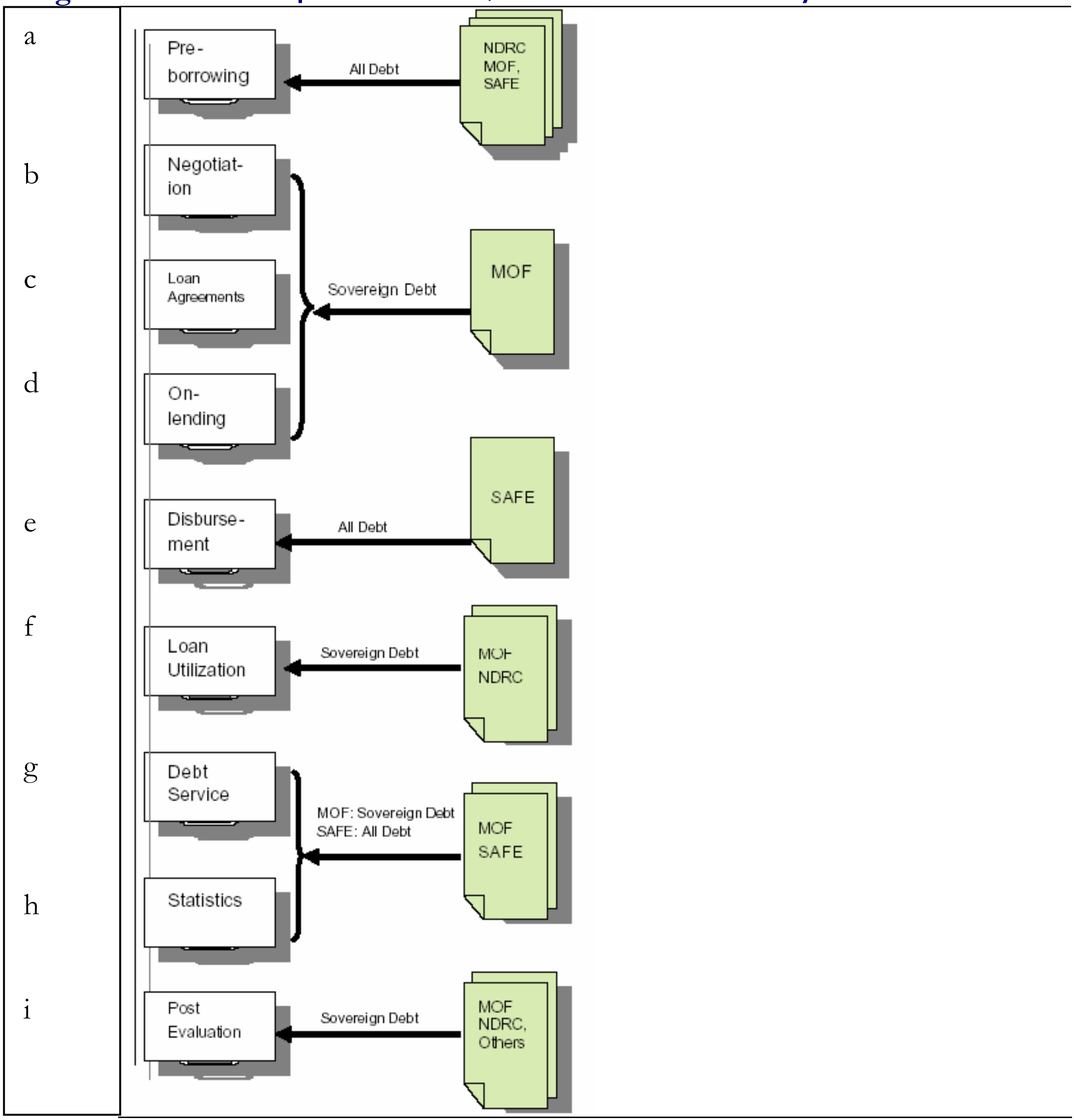
In fact, procedures in China are more complicated than the simple explanation above suggests. There are strong inter-links between each of the three agencies at all stages of the debt cycle, which is defined as:

1. Pre-borrowing;
2. Negotiation;
3. Signing of loan agreements;
4. On-lending;
5. Disbursement;
6. Loan utilization;
7. Debt service payments and statistics; and
8. Post evaluation.

Co-working prevalent at all stages

China's current practice is summarized in **Figure 16** below. "Co-working" occurs at most stages of the debt cycle. If this could be rationalized, the debt management processes could be made more efficient.

Figure 16 Participation of NDRC, MOF and SAFE in debt cycle



Summary of interactions

MOF participates in all stages except (e), with responsibilities which are spread between internal departments. NDRC participates in stages (a), (f) and (h). Local PDRC participate in local project selection under (b), (c) and (d). SAFE plays a key role in (e), (g), and (h), and participates in (a) and (i). We explore these inter-relations in more detail in the Technical Volume.

Direct borrowing by local governments prohibited

China's legal structure prevents direct borrowing by local governments either through bilateral or multilateral loans, or from the local capital market. All borrowing is therefore channelled through MOF, which allocates the relevant funds from central resources or external borrowing. A subsequent requirement is to agree with NDRC for formal asset approval in the rolling plans. Co-ordination between NDRC and MOF will initially be at Finance Bureaux and

local NDRC level, who will put forward suggestions for inclusion in future rolling plans.

Repeated interactions

There are repeated interactions between departments and agencies at various stages during procedures (a) to (d). If these could be streamlined, this would improve the efficiency of the operation considerably.

Analysis of the problem and identification of deficiencies

Interaction at central and local level between planning and finance

In the case of both multilateral and bilateral loans there is extensive interaction between MOF, SAFE and NDRC at central level and between the local Fiscal Bureaux and local PDRC at local level. Repeated interaction also occurs between central and local level agencies. In addition, interaction occurs with the International Financial Institutions for bilateral debt and with the sponsors in the case of bilateral debt. Many other agencies are involved, including the State Council for various authorizations, individual ministries, customs and the PBOC.

Conflicts between objectives

Clarity of roles and responsibilities in PDM are essential to avoid conflicts between monetary and debt management policies and operations. Importantly, by providing clarity of roles and responsibilities, investors' uncertainty is also reduced, and transaction/debt service costs will decline over time. The disclosure of clear debt management objectives also contributes to lower transaction costs since informed investors have a better understanding (are less uncertain) of the government's risk tolerance and levels of debt sustainability.

Inefficiency

Ineffective co-ordination and communication can lead to inefficiency and to incorrect decisions. There will also be less accountability and control for overall debt management if responsibility is divided up between numerous agencies.

Cost of government

The overall cost of government is higher where there is duplication of effort, and because of the resources devoted to communication between agencies.

Lack of understanding

In our discussions, we identified only limited understanding among officials of the functions carried out by other departments and agencies. This in turn is likely to lead to less efficient policy response than if full awareness exists about all PDM procedures.

PDM managers can take the lead

Countries that have developed effective, co-ordinated PDM run less risk of debt crises than those who have not. It is important that PDM managers take the lead to alert policymakers to impending economic problems.

Higher regard for PDM if 'no surprises'

High-level policy makers will have higher regard for the PDM function if it is seen to be well run, properly co-ordinated and generating 'no surprises'.

Substantial deviations from plan, such as those which seem to have emerged in 2004, have the danger of bringing the PDM administration into disrepute.

China's development will be enhanced

China itself will develop better if its government is as efficient as possible, hence limiting the overall cost of administration. Effective and co-ordinated PDM is in our view likely to be more cost-effective than PDM with segmentation of management.

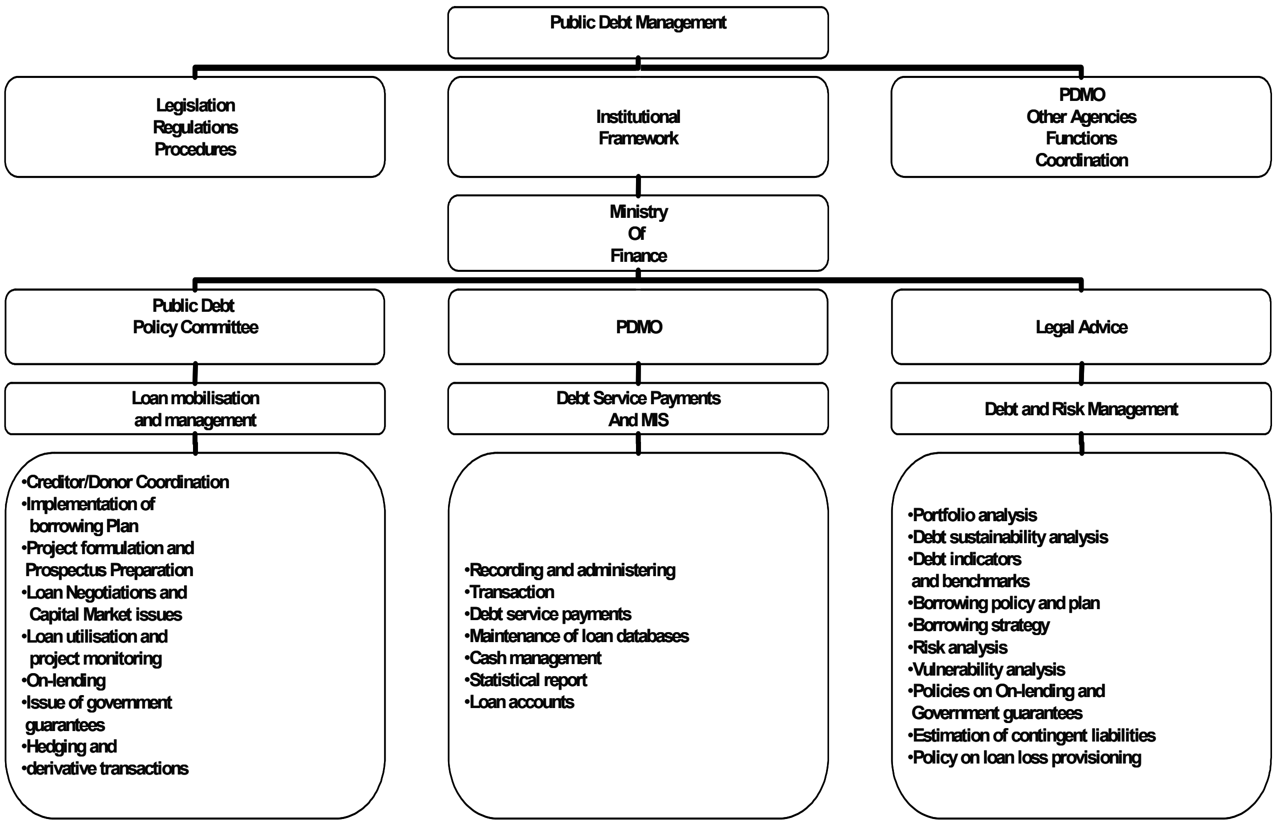
Recommendations

Unification of PDM

We therefore recommend the unification of debt management responsibilities into as small a number of bodies as possible. In the long run, we expect that China will choose to unify responsibilities into a single body, perhaps even a PDM ministry. However there are several steps which need to be taken first, and this transition process is discussed below. Formal and regular meetings between all participants should be held as soon as possible to ensure that all debt management processes are running smoothly and to consider 'early warning' risk management indicators.

Functional organisation

The latest UNITAR working group suggestions on functional organisation for Public Debt Management, as depicted in the figure below, should be considered as guidance to this process.



Data source: UNITAR Best Practices Series No. 6: Best Practices and Key Analytical Functions for Debt Management (2004)

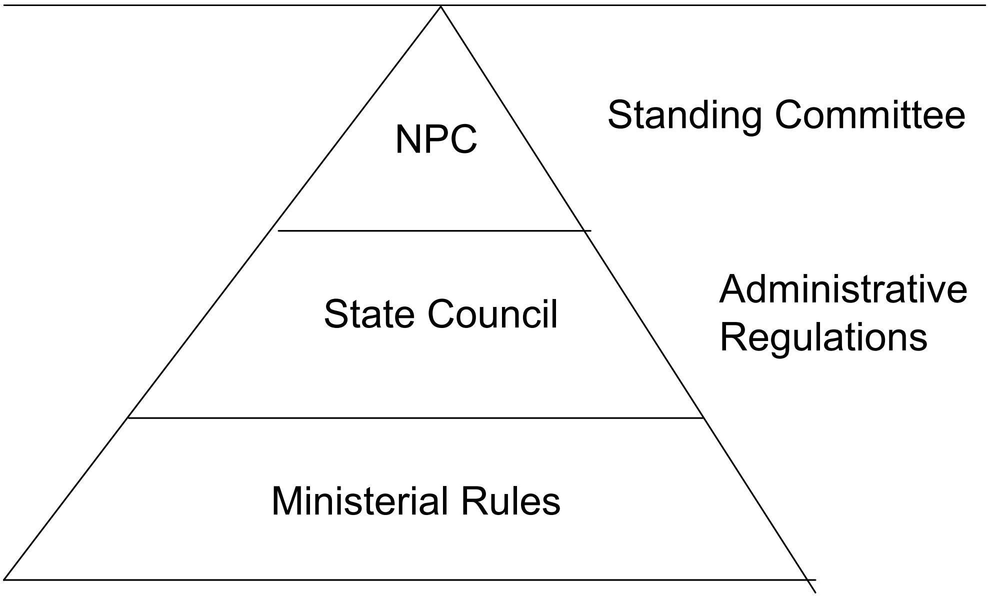
Local autonomy subject to strict credit limits

As far as possible, local decisions on projects should be made locally, subject to appropriate credit limits. MOF could take the lead in setting these devolved responsibilities and defining rules whereby projects of different sizes are determined and controlled.

Legal issues

To solve the uncertainties created by the present legal structure, it may be helpful to consider a separate law on debt management. China's legal structures are summarised in **Figure 17**. The highest level is the National People's Congress (NPC), which meets once a year. The Standing Committee of NPC however meets at least six times per year. The State Council issues administrative regulations, while Ministers can set interim rules.

Figure 17 Overview of Chinese Legal Structure



Status of PDM law

The present basis on which PDM is administered – as described in Technical Volume Section 2 – is at the lowest level of Ministerial Rules. We suggest below a process by which this situation could be improved.

