NEDA Seminar Workshop on Innovative Financial (Risk Management from Creditor's Viewpoint)

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Session Objectives

It is important to know how creditors see risks.

It is also an issue of debt management by the government.

In this context, this session helps participants to:

I. Understand how JICA sees sovereign risk.

II. Understand how JICA manages sovereign risk.

III. Understand how JICA sees debt management.

The views expressed in this presentation material are those of the author and do not necessarily represent official position of Japan International Cooperation Agency ("JICA").

I. Understand how JICA sees sovereign risk.

What is sovereign risk?

Country Risk:
Overall risk of conducting trade and investment activities in a country.

Sovereign Risk:
Default; sovereign government of country fails to meet its payment obligations by lack of willingness or capacity.

Economic risks:

- Economic policy (e.g., fiscal, monetary and business regulations)
- High rollover cost due to risk perception
- Deterioration in capacity to repay, etc.

Political risks:

- War/internal conflict
- Expropriation/nationalization
- Currency and trade controls, etc.

Sovereign risk analysis mainly focuses on the economic risks of borrowing countries, but also considers the political factors that may affect economic risks.

Viewpoints of sovereign risk analysis (1/3)

- **Political aspects**
  - Durability, stability and legitimacy of the government
  - Imminence of war/local conflicts and stability of public security
  - Willingness to pay
- **Economic structure**
  - Diversity of economic structure
  - Productivity trends
  - Robustness of the economy to shocks
  - Size and efficiency of the public sector
  - Quality of economic policies
  - Labor market flexibility and militancy of trade unions
  - Effectiveness of the educational system
  - Income disparities

Viewpoints of sovereign risk analysis (2/3)

- **<u>Economic growth potential</u>**
  - Rate and sustainability of growth
  - Size and composition of savings and investment
- **<u>Fiscal flexibility</u>**
  - Government revenue and expenditure composition
  - Revenue raising flexibility and efficiency
  - Expenditure effectiveness and pressures (including pension obligations)
  - Maturity profile, currency composition, and size of debt
  - Timeliness, coverage and transparency in reporting

Viewpoints of sovereign risk analysis (3/3)

- **Monetary and financial sector stability**
  - Credibility and capacity of central bank
  - Effectiveness of monetary policy tools
  - Money and credit expansion
  - Exchange rate level and stability
  - Financial stability
  - Financial intermediation
  - Quality of supervision of financial sector
- **External robustness**
  - Export diversification
  - Structure of current account
  - Composition and stability of capital flows
  - International reserve adequacy

Typical risk factors seen in emerging countries

- Vulnerability is greater due to the following:
  - Less diversified economic structure
  - Small base of domestic financial saving
  - Less developed financial systems
  - Vulnerability to financial contagion through the relative magnitudes of capital flows
- Rollover risk for countries with limited access to foreign capital markets and also with relatively undeveloped domestic debt markets
- Lack of credibility of economic policy
- Lack of fiscal space and buffer

Common Debt Indicators

- Public debt to GDP
- Proportion of external debt in total public debt
- External debt to GDP
- External debt services to exports
- Ratio of short-term external debt to international reserves
- Average maturity
- Average interest rate
- Contingent liabilities
    - In many countries banking sector is explicitly or implicitly guaranteed by the government.

Viewpoints of credit rating agencies

Indicators Used by the Credit Rating Agencies (By Type of Driver)

	Fitch	Moody's	Standard & Poor's
Macro/ Growth	GNP and GDP per capita Consistency of monetary and fiscal policies and credibility of policy framework Sustainability of long-term growth path Competitiveness of economy Depth of demand for local currency Capacity to implement countercyclical macro policies Composition of current account	GDP per capita Long-term volatility of nominal output Scale of economy Integration in economic and trade zones	Rate and pattern of economic growth Range and efficiency of monetary policy tool Size and composition of savings and investment Money and credit expansion Price behavior in economic cycles
Public finance	Financial assets of government Sovereign net foreign asset position Volatility of government revenue Revenue-to-GDP ratio Medium-term public debt dynamics Credibility of fiscal policy framework and institutions Financial flexibility	Government's ability to raise taxes, cut spending, sell assets, or obtain foreign currency (e.g., from official reserves)	General government revenue, expenditure, and surplus/deficit trends Compatibility of fiscal stance with monetary and external factors Revenue-raising flexibility and efficiency Expenditure effectiveness and pressures Size and health of nonfinancial public sector enterprises
Debt	Size and growth rate of public debt Composition of government debt (maturity, interest rate, and currency) Contingent liabilities of government Maturity and currency structure of foreign liabilities and assets Distribution of foreign liabilities and assets by sector Payment record	Level of debt Interest payments and revenues Structure of government debt Debt repayment burden Debt dynamics Conditional liabilities Financial depth	General government gross and net debt; gross and net external debt Share of revenue devoted to interest Debt service burden Maturity profile and currency composition Access to concessional funding Debt and breath of local capital markets
Financial sector	Macro-prudential risk indicators Quality of banking sector and supervision Contingent liabilities of banking sector Foreign ownership of banking sector	Financial sector strength Contingent liabilities of banking sector	Robustness of financial sector Effectiveness of financial sector