Revised structure

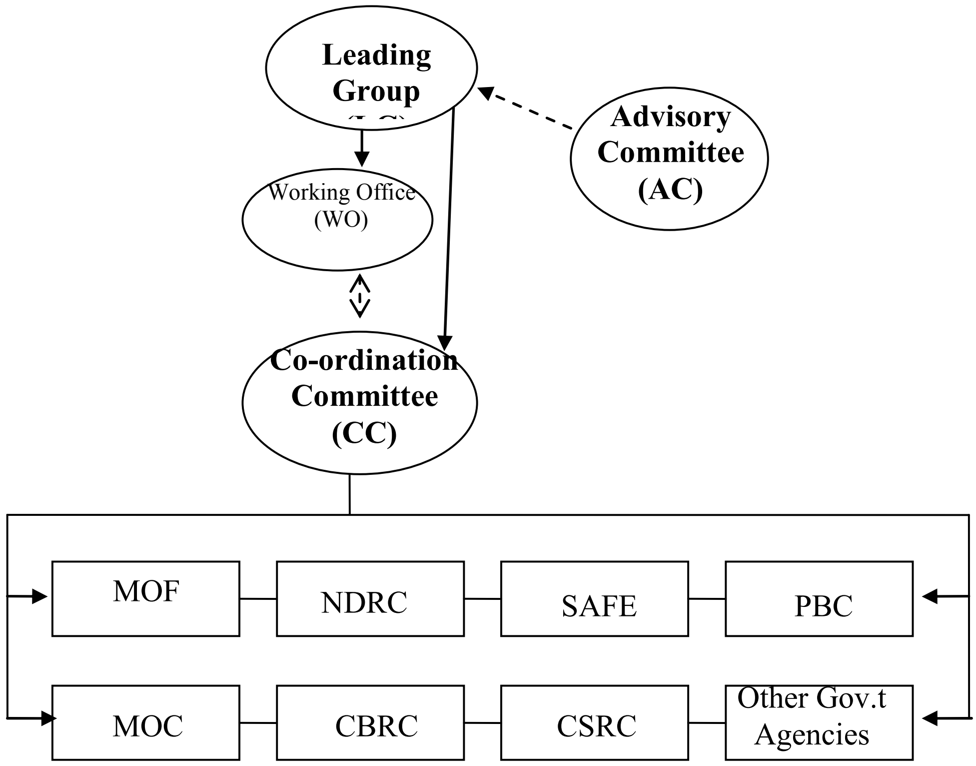
Perhaps our most important recommendation is that a more co-ordinated management structure should be established for PDM in China. The lack of efficient overall co-ordination between and among the Functional Agencies and the Relevant Agencies (the central bank is in charge of monetary policy, the Ministry of Commerce is in charge of the international trade and foreign investment, China Banking Regulatory Committee is in charge of the banking regulations, and China Securities Regulatory Committee is in charge of the regulations of capital market). The TA believes that the risk of PDM in China could be compounded if the situation does not improve, which potentially may

cause China to confront dangerous situations and panic at the time of crisis or shocks.

Effective decision-making and sound co-ordination

The suggested organizational structure aims at improving the overall co-coordination of PDM in China. The principle of the organizational structure of PDM shall be to ensure effective, efficient and objective decision making process in PDM and a sound co-ordination among agencies in PDM policies and actions. It would be led by a Leading Group in which a group of high profiled leaders will sit to ensure the sufficient authority be exerted on the Functional Agencies and Relevant Agencies for well concerted policies and actions in PDM. The following steps explain in detail the roles of each of the proposed Leading Group, Working Office, Co-ordination Committee and Advisory Committee. The suggested structure and interactions between the suggested management bodies is illustrated in Figure 18 below.

Figure 18 Suggested organisational structure



Our detailed recommendations are as follows:

Status of PDM should be delevated

Step 1. Elevate legal basis for PDM in China. Because of its increasing importance, public debt management should be given higher legal status, and awareness of its importance should be raised. We recommend that the PDM legal basis is elevated, perhaps with a PDM law passed by the Standing

Committee of the National Peoples Congress. This will have the joint effect of decreasing uncertainty and of raising awareness of the issue.

Need for special legislation

First, we suggest that special legislation on Public Debt Management should be enacted either by the National Peoples Congress or by its Standing Committee. Since the Law of Public Debt Management has not been included in the legislation plans of the Tenth Session of the National Peoples Congress and its Standing Committee between 2003 and 2008, we suggest the Standing Committee of the National Peoples Congress should conduct preliminary research on the necessity and practicability of the legislation on Public Debt Management, and include the legislation on PDM into the agenda of legislature between 2008 and 2013. Of course, it would be better if the Law of Public Debt Management could be passed by the Eleventh Session of the National Peoples Congress or its Standing Committee in 2008 or 2009.

Basic framework and clarification

Based on the past experience of PDM in China, the Law of Public Debt Management shall lay down the basic framework of the PDM in China, and clarify the different legal status, powers and responsibilities of competent governmental bodies. The decision and supervision process regarding the PDM should also be included so as to effectively control the financial crisis associated with PDM in China. Legal liabilities of wrongdoers in the PDM process should also be clarified.

Legislature to set up management groups as soon as possible

To make the Law of Public Debt Management as the top quality legislative product, we suggest the legislature to set up the leadership group, the working group and the advisory group as soon as possible. The working group should conduct deep research on the successful international practice on PDM, especially the legislation and institutional arrangements in major market economies and developing economies.

State Council authorized to make detailed regulations

In addition to the Law of Public Debt Management passed by the legislature, the State Council could be authorized to make the detailed regulations to implement the Law of Public Debt Management.

The next four steps – Steps 2a, 2b, 2c and 2d – which establish the basis for more integrated management of PDM in China should be carried out simultaneously.

Leadership Group

Step 2a: Establish a high level Leading Group to harmonise debt management. The Leading Group or LG will be the core of PDM organizational structure in China.

The Members of LG:

Considering the high profile of LG, it is suggested that one of the top leaders of China, say, the Premier or a Vice Premier shall be sitting in the LG as the

Chairman. The members of LG shall include the ministers or the heads of MOF, NDRC, SAFE, PBC, MOC, CBRC, CSRC and other relevant government agencies.

The LG meetings:

Regular and irregular meetings

a. Regular meeting:

LG shall meet twice a year on regular basis to discuss agendas illustrated below.

b. Irregular meeting:

A meeting can be called or convened at any time when special needs arise on PDM or called for by the Chairman.

The agenda for the LG meetings:

Four main items

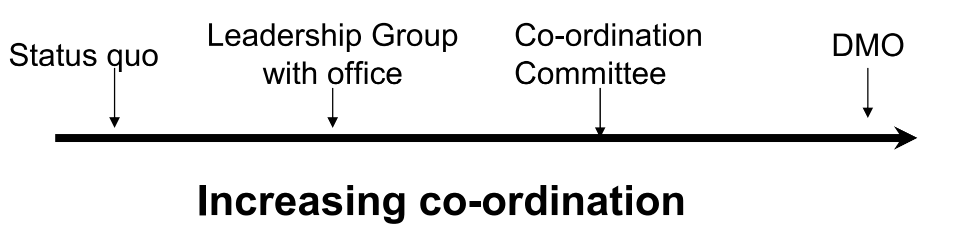
We suggest that there should be four main agenda items for the LG meetings:

a) Make decisions on proposals of legislations and regulations on PDM;
b) Make decisions on major policies and actions for PDM;
c) Act as an arbitrator when conflicts arise from different agencies in PDM;
d) Supervise the PDM of the Functional Agencies, the co-ordination work among the Functional and Relevant Agencies, and the implementation of the decisions made by LG. Increase overall co-ordination.

Increase overall co-ordination of PDM

The scope of the LG would be to oversee the management of sovereign debt, and to control government guarantees and contingent liabilities. It would be seeking to increase the overall co-ordination of PDM functions in order to lead China eventually towards a unified debt management function. This process is illustrated in **Figure 19** below.

Figure 19 Increasing co-ordination of PDM



Working office

Step 2b: Set up a working office to support the Leadership Group. The Working Office or WO is the secretariat of LG. While its main function shall be providing support for LG meetings, it shall also act as a bridge between the LG and the Co-ordination Committee ("CC") to ensure the communication

and co-ordination efficiently carried out among the Functional and Relevant Agencies.

The staff of WO:

20-30 experienced staff

The staff of WO shall include experienced officials, PDM experts and professionals with a wide range of knowledge base including finance, legal, banking, capital market, accounting and international trade, etc. The major part of the staff can be recruited through independent recruitment processes. The number of staff initially may be about 20-30.

The functions of WO:

Secretariat, communicator and co-ordinator

The WO shall act as a secretariat of the LG. However, considering the co-ordination needs in PDM, the WO shall also assume the functions of a communicator and a coordinator by taking a seat in CC. Specifically, the WO shall:

a. Propose and prepare agendas for LG meetings;

b. Prepare minutes and solutions for the LG meetings;

c. Keep updated on the PDM related information through regular and frequent communications with the Functional and Relevant Agencies;

d. Monitor the implementation of the LG decisions;

e. Sit in CC as a Deputy Chairman of CC;

f. Other assigned tasks by LG Co-ordination committee

Step 2c: The main implementation of PDM should be undertaken through a Co-ordination Committee.

The Co-ordination Committee or CC shall be the decision taker to ensure the implementation of the decisions or policies made by LG in various Functional and Relevant Agencies.

Members of CC:

DG's and Heads of functional departments

The CC shall invite the general directors or heads of the functional departments within a ministry to be the members. Specifically, the members may include the general directors of:

a. the International Department, the Finance Department, the Treasury Department, the Budget Department, the Comprehensive Department and other relevant departments of MOF.

b. the Capital Item Administration Department and other relevant departments of SAFE;

c. the Foreign Fund Utilization Department and other relevant departments of NDRC;

d. the relevant departments of other Relevant Agencies as deemed necessary.

The Chairman and Deputy Chairmen of CC:

Chaired by MOF

We recommend that the Chairmanship of the CC be provided by MOF. This is because MOF has delegated responsibility from the State Council for borrowing and for the financing of liabilities as they emerge. Such a move would bring China more into line with international practice – most DMO's in other countries are located under the authority of the Treasurer or Minister of Finance. Hence the Minister or a Deputy Minister of MOF (or a LG appointed official) shall be the Chairman of CC.

Two Deputy Chairmen

Besides this, CC shall have two Deputy Chairmen one of which will be the head of WO.

The CC meetings:

Regular and irregular meetings

a. The regular meeting:

Ideally, the CC shall meet once every two months.

b. Irregular meeting:

A CC meeting can be called at any time when special needs arise or as requested by the Chairman.

The agendas for the CC meetings:

Working level agendas

Basically, the agendas for CC meetings shall be more in the working level comparing to those of LG meetings. Specifically, the agendas may include:

a. Report to the CC with regard to the PDM operations, major issues and concerns, and needs to call for co-ordinations between and/or among agencies. This shall be done by each of the Functional Agencies and Relevant Agencies when necessary.

b. Report to the CC the status of the implementation of LG decisions. This shall be done by each of the Functional Agencies and Relevant Agencies when necessary.

c. Propose and comment on improving other agencies PDM related work;

d. Other LG assigned agendas.

The minutes and solutions of CC meetings shall be circulated to the members of LG for reference.

MOF to Chair

The Chairmanship of the Co-ordination Committee should be provided by MOF. This is because MOF has delegated responsibility from the State Council for borrowing and for the financing of liabilities as they emerge. Such a move would bring China more into line with international practice – most DMO's in other countries are located under the authority of the Treasurer or Minister of Finance.

Step 2d: Establish an Advisory Committee. The Advisory Committee or AC shall have the function to provide independent views and comments on LG decisions prior to the formal enactment of any such decisions. This is a crucial step to ensure the decision making process in PDM being objective and scientific.

The members of AC:

AC members can be flexible in numbers and people. The members shall be appointed on the basis of their expertise and reputations in the fields of PDM and a wide range of related areas. They can be international or local.

The AC meetings:

The AC meetings shall be subject to the needs of LG meetings (or CC meetings when necessary). There shall be no regular meetings for AC.

The advisories to LG:

The advisories can be taken by LG in various forms such as a called meeting, comments on circulated papers, etc. The WO may provide support on the AC matters.

Step 3: Carry out systematic training in PDM

Co-ordination of training

Core staff in each department have a clear idea of what is done in other departments. Training for new staff should include familiarization of the roles and procedures of all who are involved in PDM in China.

Need for high caliber staff

Clearly the Working Office will need to be staffed by individuals with a very high degree of knowledge and skill in the debt management area. Similarly, the Co-ordination Committee will also need to be supported by high caliber staff.

Some of these staff exist within the MOF, NDRC and SAFE, but our impression is that there are not enough well trained staff to carry out all the necessary functions. Previous studies have also identified this training need.

Systematic training program recommended

We recommend that a systematic training program be undertaken to bring a larger number of staff to the required level of knowledge. This could be carried out in Beijing, which will require the recruitment of suitable trainers, both Chinese and from overseas. Alternatively, or as part of the process, staff could be seconded to overseas DMO's for a period to learn specific functions. In due course, it is to be expected that Chinese staff could take over the training function internally and the structure of the training program should be designed to facilitate this.

Provincial training also important

It is also essential that debt management procedures are also understood at the local and provincial level, and that suitable training of staff take place at that level also. Because of China's size, and the large number of local authorities and provinces, this will need to be a carefully designed program. We recommend the development of training facilities based on the courses carried out at central level and then 'rolled out' by a combination of central agency staff and overseas trainers.

PDM qualifications

We also recommend that attention is given to suitable qualifications for PDM practitioners. This could be facilitated by setting up a PDM association or institute within China.

Step 4: **Move towards a single authority for debt management.**

Eventual move to single authority

Eventually, as capital markets develop and the debt management process becomes more complex and central to economic management, China will need to establish a single authority for debt management, as most other countries have done. This would then involve the consolidation into a single entity of the divisions within MOF, NDRC and SAFE which are currently responsible for PDM. The Debt Management Authority could be a DMO reporting to the Leadership Group, or could possibly have its own ministerial status. Once this is achieved, China will have moved to a debt management structure which reflects international best practice.

3 Risk management and monitoring

Identified problem

Lack of well-developed risk management framework

China does not have a well-developed risk management framework. It has institutional structures which manage cash and debt issuance, and which monitor external debt on an ex-post basis. However, forward planning for uncertainties is still in its infancy in China. Although the development of an early warning system has been discussed, this has yet to be agreed and implemented.

Recent increases greater than expected

Recent increases in external debt and in the proportion of short-term debt, which seem to be greater than expected, suggest that planning processes have not fully factored in recent changes. The need to finance non-performing loans and bad debts related to banking problems, SOEs and pensions may cause borrowing needs to rise even more steeply in future. Only limited forecasting of these needs seems to have been carried out.

Ensure increase in overall net worth

All debt-financed projects should increase the overall net worth of China. Ensuring this requires detailed monitoring and control of on-lending. The management segmentation outlined in Section 2 above, and the compartmentalisation of individual parts of the PDM system, mean that it is difficult for any one agency to have a clear view of the overall effects of borrowing.

Vulnerability

The composition and size of the assets and liabilities on a country's balance sheet[3], i.e. its financial structure, has been an important source of vulnerability to external shocks and financial crisis in many emerging economies. Financial weakness, such as a high level of short term debt, can be a trigger for domestic and external investors to reassess their willingness to finance a country.

Resilience to shocks

Importantly, an economy's resilience to a range of shocks (external and financial) hinges in large part upon the composition of the country's (government, financial, household and corporate sectors) stock of liabilities and assets. Consequently, a balance sheet framework that examines the assets and liabilities of key sectors for maturity, currency and capital structure mismatches, often highlights how weakness in one sector can easily spillover to another and to the country as a whole.

---

[3] See "A Balance Sheet Approach to Financial Crises: IMF Working Paper, December 2002"

Description of China's current practice

Interim rules define substantial risk management requirements

The risk management framework for projects is defined in Interim Rules on Debt Management for International Financial Institutions, Jan 2000. These specify that:

- The MOF shall assess the credit of the project sponsors and set credit rating and supervision systems. In order to avoid failure to pay back loans, it shall also set up early warning indicators according to the international practices.
- The local FBs shall set up relevant early warning indicators to oversee the loan management and to ensure the repayment of the loans as well.
- The on-lending banks shall cooperate with the local FBs in setting up early warning indicators and ensure the repayment of loans. They shall also provide required statistics to the MOF.
- Both the local FBs and the on-lending banks shall pay great attention to risk management.
- Every on-lending bank or the project sponsor, when considering tools such as derivatives to manage the loan risk, must report to the MOF and the relevant administrative authority (may be the SAFE) for approval. In addition, certain supervision rules and systems must be in place to control the risk in derivatives. Any forms of speculative derivatives shall be highly prohibited.

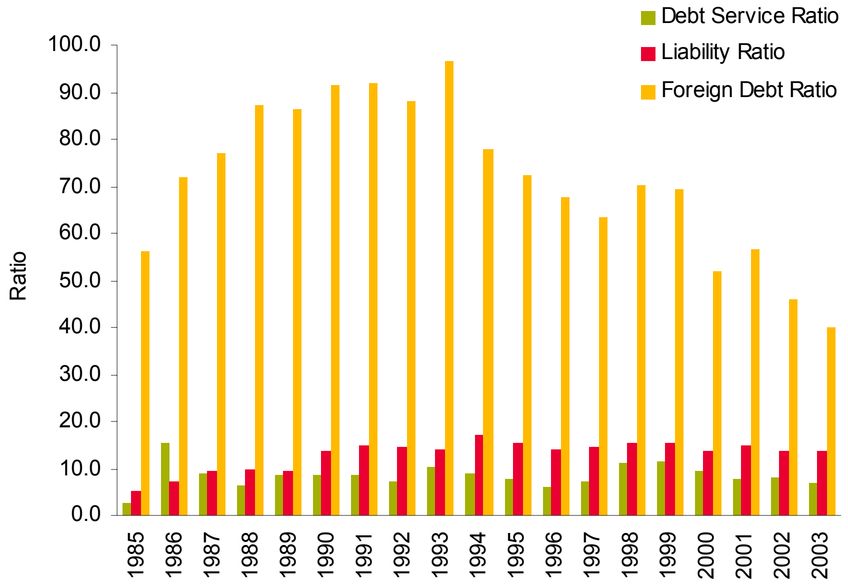
Risk management system needs developing

Our impression is that while these rules may be observed in some cases, they are not implemented in every case. We consider that procedures in this area need to be developed further before China complies fully both with its own rules and with international best practice in PDM. We recommend below as a first stage a detailed audit of risk management activities throughout the Chinese PDM system.

Existing risk indicators

SAFE does calculate and present a limited number of risk indicators, and these are presented in **Figure 20** below. These show how the foreign debt ratio has been brought down from a peak of nearly 100% in 1993 to around 40% in 2003. However, although the 2004 figure has yet to be published, recently released data suggests that it may again be rising.

Figure 20 Risk Indicators on Foreign Debts



Note: a) Debt service ratio refers to the ratio of the payment of principal and interest of foreign debts to the foreign exchange receipts from foreign trade and non-trade services of the current year.
b) Liability ratio refers to the ratio of the balance of foreign debts to the gross domestic product of the current year.
c) Foreign debt ratio refers to the ratio of the balance of foreign debts to the foreign exchange receipts from foreign trade and non-trade services of the current year.

Data source: State Administration of Foreign Exchange, as sourced in the National Bureau of Statistics of China, 2004 China Statistical Yearbook

How does China compare with international best practice?

Types of risk

According to the IMF/World Bank PDM Guidelines, there are, broadly speaking, six types of risk encountered in PDM namely:

- Market risk
- Rollover risk
- Liquidity risk
- Credit risk
- Settlement risk
- Operational risk

Debt problems can contribute to economic crisis

Recent experience in East Asia, Eastern Europe and Latin America, demonstrate how the management of sovereign obligations (explicit and implicit) either contributed directly to the economic crisis or (at least) seriously impaired the government's financial stability, limiting the policy choices available to offset the ensuing economic downturn. The explicit and implicit

government insurance schemes[4] in the domestic banking system that emerged from the 1997 financial crisis in East Asia added some 50 per cent to the government debt stock in Indonesia, 30 per cent in Thailand, and more than 20 per cent in Japan and South Korea. Similarly, government debt in Malaysia and Mexico soared as a result of unexpected defaults on government guarantees used to promote private participation in infrastructure projects.

Sudden changes are costly

Sudden changes to policy are always less effective for the economy than phased, planned changes. The earlier the government knows about a potential problem, the better the policy response will be.

Each investment should be viable

In order to prevent a 'blow out' in public debt, it is now recognised internationally that each investment must pay for itself. Each programme should on its own seek to generate sufficient revenue to repay the capital sum borrowed plus the interest charged. Some programmes will fail to do so, and that is to be expected. But no programme can or should be commenced unless the expectation is that revenues will exceed costs. Accepting projects that are known to be commercially unsound in this sense should only be permitted when the social or long-term results are genuinely essential and the economy can genuinely afford the loss.

Distortions to the economy

If projects which are financed by debt are not commercially viable, this reduces the net worth of a country and also can create serious distortions to the economy.

Less options during crisis

A net foreign currency debt exposure can limit a country's policy options during a financial crisis when exchange rates adjust. A country with a large net foreign currency exposure could experience difficulty pursuing expansionary monetary policy to reflate its economy because of the potential impact of depreciation in the domestic currency. In such circumstances, currency depreciation would exacerbate the country's indebtedness and risk profile, thereby magnifying rather than dampening the financial crisis as the Government is faced with the dual cost of an increasing external debt service burden and declining foreign currency value of its revenue stream.

Trade-off between cost and risk

Given that identifying and managing the trade-off between expected cost and risk is central to PDM in every country, understanding and prioritising the different types of risk that impact sovereign portfolios is critical. In large part, the emphasis in managing sovereign risk typically depends upon a country's level of economic development. For instance, in developed economies with deep and liquid securities markets, market risk is usually the chief concern for sovereign risk managers. However, in emerging economies where domestic

[4] See "Government at Risk: Contingent Liabilities and Fiscal Risk Published in 2002 by the International Bank for Reconstruction and Development"

capital markets are typically less developed and reliance on foreign capital is greater, rollover risk may be a more pressing risk priority.

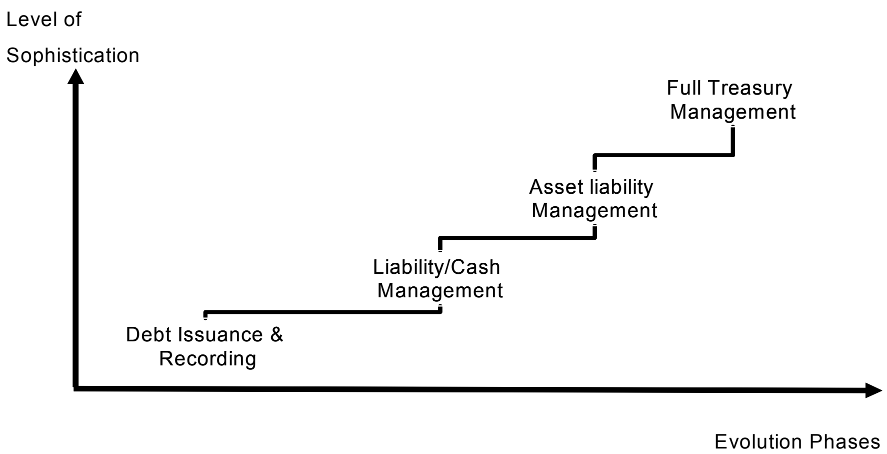
Evolutionary phases of PDM

International best practice recognizes that developing countries may not have the skills or resources to carry out a full risk management program, but it is still recommended that countries seek to move up the evolutionary phases in PDM, as depicted in **Figure 21**. In China's case, the next step is to move gradually to an Asset-Liability Management framework, starting with the development of at-risk measures.

At-risk measures

Most countries now seek to implement detailed risk management measures such as Cost at Risk (CaR), Budget at Risk (BaR) or Debt Service at Risk (DsAR). Recommendations for implementing such measures in China are presented below.

Figure 21 Evolutionary Phases in PDM



Data source: Public Sector Finance and Treasury Management Conference, May 2003.

Best practice assessment of other key risks includes analysis of:

- Rollover risk
  - The prospect that debt falling due cannot be rolled over in the same volume or currency or that it has to be rolled over at unusually high cost
- Liquidity risk

  - The risk of unanticipated cash flow obligations or difficulties in securing short term borrowing leading to a sudden reduction in foreign exchange reserves.
  - The risk of investors leaving the market suddenly. This typically crops up in relation to derivative contracts
- Settlement risk
  - The potential loss to the government as a result of a counterparty's failure to settle a transaction other than default
- Operational risk
  - Potential losses arising from transaction errors, failure of internal controls and legal risks associated with legal risks

Government tolerance of risk

The appropriate risk strategy ultimately depends on the government's tolerance for risk. For instance, debt managers in well-developed financial markets typically determine (periodically) a desired debt structure to guide new debt issuance or set strategic benchmarks to guide the day- to-day management of the government's debt portfolio.

Analysis of the problem and identification of deficiencies

Dangers of breaching risk parameters

If China does not employ prudent risk management policies, the current rate of economic growth will lead to increased debt, and in a few years to risk indicators which breach internationally accepted norms. This will in turn cause the investment climate in China to deteriorate and hence funds to become increasingly difficult and/or expensive to raise for key projects.

Protect reputation of PDM in China

If public debt management authorities can control problems before they become major macroeconomic issues this both raises the reputation of the debt management process and also makes economic management more effective. Similarly if on-lending is not targeted effectively, this creates many risks later. Good risk management can help to control this problem.

Recent surprises

Recently released 2004 external debt statistics show increases in foreign debt and in short-term debt exceeded planned amounts.

Although external debt indicators are still within acceptable bounds, their recent trend is in our opinion worrying. We are also concerned that the contingent liabilities we discuss below will become funding needs in the coming years. This has already occurred with some of the banking problems.

Limited risk measures and stress testing carried out

Only limited risk measures are published by the Chinese government. We have been told that there is no systematic stress testing of PDM carried out by SAFE, and we have not identified any department within MOF which does this work. However, the Comprehensive Department has told us that it does

undertake some forecasting of future debt requirements, based upon probabilities of expected policy improvements.

Targetting of on-lending

On-lending must be effectively targeted on commercially-viable projects. The Banks are developing systems to carry out this function. However, the administrative controls still seem weak. In this situation, it is necessary for China's PDM managers to take a lead in defining procedures for the overall control of risk.

Stress testing

Stress testing is typically employed by debt managers to evaluate the market risks in their debt portfolios. Generally, this is measured by the potential increase in debt service costs as a result of changes in interest or exchange rates relative to expected costs (calculated from base line assumptions).

Specific Tests

Regular stress testing is particularly helpful in terms of assessing debt sustainability. Commonly used stress indicators include

- The debt service ratio
  - Measures the proportion of exports of goods and services that is absorbed for debt service payments
- The short-term indebtedness ratio
  - Measures the level of outstanding foreign exchange reserves to usable foreign exchange reserves
- Total government debt service as a proportion of government revenue
  - Measures the government's ability to meet its debt service obligations from expected government revenue
- Present value of external debt service to GDP/GNP
  - Compares the current cost of future debt service obligations to overall economic activity
- Present value of debt service to exports of goods and services
  - Compares the currency cost of future debt service obligations to the country's capacity to generate foreign exchange income

Risk assessment to determine an appropriate debt strategy

The role of sovereign debt managers in assessing other key risks is to analyse to the extent possible their magnitude and to develop a preferred strategy for managing the trade-off between expected cost and risk.

Key characteristics

Key characteristics of a well developed risk management framework include:

- Full integration of assets and liabilities
- Identification and forecasting of contingent liabilities
- Risk management based on market values with techniques such as Value at Risk (VaR)
- Benchmark portfolios and RAPM (risk adjusted performance measurement)

Recommendations

Audit of risk management procedures

Step 1: Carry out a detailed audit of risk management in Chinese PDM, at both central and local level. In this TA we have interviewed staff from the main PDM departments at a central level, but have not explored the early warning indicators and procedures used to ensure the repayment of loans at a local level.

The activities of the major Departments – MOF, SAFE and NDRC – in the risk management area should be catalogued. This includes identification of all forecasting tools used and other techniques employed to explore future risks. A sample survey should be considered at local level, targeting Provinces on a representative basis across China. The relevant activities of other relevant agencies (PBOC, MOC, CSRC, CBRC) should also be established, in order to avoid possible duplication by PDM authorities.

The major items that should be identified include:

- Number of staff with risk management expertise and the depth of that expertise.
- Hardware, software and risk modeling availability.
- Existing processes to establish risk and frequency of use.
- Forecasting models and routines.
- (Formal and informal) links to academic and overseas groups with expertise in risk management.

Need for staff to have a good basic understanding of corporate finance

Step 2: Ensure that sufficient staff trained in risk management are made available to the risk management function. Risk management is a complex subject, requiring staff to have a good grounding in corporate finance, statistical methods and public finance. These are probably best gained in a university or business school environment, so recruitment of suitably trained staff in the first instance may be necessary. It may also be necessary to employ ex-patriate or consultant staff in order to boost the base of expertise available. Once these staff are in place, knowledge transfer to local staff should be encouraged and facilitated.

Risk management training essential

An understanding of international best practice in risk management should be provided to all relevant staff. Specific staff training should be undertaken for those involved in collecting data for risk management. Technical Volume Section 2 provides a preliminary basis for this training.

It is possible that training could involve collaboration with overseas PDM authorities, or that ex-patriate trainers could be invited to provide courses in China. A further possibility is to develop/acquire training materials (video, computer-based or remotely provided) which can be used repeatedly with different groups.

Develop 'at-risk' measures

Step 3: Develop and publish a wider range of PDM risk measures. For any funding (debt) strategy, risk can be measured by Budget at Risk (Bar), Cost at Risk (Car), and other tailored[5] 'at risk' measures. Brazil, Columbia, Denmark and New Zealand for example, all use 'at-risk' modelling to quantify market risks. Denmark uses (Car) modelling to assess interest rate risk by simulating multiple interest rate scenarios and different strategies such as the issuing, strategy, the amount of buybacks and the duration strategy

Cash flow basis

In developing risk models, countries in early stages of development typically prefer to measure risk on a cash flow basis rather than on a full mark-to-market basis i.e. the Value-at-Risk[6] methodologies applied by asset/fund managers in the private sector. The main reason that sovereign debt managers often measure risk on a cash flow basis is because they consider the extent to which financial variables affect budget volatility (through changes in debt servicing costs) as the major risk they face. Cash flow risk is measured through a combination of indicators such as: duration, refixing/refinancing profile and currency exposure.