Source: IME WEO (2010)

Result of evaluation

	S&P	Moody's	Fitch	OECD
Lao PDR	N/A	N/A	N/A	7
Myanmar	N/A	N/A	N/A	7
Sri Lanka	B+ Stable	B1 Stable	BB- Stable	6
Timor-Leste	N/A	N/A	N/A	6
Vietnam	BB- Stable	B1 Stable	BB- Stable	5

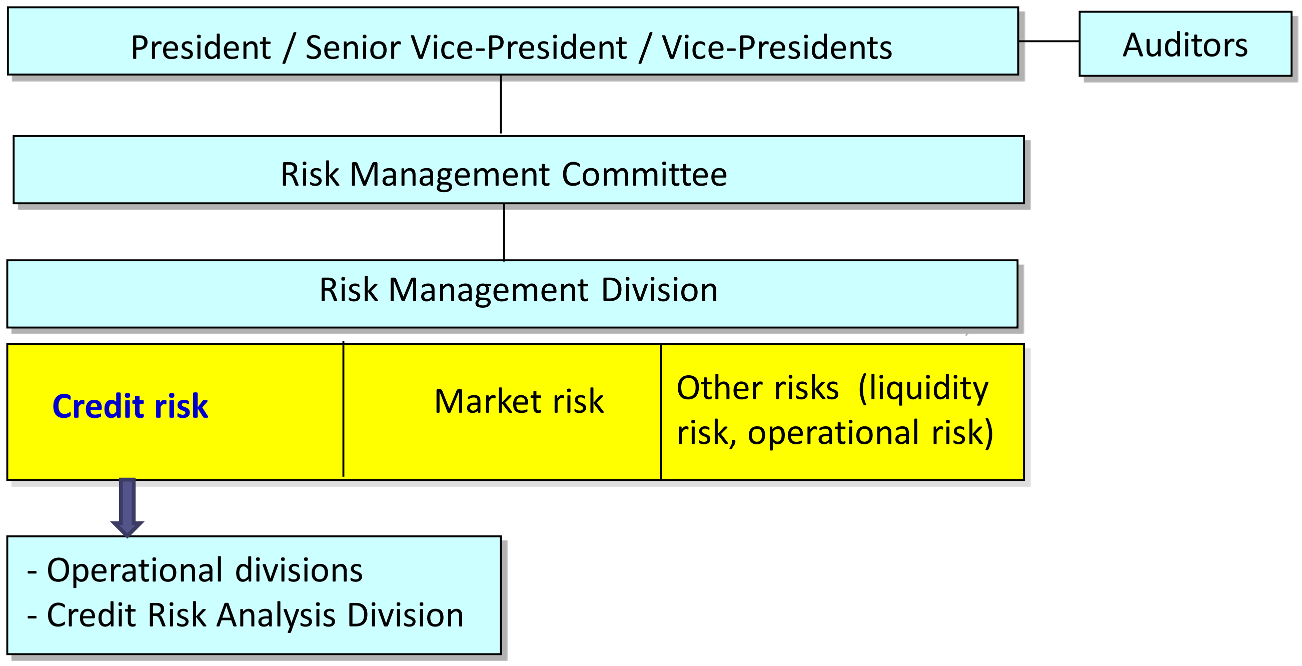
II. Understand how JICA manages sovereign risk.