International guidance

International experience provides considerable guidance on how to do this, and on the experience of other countries. Technical Volume Sections 3 and 4 summarise this experience.

Debt Service at Risk (DSaR)

Step 4: Develop a Debt Service at Risk (DSaR) measure. Columbia has developed a debt-service-at-risk (DSaR) model to quantify the maximum debt-service cost of the debt portfolio with 95 per cent likelihood. The methodology behind the Colombian model – which we consider to be appropriate for China - takes into consideration exposure to market variables, such as interest rates, exchange rates and commodity prices. The output from this analysis provides parameters for managing the cost/risk dimensions of Colombia's debt portfolio.

Columbian practice

The Columbian methodology takes into consideration the exposure to different market variables, such as interest rates, exchange rates and commodity prices (24.5 percent of the debt is price indexed). For managing the cost and risk dimensions of the debt portfolio, the middle office presents a monthly report of funding alternatives based on DsaR analysis. This report compares the cost of the expected scenario versus the 95 percent risk scenario for each of the different funding alternatives.

---

5 Portugal is currently developing a model based on an integrated Budget-at-Risk model. Canada, Denmark and Italy are developing Cost-at-Risk measures based on the effect of interest rate fluctuations on the annual costs of debt portfolios.

6 Value at Risk. (VaR) involves taking the present value of all exchange rate/interest rate scenarios and measuring the mean and variance of these for any given debt strategy

Early warning system

Step 5: Develop an 'early warning system', including methods of alerting the relevant departments once risk limits are breached, should be developed. This should cover solvency, liquidity, and public, corporate and financial sector indicators. This should draw on international experience to provide departments and policymakers with advance warning of stresses in the economy.

Use of debt-related indicators

Debt-related indicators such as the ratio of external debt to exports and the ratio of debt to GDP, provide valuable solvency and liquidity alerts. However, such snapshot indicators do not reflect debt sustainability. Debt sustainability, on the other hand, needs to be assessed in the context of medium-term scenarios which take account of the prospects for growth of output and exports, or for fiscal performance.

Liquidity issues

Liquidity problems which arise from a shortage of liquid assets affect the ability of an economy to discharge its immediate external obligations and almost always emerge in circumstances which occur as a result of insolvency or unwillingness to pay. Liquidity problems can also be triggered by a sharp drop in export earnings, an increase in foreign or domestic interest rates or sharp increase in the price of imports. Consequently, important determinants of the vulnerability of an economy to external liquidity crises include:

- The currency and interest rate composition of debt
- The maturity structure of debt
- Availability of assets to pay debt service

Medium-term scenarios

Medium term scenarios of external debt sustainability incorporate forecasts of the behaviour of economic variables and other factors which determine such factors as:

- The conditions under which debt and other indicators stabilise at reasonable levels
- The major risks to the economy
- The need and scope for economic policy adjustment

The advantage of conducting this sort of analysis is that it considers borrowing within a country's overall macro economic framework.

Debt ratios help to identify stresses in the economy

The main purpose of calculating debt ratios is to highlight potential debt related risks and stresses in the economy as part of the debt management process. Analysed in the context of medium term scenarios, such debt ratios based on flow variables such as exports or GDP provide guidance on debt sustainability over time. For example, if the ratio of debt to exports is

increasing over time for a given interest rate, then this implies that total debt is growing faster than the economy's main source of external income. Other commonly used indicators are set out in **Table 2**. Processes should be developed to develop these indicators for China and to analyse the impact of trends.

Table 2 Overview of Debt Indicators

Indicator	Evaluation/Use
Solvency	
Interest service ratio	Ratio of average interest payment to export earning indicates terms of external indebtedness and thus the debt burden
External debt to exports	Useful as trend indicator closely related to the repayment capacity of a country
External debt over GDP	Useful because relates debt to resource base (for the potential of shifting production to exports so as to enhance repayment capacity)
Present value of debt over exports	Key sustainability indicator used, for example, in HIPC Initiative assessments comparing debt burden with repayment capacity
Present value of debt over fiscal revenue	Key sustainability indicator used, for example, in HIPC Initiative assessments comparing debt burden with public resources for repayment
Debt service over exports	Hybrid indicator of solvency and liquidity concerns
Liquidity	
International reserves to short-term debt	Single most important indicator of reserve adequacy in countries with significant but uncertain access to capital markets; ratio can be predicted forward to assess future vulnerability to liquidity crises
Ratio of short-term debt to total outstanding debt	Indicates relative reliance on short-term financing, together with indicators of maturity structure allows monitoring of future repayment risk
Public sector indicators	
Public sector debt service over exports	Useful indicator of willingness to pay and transfer risk
Public debt over GDP or tax revenues	Solvency indicator of public sector; can be defined for total debt or for external debt
Average maturity of non-concessional debt	Measure of maturity that is not biased by long repayment terms for concessional debt
Foreign currency debt over total debt	Foreign currency debt including foreign currency indexed debt; indicator of the impact of a change in the exchange rate on debt
Financial sector indicators	
Open foreign exchange position	Foreign currency assets minus liabilities plus net long positions in foreign currency stemming from off-balance-sheet items; indicator for foreign exchange risk, but normally small because of banking regulations
Foreign currency maturity mismatch	Foreign currency liabilities minus foreign currency assets as percent of these foreign currency assets at given maturities; indicator for pressure on central bank reserves in case of a cut off of financial sector from foreign currency funding.

Gross foreign currency liabilities	Useful to the extent that assets are not usable to offset withdrawals in liquidity
Corporate sector indicators	
Leverage	Nominal (book) value of debt over equity (assets minus debt and derivatives liabilities); key indicator of sound financial structure; high leverage aggravates vulnerability to other risks (for example, low profitability, high ratio of short-term debt/total debt)
Interest over cash flow	Total prospective interest payments over operational cash flow (before interest and taxes); key cash flow indicator for general financial soundness
Short-term debt over total term debt (both total and for foreign currency only)	In combination with leverage, indicator of vulnerability to temporary cut off from financing
Return on assets (before tax and interest	Profit before tax and interest payments over total assets; indicator of general profitability
Net foreign currency cash flow over total cash flow	Net foreign currency cash flow is defined as prospective cash inflows in foreign currency minus prospective cash outflows in foreign currency; key indicator for unhedged foreign currency exposure
Net foreign currency debt over equity	Net foreign currency debt is defined as the difference between foreign currency debt liabilities and assets; equity is assets minus debt and net derivatives liabilities; indicator for balance sheet effect of exchange rate changes

Data source: Debt Sustainability: Medium –Term Scenarios and Debt Ratios

Step 6: Define a suitable risk strategy for China.

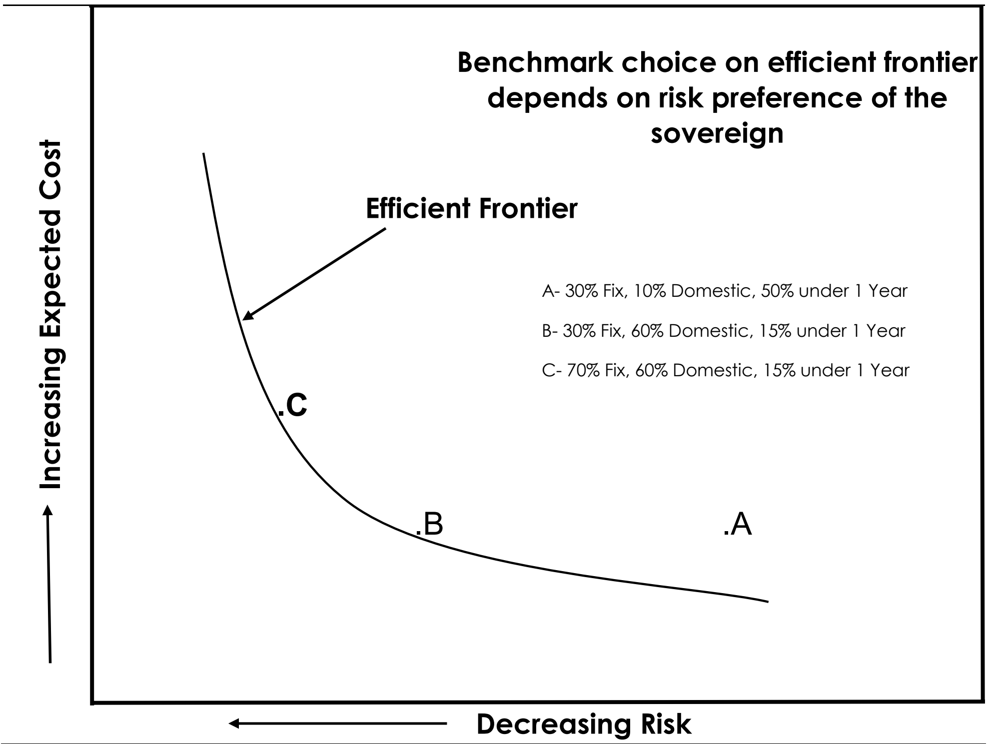
Evaluation of alternative funding strategies

Using portfolio management theory, a variety of debt/funding strategies can be simulated to derive an efficient frontier (see Figure 22) which enables debt managers to:

- Compare different strategies
- Measure the cost-risk trade-off
- Select a debt strategy that reflects the government's objectives and its tolerance for risk

We provide below commentary on the major risks which need to be traded off in defining this risk strategy.

Figure 22 Modelling cost and risk: the efficient frontier



Data source: A Risk Quantification Model for Public Debt Management: Antonio Veranda (World Bank)

Risks in balance sheets

From a debtor's perspective, there are generally four types of balance sheet risk[7]. These are:

- Maturity
- Currency
- Capital structure
- Solvency

Exploration of risks in different countries

Maturity and currency mismatches create exposure to particular sources of risk, including market risks such as changes in interest rates and exchange rates. Capital structure mismatches (capital structure here is the balance between debt and equity) increase a country's vulnerability to financial crisis and risk of insolvency.

Table 3 outlines how balance sheet risks typically apply to key sectors of an economy.

Rollover and market risk

Risk associated with maturity mismatches usually occurs when assets are long term and liabilities are short term. Such mismatches can create exposure to rollover risk and market risk (interest rate and exchange rate changes). Maturity mismatches can occur in either domestic or foreign currency e.g. a debtor may

[7] There is not an exhaustive list of balance sheet risks. Other risks that frequently arise include: rollover risk, credit risk, operational risk etc.

have short-term foreign currency debts that exceed his liquid foreign currency assets, even if his aggregate foreign currency debts match aggregate foreign currency assets.

Reasons for financial crises

Maturity mismatch risk was a significant variable in many recent financial crises. In some cases, pressures arose as a result of short-term government debt (Mexico, Russia, Turkey and Argentina) while in others it occurred as a result of short term pressure in the banking system (South Korea, Turkey, Brazil and Argentina). In some other recent episodes (Russia, Turkey, Brazil and Argentina) the interest rate on short term government debt rose sharply just before the crisis, due to higher perceived currency and country default risk along with deteriorating debt dynamics of the government.

Denomination of debt

A further source of risk is caused by a difference in the currencies in which assets and liabilities are denominated. Liabilities may be denominated in foreign currency while assets are usually denominated in domestic currency, leading to losses when a significant change in the nominal and real value of the domestic currency occurs. Emerging economies are often most at risk of this type of mismatch since their domestic financial markets are usually not sufficiently developed to support the country's financial needs. Consequently, foreign currency debt can be a significant proportion of the country's total debt exposing emerging economies to this type of risk especially if it is operating under a relatively inflexible exchange rate regime.

Debt vs equity financing

Capital structure mismatch arises as result of over-reliance on debt compared with equity financing. The absence of an equity-buffer can magnify financial distress when a sector encounters a shock. The crises in South Korea and Thailand are evidence of the risks of relying excessively on debt financing. By restricting foreign direct investment (ceilings on foreign ownership) pre 1997, the Korean government encouraged foreign capital inflows to take the form of debt more than equity. Similarly, Thailand's tax regime favoured debt over equity. In both cases in their banking sectors, capital structure imbalance manifested itself in undercapitalized banks and financial institutions.

Inadequate assets?

Solvency risk rises when an entity's assets do not cover its liabilities. This has varied widely between countries affected by recent crises. In Mexico, Korea and Thailand, the sovereign was clearly solvent at the onset of the crisis despite significant macro economic or structural weakness. In other instances, high rations of debt to GDP or government revenues undermined the solvency of the government. Many episodes of financial crisis have also been masked by strong real exchange rates which reduced sovereign debt to GDP ratios (by lowering the value of foreign currency debt) ahead of the crisis.

Table 3 **How Balance Sheet Risks Apply to Different Sectors**

Risk Sector	Maturity mismatch	Currency Mismatch	Capital Structure Mismatch	Solvency (Liabilities v Assets)
Government	Government's short-term hard currency debt v government's liquid assets (reserves)* Short-term domestic currency denominated government debts v. liquid domestic currency assets of the government	Government's debt denominated in foreign currency (domestic and external) v. hard currency assets (reserves)	N/A	Liabilities of government and central bank v. their assets. Assets include discounted value of future primary surpluses(including seigniorage revenue) and the financial assets of the government and central bank, including privatisable state owned enterprises Liabilities may include implicit liabilities from pension plans as well as contingent liabilities stemming form government guarantees
Banks	Short-term hard currency debts v. banks' liquid hard currency assets (and ability to borrow from central bank) Short-term domestic currency debts v. liquid assets	Difference between foreign currency assets (loans) v. foreign currency liabilities (deposits/interbank lines)	Deposits to capital ratio (closely related to capital to assets ratio)	Bank liabilities v. bank assets and capital
Firms	Short-term debts v. firms' liquid assets	Debts denominated in foreign currency v. hard currency generating assets	Debt to equity ratio	Firms liabilities v. present value of firm's assets
Households	Short-term debt v. liquid household assets	Difference between Foreign currency assets v. foreign currency liabilities	N/A	Liabilities v. future earnings (on wages and assets
Country as a whole	Short-term external debt (residual maturity) v. liquid hard currency reserves of government and private sector**	Net hard currency denominated external debt***	Net external debt stock (external debt minus external assets) relative to net stock of FDI ****	Stock of external debt relative to both external financial assets held by residents and the discounted value of future trade surpluses, (resources for future external debt service)*****

Note: * not all central bank reserves are available for government debt service; some may be pledged to back currency, lent to banks etc

Asset liability management

Step 7: Develop and implement an Asset-Liability Management Framework.

International experience suggests that China should seek to implement an ALM framework for debt management as soon as possible. This will permit the PDM authorities to understand the implications of different levels of debt for China's overall position. The major characteristic of this category of PDM is the full integration of assets and liabilities (including contingent liabilities (CLs)) and a balance sheet risk management approach. Unlike corporates in the private sector, governments do not normally draw up balance sheets. Instead, their main financial reports are the budget and estimate of public sector borrowing required to finance it.

Table 4 Conceptual Sovereign Balance Sheet

Assets	Liabilities
PV of fiscal revenues	**Direct Liabilities** PV of fiscal expenditure Net market value of debt
Foreign exchange reserves	**Contingent Liabilities** Explicit contingent liabilities Implicit contingent Liabilities
Marketable securities	**Equity** Net worth of Government estate/equity
On-lending to State Entities	
Investment in SOEs, Infrastructure etc	

Data source: Risk Management of Contingent Liabilities within a Sovereign Asset-Liability framework: Elizabeth Currie and Antonio Velandia (World Bank Publication)

Risk is minimised if the risk of debt matches the risk profile of future revenues and expenditures

An ALM framework suggests that risk is minimised when the risk characteristics of a sovereign's debt matches those of future taxes minus future expenditures. In particular, the risk implications of a conceptual balance sheet suggest that budget surpluses are not significantly correlated to movements in foreign exchange rates and real interest rates.

Risk is minimised in sovereign debt portfolios when debt is issued in domestic currency and is fixed rate long-dated debt, cost is usually minimised by issuing short term, floating rate debt which is cheaper because of the positive yield curve and foreign currency denominated debt.

Start with balance sheet for sovereign debt

We suggest that the transition to ALM could be started by attempting the construction of a balance sheet for sovereign debt. This could be achieved by consolidating the data already available from Provincial Fiscal Bureaux, which already each have a PDM division.

Combine data on banks

It would also be possible to combine existing data from the 'Big 4' banks, the policy banks and the National Banks. The 32 City Banks (which at present have lower debt management needs) could be included later.

Although these data do exist, there is at the moment – to our knowledge – no systematic attempt to use them for this purpose. A new group would need to be set up, perhaps in one of the MOF departments, with sufficient skills to collate and analyse these data in order to develop the required balance sheet approach.

New Zealand experience

The New Zealand experience described in Technical Volume Section 3 may assist in this work.

Local level procedures

Step 8: Roll out systematic risk management measures to local level. This could be initiated on a trial basis in selected provinces at the same time as some of the steps described above. It could also accompany local training programmes, under the guidance of the Co-ordinating Committee.

Treasury Management

Step 9: Introduce Integrated Treasury Management as the final phase in PDM evolution where the focus is on providing full treasury services to government and government agencies

There are four key characteristics at this stage of PDM:

- Client servicing
- Asset-liability management framework
- Risk management based on market values with techniques such as VaR
- Benchmark portfolios and RAPM (risk adjusted performance measurement)

May take time

According to our research and cross-checking with the AOFM, Ireland is the only developed country that has reached this stage of PDM sophistication. It may take China many years to achieve this level, but it is helpful to identify as an eventual goal so that the earlier steps can be designed as an efficient path to the eventual goal.

4 Cash management

Identified problem

Cash management requires forecasting

Quality cash management requires accurate forecasting of cash flows between the government and the banking system and end-of-day cash balances in government accounts. Many overseas countries forecast daily cash balance four or more years out, and foreign and domestic accounts are co-ordinated so that overall debt financing costs are minimised. Excellent relations between the PDM managers and the Reserve Bank also help.

Dialogue with Central Bank

Strong information flows between agencies involved in debt management and regular dialogue with the central bank are essential to avoid inconsistencies in debt and monetary operations. We have not identified a system of cash management procedures including detailed day-by-day forecasting and control processes which are used internationally (for example at the Australian Office of Financial Management). A forum for regular information exchanges between debt managers and the central bank needs to be established as a matter of priority.

Liquidity needs of capital market not considered enough

We have also identified little evidence of consideration of liquidity needs of the capital market in day-to-day management. This will become increasingly important as China's capital markets develop.

Description of China's current practice

Recent moves to single accounts

Before the State Council approved reforms to the treasury management system in July 2001, the government (and government organisations) operated a plethora of separate bank accounts in commercial banks. The MoF had no ability to manage idle balances in these accounts. However, now that a Treasury Single Account has been created with the central bank (PBoC) all revenue and expenditure are intended to flow through this account.

Separate bank accounts still held

Although government organisations can still hold separate bank accounts with commercial banks to pay obligations to third parties, the MoF is intended to approve each of these accounts and transactions go through the MoF Payment Centre. Finally, overnight balances are automatically transferred to the Single Treasury Account allowing the Treasury Department of MoF to centralise treasury management. Handled correctly, this could mean that bond issuance and cash needs could be organised in order to minimise overall debt servicing costs.

Process still being implemented

However, this process is still being implemented. Some 20-30 government departments still have their own accounts. Each local fiscal bureau also has its

own account. There are few processes for horizontal transfer of funds, and transfer of funds from local to central level is often constrained.

How does China compare with international best practice?

Optimisation and forward forecasting

International best practice involves the optimization of cash usage by creating daily cash needs forecasts for the next four years and then allocating Treasury Bond issuance to minimize cash holdings.

Structured cash management systems

Developed countries have very structured systems[8] for the control of cash and the minimization of government expenditures. These typically require that each agency or institution is required to project and report quarterly (or longer) cash requirements to the cash management authority. The projected cash requirements are then utilized to project the daily, monthly, and quarterly cash flow of the General Fund.

Security of system

Security for cash management applications is a high priority and backup systems are designed to protect from catastrophic failures. Access to the relevant IT systems are limited to individuals authorized by the various agencies and institutions and to budget codes assigned to each particular agency/institution.

Typically on-line worksheets are provided for agencies and institutions to enter and revise quarterly projected cash requirements and projected receipts. A worksheet is usually provided for each budget code and help and guidance is usually provided on-line.

Risk reduction

The main objectives of efficient cash management include:

- Keeping idle cash balances in the banking system to a minimum
- Reducing risk: market, credit and operational risk
- Adding flexibility to matching government inflows and outflows through aggregation into a single government account with the central bank.

Certainty and lower cost

By keeping idle cash balances to a minimum, efficient cash management and control systems increase certainty that payments are made by their due date. They also reduce costs through direct savings to the government since borrowing is no longer required to finance cash payments. Corresponding operational risk and scope for mismanagement is also reduced through effective control procedures. Equally, by linking government accounts so that balances are netted through a single account in the central bank, cash flow

---

[8] See for example the US Department of Commerce Cash Management Policies and Procedures Handbook, issued under authority of Department Administrative Order 203- 28, revised September 1, 1999.

becomes more visible and market risk (exposure to the banking system/financial markets) is reduced.

Improves ability to fund projects

Good cash management conserves resources, and so creates the ability to fund more projects with the same debt, or the same projects with less debt.

Elements of good cash management

Generally, good cash management[9] involves:

- Officials making a continuous effort to promote effective cash management practices among all managers and employees.
- PDM managers encouraging other organization unit managers to include cash management objectives and accomplishments in performance plans and evaluations of those whose duties involve decision-making for the receipt, commitment, programming, or expenditure of funds.
- PDM managers monitoring the cash management functions and performance of cash management officers to ensure that they are performing cash management duties and responsibilities expeditiously and effectively, in accordance with applicable laws, regulations, and other policies.
- Systems to support all the above, including suitable training programmes and data transfer.
- Backup and security systems, methodologies and guidance to ensure that there is no discontinuity in funding and finance in the event of failure or unforeseen events.

Analysis of the problem and identification of deficiencies

China does annual plans

At present in China, the Budget Department of the Ministry of Finance controls the overall size of funds for each department in the Ministry and advises the Treasury Department on how much to allocate annually. The Treasury Department of the Ministry of Finance formulates monthly fund usage plans and handles the schedule of fund usage within the period. The Treasury Department also handles cash flow and maintains cash balances (revenues and payments) within this period.

Strong reliance on planning process

In our discussions with officials, and particularly with the MOF Treasury Department, we identified a strong reliance on planning processes to control cash needs. If the planning process allocates budgets well, and these budgets are spent as planned - so the argument runs - then there should be no problem either of insufficient funds or of excess funds in any particular account.

Idle funds

The problem with this argument is that outturn and plans do not usually exactly coincide, however good the planning process is. The result will be that monies will sit idle in some accounts, while it is necessary to borrow to fund

[9] See the US Treasury Financial Manual, Part 6-8000.

other activities. We understand, for example, that there have recently been up to RMB 600 billion of funds idle in the Treasury account, and that these have so far not even been able to be used in interest-bearing accounts as the PBOC has taken the view that cash management accounts are too volatile to be invested.

Flexibility to absorb shocks

Efficient cash management operations play a pivotal role in public debt management because they enable governments to honour their obligations in a timely manner, and provide flexibility to absorb shocks. In a transition economy like China where there is a significant amount of floating rate and/or short dated assets and liabilities, and government expenditure/revenue cash flows are difficult to forecast, it is essential that all cash management and debt management functions work in a coordinated fashion.

Good forecasting is essential to cash management

Effective cash management, in the short-, medium- and long-term requires effective forecasting of cash flow needs. This forecasting should guide forward plans for debt issuance as well as disbursement processes.

Current forecasting needs improvement

Although the NDRC undertakes some forecasting for the purposes of preparing and updating each five-year plan, and the Comprehensive Department of the MOF undertakes some fiscal revenue and expenditure forecasting, we do not believe that this is sufficient. Effective PDM and cash management requires that this forecasting process be improved.

Existing policy initiatives

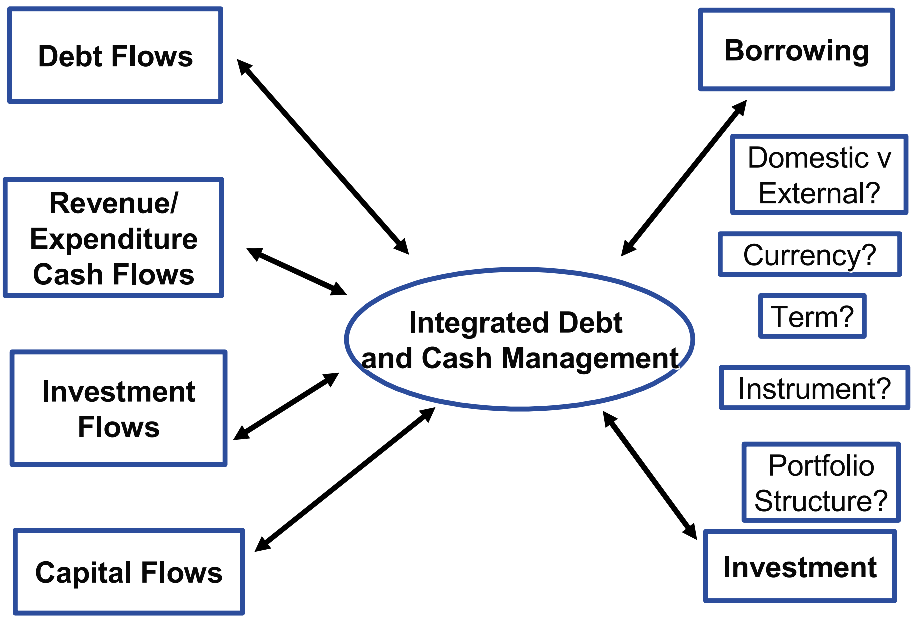
This is an area which is being addressed by the Treasury Department of the Ministry of Finance. We understand that a number of policies are currently under consideration to address the large non-interest-bearing surpluses currently held in the Treasury account.

Recommendations

Information flows

Quality cash management requires accurate forecasting of cash flows between the government and the banking system and end-of-day cash balances in government accounts. This is illustrated in **Figure 23** below.

Figure 23 **Cash/liability management: information flows**



Data source: Sovereign Debt Management: A Risk Management Focus (The Finance and Treasury Professional, May 2001).

Fine-tuning of bond issuance

The liquidity needs of the Chinese Capital Market should be identified and the impact of debt management operations on this should be investigated.

Saving money

Efficient cash management can save money overall on debt financing/raise more interest from existing funds. This will include choice of the schedule for issuance and redemption of Treasury Notes. Keeping idle balances in one account while borrowing in another means that the overall cost of finance is higher than necessary.

Single authority

All PDM cash management should be integrated into a single authority. This would preferably also be closely co-ordinated with overall cash management for Chinese government.

Checklist of good practice

Step 1: A checklist of good practice in cash management should be prepared. This should be disseminated to all involved in cash management at both central and local level. This should include, at a minimum, the following guidance[10]:

- Billings to organizations outside the Government shall be prepared and sent promptly after the goods or services have been rendered. To ensure

[10] This list is derived from US Department of Commerce and US Treasury guidelines.

that funds are received promptly, these billings shall clearly indicate the requirement for timely payment.

- Charges for late payments in the form of interest, penalties, and administrative costs shall be levied on delinquent receivables to offset the cost of funds to the Government and administrative costs incurred in collecting delinquent debts.
- Collection systems shall be designed with explicit consideration to the volume and character of the collections and the most expeditious availability of cash to Ministry of Finance.
- Collection systems shall include procedures which provide for prompt and continuing action to collect outstanding receivables, with particular attention to delinquent receivables.
- The aggregate total of uncollected receivables shall be kept to the minimum amount possible.
- Contracts or agreements which govern the sale of goods or services to an organization outside the Government shall include a payment schedule, provide notice of late charges for delinquency, and whenever possible, provide for the receipt of payment in advance or acceptance of individual credit cards (approved by the Ministry of Finance) for the sale of Government goods or services.
- Deposit processing, both for Renimbi and foreign currencies, shall be completed promptly and include a separation of the flow of collections from the flow of related documents at the earliest possible processing point, i.e., separation of duties.
- All funds are to be collected and disbursed by EFT when cost effective, practicable and consistent with the current statutory authority.
- Payment systems shall be designed so that payments are made neither early nor late, and in accordance with the provisions of the Prompt Payment Act
- Payment on an invoice shall not be made before receiving the related goods or services, except as specifically authorized by law.
- Payment systems shall incorporate procedures which will allow routine taking of economical cash discounts without need for special handling.
- Cash advances for grants, procurement, or authorized employee entitlements shall be closely monitored, shall not be in excess of that required for immediate disbursement needs, and shall be promptly withdrawn or refunded when excessive.
- When authorized by law or by the Ministry of Finance, funds kept in interest bearing accounts shall yield the highest possible interest rate commensurate with efficient administration of the account.
- Foreign currencies acquired through commercial channels shall be purchased at the most favorable legal exchange rate obtainable from a legally authorized source.

Immediate measures to reduce cash holdings

Step 2: Implement immediate measures to reduce the amount of cash held in the Treasury account, and enable at least some of it to be interest-bearing. This should include existing suggestions to:

- Reduce the amount of cash held with PBOC to the minimum required to meet immediate planned requirements.
- Hold a lower fixed amount to cover contingencies.
- Relocate this to commercial bank accounts at the maximum interest rate available.