Specific features of JICA asset portfolio

- More than 99% are sovereign credits to developing countries.
- Main clients are Asian countries: India, Indonesia, and Vietnam are big three.
- Average maturity is 10.36 years, and average interest rate is 1.39% p.a.. The are not matched with liability side of average maturity of 6.84 years and average interest rate of 1.32% p.a.
- Offered interest rate is principally fixed. JICA swaps some of fixed interest rate loans to floating rate.
- Policy-based terms and conditions of loans: Lower income level, softer terms and conditions of loans.

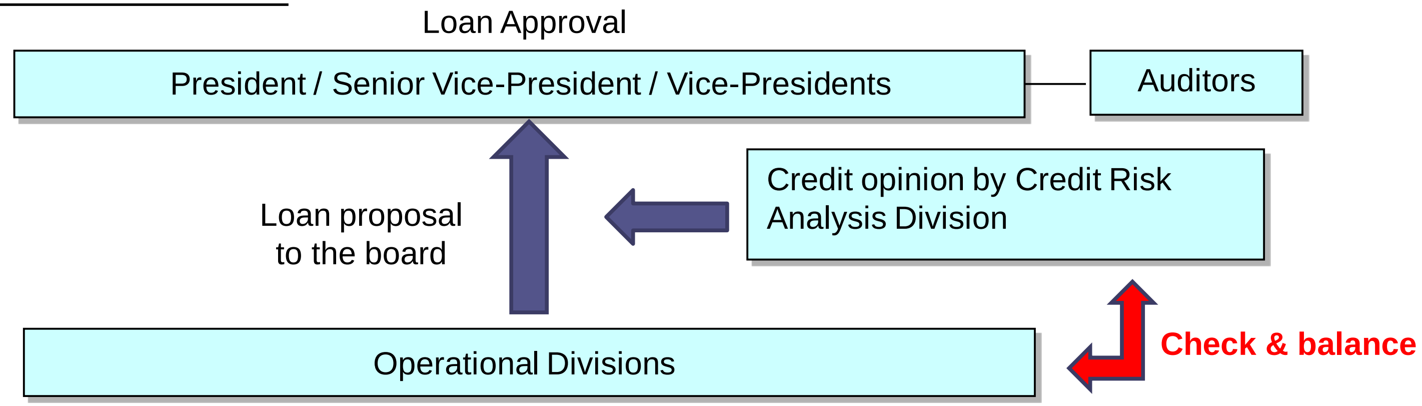
JICA risk management framework

- To enable the timely and accurate identification of the source, level, and relationship of various risks from operations.
- To ensure that JICA's risk exposure is commensurate with the risk appetite of stakeholders, and an appropriate balance is kept between financial and development objectives.

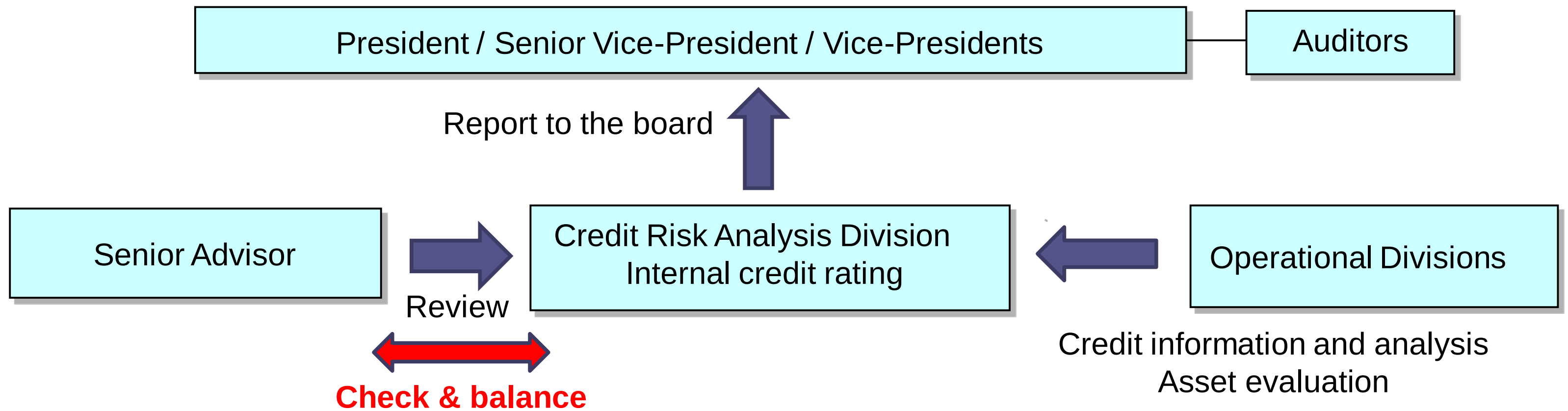


Credit evaluation process (sovereign loans)

Loan Approval Process



Internal Credit Rating Process



Internal credit rating process

1. Macroeconomic assessment : structure, policy, and outlook
2. Consultation with operational divisions to capture their views on political and economic situations
3. Review of the result of the internal rating model score for probability of default
4. Qualitative adjustment of credit rating
5. Internal rating committee with review by the third party (= Off-line Senior Advisor)
6. Final decision by Director General
7. Internal notice to the board members and related departments (rating is restricted information.)

Credit rating is used in loan approval, asset self-evaluation, and allowance for doubtful accounts.

Internal credit rating review process

Semi-annual regular review

- All ratings are reviewed at desk in September every year.
- Specific criteria are set for another review at desk in March.

Mission for review

- JICA macroeconomic assessment missions are dispatched to selected countries for ad-hoc in-depth rating review, on-site monitoring, or new rating.

Quick response

- Down grading of specific country's rating is discussed at semi-monthly monitoring committee, subject to specific criteria, arrears, debt relief and/or other credit events.

Internal sovereign credit rating framework

Screening process
- Advanced economy?
- More than 90 days arrears?
- Debt relief?

No

Run JICA's own rating model to calculate probability of default by input of variables of following indicators:
- Political score
- Real GDP growth
- Inflation rate
- Exchange rate
- Fiscal balance
- Trade indicators
- International reserves
- External debt indicators
- GDP per capita (PPP)
- HIPCs or not

Qualitative adjustment to consider factors not captured in the rating model:
- Macroeconomic indicators not captured in the model
- Recent updates
- Outlook changed recently

Yes

Final Rating

Back testing

Monitoring by JICA

- Debt servicing records
- Discussions at Paris Club Creditors meeting
- Overall macroeconomic indicators: Real economy, fiscal sector, monetary and financial sector, and external sector
- Frequently available data such as emerging bond index, exchange rate, stock price, international reserves, commodity prices, external credit rating companies' evaluation
- Political and economic events

III. Understand how JICA sees debt management.

What is public debt management?

It is a process to establish and conduct a strategy for managing government's debt;

- to raise the required amount of funding;
- to achieve its risk and cost objectives; and
- to meet any other sovereign debt management goals of the government for developing and maintaining an efficient market for government securities (if any).

(Ref. Guidelines for Public Debt Management by IMF/WB)

Role of public debt manager

An important role of the debt manager is;

- to identify the risks;
- to assess their magnitude; and
- to develop a strategy for managing the trade-off between expected cost and risk.

This presentation will give indications on how public debt managers can communicate better with the lenders and succeed in financing at reasonable cost and risk.