Guidance notes needed

Step 3: Create guidance notes for those involved with cash management. These should be derived from international best practice, as presented above. To achieve cash management objectives, organization unit finance officers should explore and continuously pursue opportunities in which they can:

- Improve billing, collection, and deposit services.
- Reduce or eliminate delinquent debts owed the Government.
- Streamline and better control disbursement systems and activities.
- Maximize the use of electronic funds transfers (including bankcards) in preference to paper checks.
- Minimize idle cash in the hands of the organization unit or program recipients.
- Reflect good cash management objectives in organization unit directives.
- Monitor the level of compliance with organizational, Departmental, and Government-wide cash management guidelines.

Information flows

Step 4: Improve information flows. Strong information flows between agencies involved in debt management and regular dialogue with the central bank are essential to avoid inconsistencies in debt and monetary operations.

Forecasting system

Step 5: **Develop a tailored forecasting system.** With this in mind, a system should be implemented to improve cash management procedures including detailed day-by-day forecasting and control processes which are used internationally.

A review of forecasting procedures should be undertaken, in consultation with the People's Bank of China, in conjunction with the development of a sovereign conceptual balance sheet. This could be conducted under the supervision of the new Co-ordinating Committee. Any new forecasting unit should work closely or even be part of the risk management team.

Forum for regular exchanges between PDM managers and PBOC

Step 6: Develop a forum for regular information exchanges between PDM managers and the PBOC. A forum for regular information exchanges between debt managers and the central bank is a key feature of developed cash

management systems. In some countries these exchanges occur daily, in others at least once a week.

Liquidity needs of Chinese capital market

Step 7: The liquidity needs of the evolving Chinese Capital Market should be identified and the impact of debt management operations on this should be investigated. Again, Australian experience in fine-tuning bond issuance to the needs of the market may be instructive.

Derivative markets are only just emerging, with a number of foreign banks gaining licences from the CBRC in 2004 to provide financial derivative services.

Under-developed markets

The stock-market, corporate bond market and venture capital are all under-developed, with the result that investment is heavily dependent on bank lending. The stock market suffers from a large share overhang, with the government still owning some two thirds of equity in listed forms. Periodic attempts to sell government owned shares result in depressed share prices. In addition, there are a limited number of brokers, many of whom are corrupt and/or trying to avoid bankruptcy[11].

Futures markets are limited, and the bond and inter-bond markets are not unified. Removal of restrictions on coupon rates are also required to improve liquidity and the efficiency of the market[12].

Balance between reform, development and stability

There is emphasis on financial sector reform, with the objective of enhancing the efficiency of domestic financial intermediation. Again, however, the emphasis is on gradualism, with the aim of achieving balance between reform, development and stability[13].

The China Securities Regulatory Commission (CRSC) is trying to address the most serious abuses in the stock market, however, these at present have a lower priority than reforming the banks, in part because the stock market is small by comparison.

---

11 The Economist, 18 Mar 2004.

12 IMF, July 2004

13 Yam, Nov 2004.

Part 2: Potential PDM Issues in Future

5 Contingent liabilities

Identified problem

Large and growing contingent liabilities

We have identified large and growing contingent liabilities as a major problem for China's public debt management. So we provide Technical Volume Annexes on the banking system (responsible for on-lending and disbursement of loans) and on various aspects of implicit and explicit contingent liabilities.

Explicit and implicit liabilities

Contingent Liabilities (CLs) are created when a government extends financial support to other agents in the economy, if certain events take place. They are often classified as explicit (where a formal contract or agreement exists) or implicit where there is reasonable expectation of payment. Technical Volume Annex D provides a detailed discussion and classification.

Measurement important

As the range of liability that can be created is large, and as in aggregate such liabilities can also be large, it is crucial to measure CLs and to include them in budgets and balance sheets. Examples that are important in China include:

- Unfunded pension and insurance liabilities
- Losses of State Owned Enterprises (SOE) and co-operatives
- Non-performing loans of State Banks
- Guarantees provided as part of construction projects
- Fiscal deficits of sub-national authorities
- Losses from foreign exchange exposure by agencies with government guarantees

Often political and social pressures crystallise liabilities

Implicit liabilities can often be an unforeseen problem even if there is no formal liability for government to pay. If a major Bank, SOE or local authority runs into trouble, the government – for political or social reasons – may have no choice than to step in and provide a subsidy or explicit guarantee. It is often regarded as prudent to include contingency reserves in budgets to provide for such events.

Description of China's current practice

Citigroup (2002) puts China's contingent liabilities at 115% or GDP

As **Table 5** shows, private sector estimates of China's contingent liabilities suggest that they are a potentially large issue for the Central Government.

Table 5 Contingent Liabilities in China, End of 2001

	RMB Billion	Percentage of GDP
Accumulated public debts	1,550	16.2
Special T-bonds in 1998 for recapitalisation	270	2.8
Estimated costs for bank restructuring	4,500	46.9
Estimated costs for social security funds	2,500	26.1
Municipal government contingent debt	700	7.3
External debts	1,500	15.6
Total	**11,020**	**114.9**

Note: The information contained in this table is based on communications with government economists
Data source: Citigroup (2002) estimates

Sources of contingent liabilities

Technical Volume Annex D considers contingent liabilities in China in some detail. It has specific sections on pension liabilities, State Owned Enterprises, the Insurance Industry and the reform of the banking system.

How does China compare with international best practice?

Careful measurement and control

International best practice involves careful measurement and control of contingent liabilities. Transparency and accountability is stressed.

Few existing measures

China makes limited attempts to measure, and does not yet have enough control mechanisms. There are few published official measures of contingent liabilities. This then leads to speculation among non-government sources such as journalists, academics and foreign agencies about the size of the problem.

Given the Asian and Latin American experiences recapitalising their failed banking systems in the 1990's, there is a very strong case for judging the risks associated with contingent liabilities in conjunction with other macro economic risks.

Practice in other countries

In Ireland, the management of explicit contingent liabilities is handled by the Ministry of Finance and wholesale debt funding is handled by the debt management agency whereas in Colombia and Sweden, debt managers play an active role in the management of explicit contingent liabilities. Most national debt managers do not play a role in the management of debt issues at a sub-national level because the central government is not liable for such debt issues. (This is the case in Australia and the US).

National and sub-national debt

Colombia and India's debt management on the other hand covers both national and sub-national debt. In India this occurs on a voluntary basis through a contractual arrangement between states and the DMO. Colombia circumvents excessive borrowing by state and local government through set limits on sub-national borrowing. Brazil refinanced debts issues by states and municipalities in the late 1990's but as a condition of refinancing requires these

sub-national authorities to adhere to strict rules governing spending and new borrowing. Adherence is regularly monitored by the Treasury.

ALM approach a good starting point

Increasingly, countries are attempting to incorporate analysis of the government's implicit (direct) liabilities (e.g. future public pensions, social security schemes, health care financing) into their risk management framework. The asset and liability approach (conceptual government balance sheet) which a few countries have introduced into their sovereign debt management process attempts to understand the impact of such liabilities on future government revenues. Given that government revenue is the primary source of income for servicing debt, analysis of such indirect liabilities should be incorporated into risk analysis.

Contingent liabilities can trigger debt crises

Experience around the world (Asia, Latin America, Eastern Europe) shows that poor management of contingent liabilities (CLs) has led to significant losses for governments operating under the illusion that these liabilities can be kept off balance sheet without representing a major risk. Consequently, the IMF/World Bank guidelines suggest that "debt managers should consider the impact that contingent liabilities have on the government's financial position, including its overall liquidity, when making borrowing decisions[14]."

Explicit (contractual) contingent liabilities

CLs are created when a government extends financial support to other agents in the economy, if certain events take place. Governments provide explicit CLs in the form of guarantees to promote activities considered to be public goods by providing incentives for the market to finance these sectors or projects.

In the interests of transparency and accounting and budget discipline, explicit CLs should be included in the budget, the government's balance sheet and in calculating liability ceilings.

Implicit (non-contractual) contingent liabilities

Governments are exposed to implicit CLs (in the form of exchange rate risk) when they operate a fixed exchange rate regime or currency board since in the event of a devaluation the country's foreign exchange reserves represent collateral against the risk of devaluation. They are also exposed to CLs when they bail out regional/provincial or municipal governments experiencing financial stress.

Identify and quantify

Best practice in PDM suggests that implicit CLs should be identified and quantified as far as possible, and a contingency fund set aside to at least partially cover these. Governments should also try to minimize their exposure by ensuring good governance, prudential regulation and supervision.

[14] Section 5.2 of the *Summary of the Debt Management Guidelines (Appendix 1 of the IMF-World Bank Guidelines for PDM)*

General policy for exposure to CL

CLs should be managed within a general policy and strategy, with budget discipline and within a framework of systematic risk-management. Guidelines should be formulated for risk-sharing with the markets (e.g. providing partial guarantees, establishing collateral requirements from beneficiaries, reinsuring part of the risk taken on, etc.) as a means of imposing discipline, diminishing moral hazard and providing price-fixing mechanisms.

Make CLs explicit

As far as possible, implicit CLs should be made explicit. (A good example of this is establishing a deposit insurance fund for small depositors in the banking system).

The relationship between direct PDM and the management of contingent liabilities is summarized in **Table 6** below.

Table 6 The Fiscal risk Matrix

Liabilities *	**Direct (obligation in any event)**	**Contingent (obligation if a particular event occurs)**
Explicit Government liability is recognised by law or contract	Foreign and domestic sovereign borrowing (loans contracted and securities issued by the central government) Expenditures by budget law Budget expenditures legally binding in the long tern (civil service salaries, civil service pensions)	State guarantees for non-sovereign borrowing and obligations issued to sub-national governments and public and private sector entities (development banks) Umbrella state guarantees for various types of loans State guarantees for trade and the exchange rate, borrowing by a foreign sovereign state, private investments) State insurance schemes (for deposits, minimum returns from private pension funds, crops, floods, war risk
Implicit A "moral" obligation of the government that mainly reflects public expectations and pressures by interest groups	Future recurrent costs of public investment projects Future public pensions (as opposed to civil service pensions) if not required by law Social security schemes if not required by law Future health care financing if not specified by law	Default of a sub national government and public or private entity on non guaranteed debt and other liabilities Cleanup of the liabilities of privatised entities Bank failure (beyond state insurance) Investment failure of a nonguaranteed pension fund, employment fund or social security fund Default of the central bank on its obligations (Fx contracts, currency defence, balance of payments stability) Bailouts following a reversal in private capital flows Residual environmental damage, disaster relief, military financing.

*Note: * Of fiscal authorities, not the bank:*

Data source: The World Bank, H, Polackova. Government Contingent Liabilities: A Hidden Risk to Fiscal Stability

IMF recommends PDM includes contingent liabilities

Section 5.2 of the *Summary of the Debt Management Guidelines (Appendix 1 of the IMF-World Bank Guidelines for PDM)* suggests that:

> "Debt managers should consider the impact that contingent liabilities have on the government's financial position, including its overall liquidity, when making borrowing decisions."

Indeed, experience around the world shows that poor management of contingent liabilities (CLs) has led to significant losses for governments operating under the illusion that these liabilities can be kept off balance sheets without representing a major risk.

Analysis of the problem and identification of deficiencies

Management through policy, budget discipline and risk control

There are three main levels of CL management:

- General policy
- Budgetary transparency and discipline
- Financial risk management

Explicit liabilities are contractual requirements

CLs are created when a government extends financial support to other agents in the economy, if certain events take place. Governments provide explicit CLs in the form of guarantees to promote activities considered to be public goods by providing incentives for the market to finance these sectors or projects. Typically, this facilitates funding on better financial terms than would otherwise be the case on a stand-alone basis. Support of this type is often extended to firms and activities in countries undertaking a major transition from a government-planned economy to a market economy, as is the case in China.

Need to measure and record contingent liabilities

In the interests of transparency and accounting and budget discipline, explicit CLs should be included:

- in the budget;
- in the balance sheet; and
- in calculating liability ceilings.

The main element for managing explicit CLs is to identify, register, quantify and budget to cover expected payments. **Table 7** provides a summary of where CLs occur.

Table 7 Contingent Liabilities – examples of sources of fiscal threat

	Contingent Liabilities
Explicit Liabilities	Guarantees for borrowing and obligations of sub-national government and public or private entities
	Umbrella guarantees for various loans
	Guarantees for trade and exchange rate risks
	Guarantees for private investments
	State insurance schemes (deposit insurance, private pension funds, crop insurance, flood insurance, war-risk insurance)
Implicit Liabilities	Defaults of sub-national governments and public or private entities on non-guaranteed debt or other obligations
	Liability clean-up in entities being privatised
	Bank failures (support beyond state insurance)
	Failures of non-guaranteed pension funds, or other social security funds
	Default of central bank on its obligations (foreign exchange contracts, currency defence)
	Collapse due to sudden capital outflows
	Environmental recovery, disaster relief, military financing

Note: These liabilities refer to those of the fiscal authorities not the central bank

Data source: Contingent Liabilities – a threat to fiscal stability (November 1998) World Bank Policy Research Working Paper

… and financial guarantees for other levels of government

Implicit CLs also arise when governments bail out regional/provincial or municipal governments experiencing financial stress. This is one reason why fiscal discipline at the sub-national level is so important. In Indonesia, Thailand and Malaysia, infrastructure projects added to the financial crises because of the extensive use of government guarantees/CLs to enhance the attractiveness of projects.

Prevent future funding problems

The principal danger with contingent liabilities is that they will turn into serious financing requirements in future. If these are known well in advance then a financing strategy can be developed; if not, then they may trigger a financial crisis.

Measurement can improve outcomes

Measuring and publicizing contingent liabilities may also have the effect of assisting with solving the problem. Those who accumulate such liabilities are less likely to do so if they know they are closely scrutinised. Policy choices can be made on the basis of affordability, now and in the future.

Criteria to be established

A policy should be formulated amongst (e.g. MoF, NDRC, SAFE) to establish criteria for choosing explicit CLs over other forms of financial support. This should also contain guidelines for risk-sharing with the markets (e.g. providing partial guarantees, establishing collateral requirements from beneficiaries, reinsuring part of the risk taken on, etc.) as a means of imposing more discipline, diminishing moral hazard and providing price-fixing mechanisms.

Conditions need to be defined

Conditions should also be clearly defined for extending guarantees on sub-national and SOE debt:

- Only after analysis of the beneficiary's long term financial capacity and operational risk
- If the beneficiary has received a rating from an independent rating agency
- If the beneficiary's funding complies with the guidelines established by the central government in terms of acceptable loan categories

Implicit CLs should, as far as possible, be made explicit. (A good example of this is establishing a deposit insurance fund for small depositors in the banking system). Policies in relation to implicit CLs could also include guidelines for good governance of sub-national government and SOEs which:

Guidelines for good governance

- promote full accountability;
- control indebtedness;
- disclose financial information; and
- measure performance.

Classification of liabilities

Budgetary and risk management in PDM depends partly on the liability classification:

- For direct explicit liabilities such as debt, it is essential to centralize the data of the aggregate debt portfolio and include all future debt servicing in the budget.
- The same data centralization and budgeting procedures should apply to explicit CLs, such as contractual guarantees of SOE/sub-national debt.
- CLs should also be quantified in terms of their expected cost. CLs are generally recorded at the present value of expected costs for the government and not at face value. Additionally, some governments quantify the maximum probable loss (corresponding to a 95% confidence interval within the probability distribution of potential losses).
- Some governments charge the beneficiary an explicit fee for the use of the guarantee. The fee along with budgeting the expected cost of the guarantee, make the subsidy element more transparent.
- Some governments create special purpose funds to provide for the expected payouts of the explicit contingent guarantees.
- Analysis and evaluation of implicit CLs should also be conducted within a financial risk-evaluation exercise and in a confidential manner.

Risk management

For CLs, the risk management of contingent liabilities is the same as that applied for analysing and simulating costs and risks of debt portfolios. However, there is an additional complication in that the exercise includes analysis of the government's financial exposure as well as credit risk and

default. Consequently, there are two elements involved in analysis the cost of a CL: expected cost and unexpected cost.

- The expected cost of a CL (e.g. a guarantee on a loan) is calculated as the financial value of the exposure times the probability the beneficiary will default, discounted from the date when the guarantee first becomes callable.
- The unexpected element of a CL is calculated using contingent analysis which quantifies the maximum probable loss (corresponding to a 95% or 99% confidence interval within the probability distribution of potential losses).

Reserve

The difference between the maximum probable loss and expected cost is the amount that governments generally choose to reserve.

Implicit liability analysis needs to be confidential

Ideally, a similar analysis can be conducted for implicit liabilities (although this should be kept completely confidential). Governments, in general, would probably benefit from including this sort of analysis in their in-house financial risk analysis for internal management purposes.

Institutional arrangements for CL management

It appears to be a logical step for governments to extend the infrastructure available for risk management of direct or explicit liabilities (i.e. debt) to contingent liabilities:

Framework for managing CLs

Table 8 below outlines an example of the type of institutional framework and distribution (for managing CLs) that exists in countries which have centralised their debt management. As the table suggests, co-ordination between the debt management office, budget office, planning ministries and sub-national authorities is necessary for this to function effectively.

Table 8 Example of institutional framework for managing contingent liabilities

DMO	Budget Office	Planning Office	Other Ministries, sub-national govt, SOEs	Legislative
Contribute to methodology for calculating expected cost, CL premiums	Propose general strategy for CL in public policy	Propose general strategy for CL in public	Follow government guidelines for giving guarantees, good governance, accountability etc.	Pass legislation for CL: e.g. CL to be included in budget responsibilities etc.
Set up and manage Special Reserve/Fund for CL; charge CL premiums, manage costs and revenues; draw up P&L statement	Propose medium term (5-10 yrs) accrual accounting	Propose medium term (5-10 yrs) accrual accounting	Report CL to DMO and Budget Office	Set annual limit on government guarantees
	Promote disclosure and accountability for CL	Work on methodology for unbundling risks and sharing risk	Report financial statement to DMO and Budget Office	
Manage CL database with inputs from other govt areas	Monitor sub-national budget provisioning of CL		Pay guarantee premiums or expected cost into CL Special Reserve/Fund	
Co-ordinate external borrowing of sub-national and SOE (timing and pricing)	Provide information to debt Office for updating database on CL	Provide information to debt Office for updating database on CL	Seek authorisation of DMO for external borrowing with government guarantee (	
Co-ordinate monitoring of implicit CL with relevant authorities			Follow guidelines for debt issuance with govt guarantee	
Provide periodic reports on CL to MoF, Risk Management Committee (if this exists)and Congress				Period review of CL risk

Data source: The Potential Role of DMO's in monitoring and managing CLs (World Bank Paper)

The first step in quantifying CL risk is to value CLs in terms of the present value of future net costs that the government expects to incur by accepting such liabilities. The CL value can be estimated using a variety of techniques including:

- Actuarial techniques
- Econometric and financial models
- Contingent claim analysis

Actuarial techniques

Estimates based on historical tendencies

Actuarial techniques estimate the future pattern of losses based on historical tendencies. This approach computes the expected cost of the CL as the

nominal or face value of the guarantee, times the probability of the guarantee being used. The probability is based on the historical frequency of such guarantees being called. The problem with this methodology is that for results to be statistically significant requires a large database and a highly stable distribution of losses. While this can be applied to areas such as explicit guarantees to cover social security or health benefits, it is not workable in other areas because of a lack of information.

Econometric and financial models

Underlying economic and financial variables

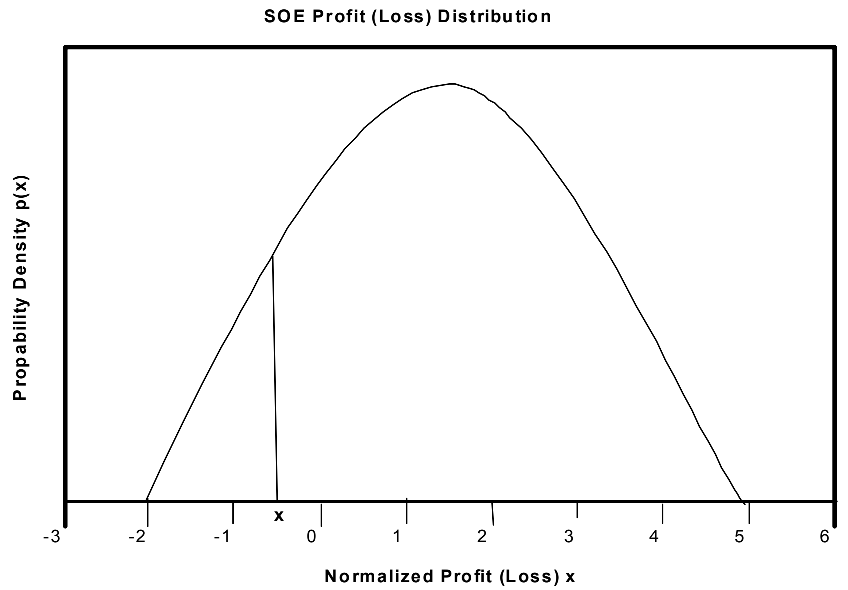
Econometric and financial models recognise the potential instability of the expected cost of CL. Using these techniques, the expected CL cost (mean of the distribution) to the government is calculated using models that forecast the underlying economic and financial variables that trigger the CL. These models are also used to assess the impact of different economic assumptions on the government's expected cost in order to obtain a sense of the individual risk profile of a particular CL. This technique is frequently applied to CLs incorporating credit risk and those whose behaviour is a function of the general state of the economy. However, econometric and financial models also require substantial data inputs and do not provide an estimation of the variance of CL costs. Since both actuarial and econometric models focus on the mean of the CL costs, these techniques offer limited information to compute risk.

Option valuation techniques for assessing CL risk

Option valuation

An alternative approach based on option valuation techniques presents a richer description of the behaviour of CL and computes an estimate of the variance of the distribution, which is the key component to value risk. Two of the techniques used to value options that have been applied to CL are contingent claim analysis and simulation analysis. Contingent claim analysis is based on the concept that a CL is an option, in the sense that it is exercised if a certain event occurs.

Figure 24 SOE Profit (Loss) Distribution



Data source: Risk Management of Contingent Liabilities within a Sovereign Asset-Liability Framework: Elizabeth Currie and Antonio Velandia (World Bank Publication)

Contingent claim analysis of CLs

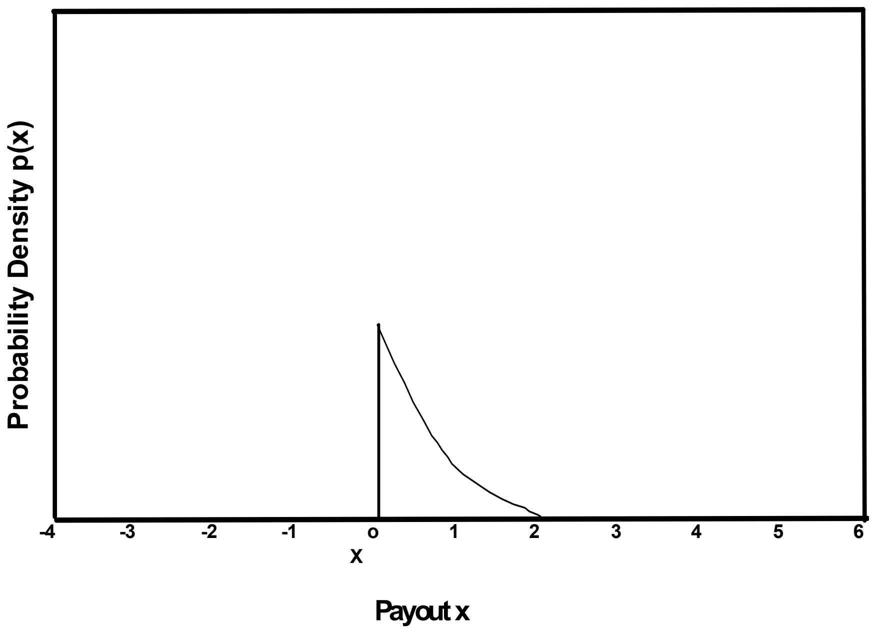
CL's can be treated as if they are an option

Contingent claim analysis is based on the concept that a CL is an option, in the sense that it can be exercised if a certain event occurs. The distribution of the pay-out for the government issuing a CL therefore looks like the truncated distribution of an option pay-out (see Figure 25).

For instance, the risk to the government when it issues a credit guarantee on a loan to a SOE is that the SOE may experience financial difficulties to the point where it is forced to discontinue its debt servicing, forcing the lender to call the guarantee and transfer the loan obligation to the government.

This example is illustrated in Figure 24. The profits of the SOE are depicted as the risk factor that may trigger the guarantee. It is assumed that profits are normally distributed about a mean of 1. At a point X, the losses experienced by the SOE absorb the firm's equity, forcing the SOE to default on its debt and causing the lender to exercise the option.

Figure 25 Government's Payout Distribution



Data source: Risk Management of Contingent Liabilities within a Sovereign Asset-Liability Framework: Elizabeth Currie and Antonio Velandia (World Bank Publication)

Expected value and dispersion of losses

Figure 25 displays the distribution of the government's cash flow. If the option is not exercised, the cash outflow will be zero; if it is exercised, the cash outflow is equal to the value of the loan guarantee, less any recovery from the SOE. If the government's net exposure under the guarantee is equal to any losses realised by the SOE in excess of the equity, the distribution of the government's potential exposure is the same as the distribution of the SOE's income truncated at point X (see Figure 24). Contingent claim analysis not only gives the expected value of the government losses as the area under the curve, but also the dispersion i.e. the risk of facing unexpected losses.

Government exposure on guarantee

From the lender's perspective, a loan to an SOE backed by a guarantee is like having a risk free loan. In this sense, the government guarantee can be valued as the difference between the price of a risky and the price of a risk free loan. Alternatively, if the loans were traded in the market, the put option would be valued based on the value of the loan, its price variance, the term of the option and the risk free interest rate. This is how contingent claim analysis can be used to value a credit guarantee or in general any CL.

The advantage of this type of model is that the value of the option can be calculated directly from the value and variance of an underlying asset (in this case the loan being guaranteed) the term of the option and the risk-free interest rate. This can be applied to value a variety of CLs such as: as loan guarantees, guarantees supporting corporate failure, mortgage guarantees etc.

Recommendations

Large and growing liabilities

The large and growing level of contingent liabilities in the Chinese system pose a significant risk to China's debt sustainability. Measurement and forecasting of the liabilities is an important first step in controlling them. These recommendations would put in place effective monitoring of the situation. The actual control of the contingent liabilities involves substantial efforts, for example, on pensions, SOE reform and banking reform which are outside the scope of this TA. However, these issues are discussed in some depth in Technical Volume Annexes D and E.

Circumvention of formal borrowing rules

Step 1: Carry out a detailed audit of compliance with existing rules. In China, central-local government fiscal relations remain a critical issue for limiting potential fiscal liabilities. Although local governments are prohibited by law from direct borrowing to finance their operations, they are able to circumvent formal rules by borrowing through public enterprises set up especially for this purpose.

Fiscal risk register

Step 2: Establish a fiscal risk register. We understand that a special task force has been established to study potential liabilities being generated by local governments. The IMF Country Report, November 2004, recommends establishing a fiscal risk register in the Treasury to try to keep track of any potential liabilities.

Establish size of explicit liabilities and impact on future financing requirements

Step 3: Establish the size, and potential growth in, explicit contingent liabilities. As far as we have been able to determine, existing information on the size of these liabilities is limited, and such estimates that have been made vary considerably from study to study. We believe that one or more projects should be undertaken immediately to establish the size of these liabilities (including the cost of proposed pension reforms and the cost of training programme and introduction of new systems in State owned Banks) and their potential impact on the future financing requirements of the Chinese Government.

Quantify implicit liabilities

Step 4: Establish the size of implicit contingent liabilities. Additionally, in line with international best practice, implicit contingent liabilities should be identified and quantified as far as possible, and a contingency fund established to at least partially cover these. The development and management of such a fund would be supervised by the strategic high-level Debt Committee in collaboration with the MoF and NDRC.

Electronic database

Step 5: Establish an electronic database, with suitable monitoring and updating procedures. Although the World Bank[15] recommended the

[15] A Review of China's Existing Debt Monitoring Systems and Recommendations for Future Enhancements (November 2000)

extension of SAFE's existing external debt database to include information on major quantifiable contingent liabilities in 2000 , we understand that, to date, SAFE does not have a set module for collecting information on contingent liabilities. Whilst records of explicit contingent obligations exist, data are recorded on paper rather than electronically and are not updated regularly. We therefore recommend that an electronic database be established, and updated and monitored at regular intervals. This central database on external contingent liabilities should also be accessible to the risk management team.

Step 6: Establish a centralised unit for monitoring contingent liabilities. The Technical Volume provides further guidance on how responsibilities for controlling contingent liabilities could be structured. International best practice suggests that responsibilities for monitoring and controlling such liabilities should be centralised.

Best practice in CL management – centralization of risk and monitoring functions

It appears to be a logical step for governments to have centralized risk and monitoring functions (usually in a DMO within the Ministry of Finance). Staff from the MoF and NDRC should be able to estimate how payment of different types of contractual and non-contractual CLs will affect medium-term fiscal net revenues. Systems to permit this should be developed as soon as possible.

Expected cost

The expected cost of a CL (e.g. a guarantee on a loan) should be calculated as the financial value of the exposure times the probability the beneficiary will default, discounted from the date when the guarantee first becomes callable.

Contingent analysis to quantify probable loss

Contingent analysis quantifying the maximum probable loss (corresponding to a 95% or 99% confidence interval within the probability distribution of potential losses) should be used to establish the maximum probable loss. The difference between the maximum probable loss and expected cost is the amount that governments may choose to reserve. This is equivalent to the risk capital of a financial intermediary. Another aspect to consider is whether such reserves should be based on the additive unexpected loss of each guarantee or on a portfolio approach which takes into account less than perfect correlation of all the outstanding government guarantees.

In the worst case, the expected cost of all guarantees is perfectly correlated. In reality, however, the expected losses are likely to have less than perfect correlation, in which case a lower amount of provisioning is probably appropriate. Centralising responsibilities permits this judgement to be made on a systematic basis.

Integration with risk management

Step 7: Integrate risk management of contingent liabilities with the main risk management function. It is now recognized internationally that the

infrastructure available for risk management of direct or explicit liabilities to both explicit and implicit contingent liabilities. The reasons are:

- This central function has expertise in funding operations generally
- This central function has expertise in risk management techniques which assist in the quantification and evaluation of the cost and risk of CLs
- Centralised management of CLs enables a portfolio approach and an evaluation of their aggregate impact on sovereign risk
- In the case of central government guarantees on sub-national/SOE debt, the risk is the same for the government as borrowing funds and on-lending these, which is usually managed by a central body in any case
- Such integration allows centralised risk management of the government's portfolio of assets and liabilities within a balance sheet (also facilitates the management of the portfolio of CLs)
- Regulating the liabilities of the state and local authorities and ensuring good risk management should all be centralized. It is helpful if the following is also centralised:
  - Establishing guidelines for sub-national/SOE borrowing
  - Co-ordination of their access to market
  - Advice on market conditions

Centralised database

The integrated unit can also be responsible for management of a centralized database of the government's liabilities:

- Direct debt
- Guaranteed debt (explicit CL)
- Implicit liabilities in pensions, SOEs, banks, local authorities, insurance companies and other entities

Risk analysis to quantify probable loss

A specific application would be to incorporate the cost and risk analysis of CLs into the risk analysis of the debt portfolio. The expected cost of most CLs (like debt) is often correlated with financial variables, such as interest rates or exchange rates. The probability of default might also be affected by financial prices. Methodologies such as contingent claims analysis used to forecast expected cost and risk of CLs, also typically result in an estimation of the correlations between these variables and interest rates and exchange rates.

Analysis of implicit liabilities

Ideally, a similar analysis can be conducted for implicit liabilities (although this should be kept completely confidential). An example of implicit risk quantification is when rating agencies quantify the potential bailout cost of the financial sector. Governments, in general, would probably benefit from including this sort of analysis in their in-house financial risk analysis for internal management purposes.

Ultimately, however,

> "managing implicit liabilities has more to do with regulating the potential beneficiary and monitoring compliance and good governance."

PDM managers should take the lead

PDM managers need to be fully aware of the impact of contingent liabilities on future debt requirements. Because this is an area which could have very important implications for PDM in the future, PDM managers should take a lead in encouraging the effective management and monitoring of such liabilities.

6 The relationship of debt management to macroeconomic policy

Identified problem

All investments should add value

Borrowing is often undertaken to finance investment, and unless that investment 'adds value', the result will be a future debt problem. Lack of appropriate prudential or fiscal control has played a major role in many of the debt crises in other countries in recent years. To prevent 'blow outs' in public debt, the best policy is to ensure each project pays for itself.

Dangers of non-productive investment

Macroeconomic theory has much to say about how debts should be managed. The basic tenet that increasing activity requires an increase in demand (and hence growth can be stimulated by deficit financing) is widely used. However, this is dangerous if the expenditure implied is non-productive, or less productive than the underlying borrowing it relies on.

Distortions to the economy

As well as creating a possible debt problem, inappropriate investment distorts the economy more generally and hence causes a misallocation of resources. This in turn puts productivity growth at risk. Inadequate debt management can prevent the adjustments which would otherwise happen from correcting imbalances.

Capital and labour redeployment

Loans made to finance uneconomic projects will distort the entire economy. They will cause the economy to put in place capital and labour that will need to be redeployed when the finance available has stopped. The process of redeployment can often be an extremely painful process causing high levels of unemployment, a major fall in the capital value of investments and a lower standard of living compared with what might otherwise have occurred.

Over-investment

It is important that the balance between savings and investment in the economy is maintained. "Over-investment" can lead to an inability to finance the later and follow-up stages of an investment programme.

Social directives

Social directives to banks, for example to support the unemployed or farmers, will decrease the banking sectors' ability to reform.

Description of China's current practice

Peoples Bank of China report

A recent report by the Peoples Bank of China (PBC)[16] suggests that the problems outlined above may indeed be those China faces. It points to misdirected investment and increased risks, which it feels are serious in some sectors and regions. Five specific consequences are identified:

- redundant production capacity
- distress for enterprise
- new bad loans
- increased financial risks
- higher unemployment rates

Misdirected investment

The evidence presented by the PBC point towards a more structurally based problem related to misdirected investment. Even though the analysis was not put together to focus on that kind of problem, the discussion points very clearly towards such a conclusion. A number of quotations from the report point towards this being the actual underlying nature of the problem at hand. That is, the report itself provides the evidence that the problem is related to investment choice to a greater extent than it is related to the problems involved with coping with an investment level which is too large for the economy to absorb.

Serious in some regions and sectors

The nature of the problem was, for example, stated in the following passage which described the form in which "over-heating" was taking place:

"The investment structure was not balanced. The problems of blind investment and redundant construction in certain sectors and regions were quite serious." (p 68)

The investment programme has been directed into areas where positive returns cannot be expected. Not only was the programme unbalanced but many of the investments are "redundant," that is, they are not expected to repay their costs of production. The depiction of much of this investment as having been "blind investment" powerfully suggests an underlying problem related to the decision making process.

Increased risks

These same problems are then restated a page later in even more direct language:

> *"The fourth [impact of overinvestment] was increased potential risks in economy. The overinvestment in fixed assets and excessive money and credit expansion interact and reinforce each other. Without proper measures, it will lead to redundant production capacity, distress for enterprise, new bad loans and increased financial*

[16] *Quarter One, 2004 China Monetary Policy Report: Monetary Policy Analysis Group of the People's Bank of China*

risks as well as higher unemployment rates, thus impeding overall economic and social stability." (p 69)

Specific examples

The PBC report also identifies particular examples of over-investment, for example in steel, aluminium and cement. It also identifies particular areas where bad loans have occurred in these sectors.

Type of investment important

How difficult these problems are to solve depends on whether the problem is merely one of too much investment, or whether the structure of investment is wrong.

How does China compare with international best practice?

Daily co-ordination

International best practice has daily co-ordination between the reserve bank and the DMO. It also recommends formal separation of DMO, Reserve Bank and Fiscal Authority.

Limited contact between PDM and PBOC

China does not yet have a single authority for PDM, nor are the agencies responsible for PDM particularly well co-ordinated. Contact between the PBOC and these agencies on a direct basis is limited, and most interlinks are done through higher-level channels.

Integration

Debt management should be carried out in a way which integrates fully with macroeconomic and monetary policy objectives. Section 5 of the Technical Volume provides a detailed discussion of this issue. In particular:

- Clear and consistent guidance on project evaluation and monitoring should be provided; and
- Banking reform should continue and greater controls to the lending process should be established.

Blind investment, soft budget constraints, underestimation of costs

The PBC report provides evidence that this may well be the nature of the problem facing the Chinese economy. The following passage provides an important insight into the problems facing the Chinese at this time as seen by its central bank:

"There are many reasons for the current overinvestment problem. First, some local governments have not completely changed the philosophy of blind pursuit of economic growth rate, particularly when a new administration takes office. Many local governments are setting their development plans with the target of changing the landscape in one year and total altering in three years. Second, there are soft budget constraints in the investment of state owned enterprises. Third, local governments provide unreasonably preferential land and taxation policies to private and foreign enterprises, leading to the underestimation of investment costs." (p 71)

Economy 'led away' from optimal strategy

Each of the three matters noted relates to a decision making apparatus that will systematically lead an economy away from an optimal investment strategy and

towards investments which are unlikely to repay their costs. The depiction of governments in "blind pursuit" of economic growth suggests that these are administrations which are not properly selecting their investment programmes with the appropriate degree of care. They are not doing the proper cost-benefit analyses. They are charging ahead with insufficient attention paid to the need to ensure that costs are covered by the returns on investment.

It is the very time scale involved that highlights the approach being taken. These are administrations which are intending to change the landscape in a single year with total alteration in three. The lack of care and caution in making these decisions is unmistakable.

Soft budget constraints

The second matter, of soft budget constraints in the investment programmes of state owned enterprises, suggests another source of inappropriate decision making. Expenditures and presumably lending is taking place without the proper financial monitoring to ensure a profitable return. Again, not all investments can be profitable but there should nevertheless be serious efforts made to examine in great detail every aspect of a projected investment to ensure that the prospects are positive. Where there are "soft budget constraints" it is clear that this has not been the case.

The third issue, where local governments are subsidising private and foreign enterprises through preferential local deals, strongly implies that the full costs of projects are not being accounted for in the projections for revenues eventually earned. Not all costs are being accounted for. Where debts are being accumulated, there is again no provision for repayment through the assistance provided to the enterprises which are receiving government assistance.

Basic inputs to PDM policies

Public debt management must begin from there. It must begin from understanding the following propositions:

- a productive economy is one in which virtually everything produced has a market at prices which cover costs – exceptions occur where governments make the decision to subsidise the production of goods or services which are uneconomic to produce but which have a social utility that cannot be captured in business revenues
- recessions are due to structural flaws in the relationship between buyers and sellers – recessions are never due to failure of demand
- additional capital can always be employed productively if the additional capital is used to produce goods and services others wish to buy
- trying to create the conditions for more rapid economic growth by stimulating demand without proper consideration of what those with incomes would be willing to buy will lead to a slowdown in activity rather than an improvement

- to contain public debt liabilities, debts should only be incurred where the loan is realistically expected to create value
- value added occurs where the receipts from an investment project exceed the costs of undertaking that project
- expenditure of itself does not create value
- new programmes that attempt to encourage lending for consumption at the expense of investment will slow growth and potentially worsen the debt management problem
- directing loans towards enterprises because they employ the unemployed or provide other socially useful outcomes may be good social policy but can be expected to worsen problems related to public debt
- the principal and interest on a loan must be repaid for each investment taken individually
- there needs to be a central clearing house to monitor and exercise some form of control over borrowing
- a cental authority must have some control over public debt
- the specific persons responsible for investment decisions and the taking on of debt must be identified
- where an investment is expected to provide benefits that cannot be captured in the revenue stream generated, they should be financed and maintained entirely from taxation rather than through borrowing

Analysis of the problem and identification of deficiencies

Key to growth and prosperity

The appropriate management of debt, and its co-ordination with macroeconomic policy, are key to continuing China's growth and increased prosperity.

Debt financed investment programmes should create value on a project-by-project basis, when decisions are made this is a principle that is weakened through a number of effects.

Weakening of project financing principles

- There are firstly problems associated with public sector decision making which will weaken the relationship between the projects selected and the economic return when the projects are finally completed.
- Secondly, there is the effect on the macroeconomic decision making process where expenditure rather than adding value is seen as the driving force in an economy. The theory does not instruct decision makers to ensure that the projects chosen should earn a positive return.
- Finally, modern macroeconomics in certain circumstances sees value in budget deficits, and in the accumulation of higher levels of public debt as a matter of policy, to assist an economy to generate faster rates of economic growth and lower unemployment.

Importantly, by understanding macroeconomic issues in this way, a government is far more likely to devise investment programmes that are intrinsically capable of maintaining strong and sustainable rates of economic growth that will raise living standards on a continuing basis.

Key issues for China to watch for are:

- Borrowing for the wrong things distorts behaviour and the overall economy.
- "Overinvestment" can prevent funds being used in the best way.
- Blind investment and redundant construction are wasteful.

An efficient economy

The production of precisely those goods or services which can be sold in the market at prices which cover production costs will provide the maximum chance of the economy developing well. Producing goods and services which cannot be sold at prices high enough to cover the outlays that were absorbed in their being brought to the market is a net loss to the economy. Rather than representing growth, such activities are intrinsically loss making. They are a net drain on an economy and provide no net benefit to it.

Interactions throughout the economy

The issues are in fact even more complex. The structure of production sets up a chain of purchase and sale across an economy. No matter what is produced, there must be a series of inputs, plant and equipment, plus a specific distribution of labour market skills, to have undertaken that production. And the only outcome that can validate that distribution of capital and labour resources is the profitable sale of the final goods and services produced.

Dangers to productivity growth

In any economy there are constant adjustments being made to this distribution of labour and capital. There is a continuous rearrangement as resources flow into higher valued uses. Both labour and capital are attracted into different forms of usage as both final demands and production processes change. Structural changes occur because production techniques and the form taken by final and intermediate demand have shifted. That is the essence of productivity growth.

Recommendations

Make links between PDM and macroeconomic policy explicit

Step 1: Establish more formal and closer links between PDM and macroeconomic policy. The linkage between debt management, on-lending and project investment and macroeconomic management needs to be made much more explicit. We share the view taken by most developed countries (a) that all expenditures need to be carefully scrutinised and controlled to ensure they add value to the economy and (b) that separation of the monetary authority from the fiscal authority is appropriate.

The Leadership Group should take responsibility for this linkage, and establish regular and formal meetings between the Co-ordinating Committee and the PBOC. These should become a regular forum for discussion of China's overall economic strategy, and hence for PDM strategy.

Project management procedures

Step 2: Standardised project management procedures should be defined and enforced for every major project, however funded, and these should ensure that no investment is undertaken unless a return – monetary or social – can be established which more-than-pays for the corresponding loan.

This will require that a detailed project management manual be developed, and that it should then be disseminated at central and local level to both MOF and NDRC, Fiscal Bureaux and PDRC. Discussions with multilateral agencies and with donor countries will be needed as this manual is developed.

Tightening lending controls

Step 3: PDM managers should assist the main reform commissions in tightening lending controls. It is evident that efforts to tighten lending are being undertaken to ensure that the proportion of non-performing loans is reduced. The tightening of credit restrictions in sectors of the economy where over-investment has occurred along with the introduction of differentiated required reserve ratios plainly shows that it is not just the level of investment that is seen as the problem but its composition.

But to deal with the problem it is crucial to accept that the problem is not "over-heating" but the lending portfolios of financial institutions. There are insufficient controls on the lending process. Debts are being incurred for the creation of assets which will not repay their production costs.

Adjustment of decision making processes

Step 4: Effective fora for discussion of macroeconomic and PDM policy should be developed. There is a strong need for greater understanding of the problem. If the distortion is systematic, then this will be harder to solve. The PBC report points to "blind investment", soft budget constraints, and underestimation of investment costs. It also links the problem to bank lending, creating new bad loans and possibly a financial crisis.

Solutions may be dangerous

Although the PBC report is remarkably frank in setting out the problems, we are concerned that the solutions it suggests may exacerbate the problem. If the problem is seen as inadequate consumption, and pro-demand policies are then used, this may (a) mask the problem and (b) create greater problems in the longer term. Although it is beyond the scope of the present TA to explore these fundamental issues, we recommend that PDM managers seek to understand and influence such judgements. Incorrect macroeconomic policy today will inevitably lead to debt management problems tomorrow.