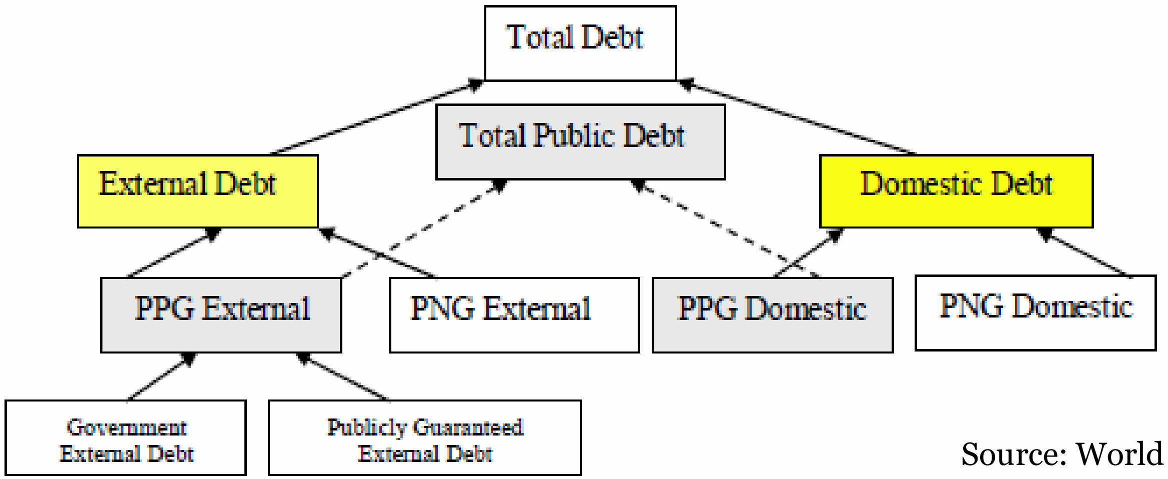
Flow of Discussions

1. Debt structure of a country
2. Sovereign risk
3. Macroeconomic policy coordination
4. Identify major risks
5. Trade-off between cost and risk
6. Policy options and risk
7. Duration target and debt redemption
8. Risk analysis of debt services
9. Contingent liabilities
10. Transparency and accountability
11. Key points

1. Debt structure of a country

Debts are contracted in various terms (source, maturity etc.) with different risks implications…

Figure 1: Structure of Debt



Source: World Bank/IMF

- <u>Domestic vs. External</u>: Exchange rate risk
- <u>Fixed vs. Variable Rate</u>: Interest rate risk
- <u>Short-term vs. Long-term</u>: Rollover and liquidity risks

2. Sovereign risk

Maturity profile, currency composition, size, and creditor of debt is a viewpoint of sovereign risk. Debt management capacity is important for investors' confidence.

- How adequate financing is (not in a distorting way such as market-based non-inflationary sources).
- How debt service costs are minimized (with various instruments and maturities).
- How diversified debt portfolio is (to tap both domestic and foreign markets).
- How the vulnerability is reduced (by lengthening maturity & smoothing debt servicing).

3. Macroeconomic policy coordination

- Crisis may be caused not by risky debt structure, but mainly by the result of poor economic policies. Sound macroeconomic polices are necessary condition for prudent debt management.
- Investors demand higher risk premiums on financial assets when inappropriate fiscal, monetary, and exchange rate policies generate uncertainty in financial markets.
- Good coordination among macro policy makers is essential in good debt management. Consider that government debt is usually the largest financial portfolio in the country.

4. Identify major risks

Risk Types	
Market risk (Interest rate risk)	Impact of significant changes in interest rates (domestic and foreign) on debt servicing.
Market risk (Currency exchange risk)	Impact of significant changes in exchange rate on debt servicing.
Rollover risk	Risk that the existing debt needs to be rolled over at significantly higher interest, or debt cannot be rolled over at any rate.
Liquidity risk	Situation where the volume of liquid assets diminishes under unanticipated cash flow obligations and/or difficulty in raising cash through borrowing in a short period of time.
Settlement risk	Potential loss as a result of failure to settle for whatever reason other than default.
Operational risk	Transaction errors in the various stages of executing and recording transactions due to inadequate internal controls.

Market risk

- Changes in interest rates affect debt servicing costs. Not only in the case of floating rate but also in the case of refinancing debt.
- Foreign debt also adds volatility to debt servicing costs due to exchange rate movements.

Rollover risk

- The inability to roll over can lead to or worsen debt crisis. The market evaluation on the sovereign risk may change in the future: the same terms and conditions of financing are not guaranteed.
- Same applies in the case of refinancing at exceptionally high funding costs.
- Managing this risk is particularly important for emerging market countries.
- Rollover risk can be reduced by adopting a duration target and active management (swaps).

5. Trade-off between costs and risks

- Short-term debt and floating rate debt usually come up with lower interest rate than longer and fixed at the time of selection.
- They are usually riskier in the sense that the exposure to changing financial market conditions on interest rate or rollover risk may lead to:
  - (Floating rate) Volatile and possibly increasing debt service costs if interest rate increases.
  - (Short-term) Default risk when impossible to roll over at any cost.

(Continued)

- Debt denominated in a hard currency usually comes up with lower interest rate than that in domestic currency in many developing countries.
- Hard currency debts are usually riskier in the sense that the exposure to exchange rate may lead to:
  - Volatile and increasing debt service costs when exchange rate depreciates (if unhedged).
  - Default risk if impossible to rollover the debts.

(Continued)

(Notes)

- Excessive concentration in very long-term and fixed rate debt can be also risky as future financing requirements are uncertain.
- External borrowing is subject to the international capital market and donor strategies in many developing countries.

Currency of debts: pros and cons

	Foreign debt	Domestic debt
Advantages	(1) Comparatively low interest rates. (2) Little risk of crowding out due to large international markets. (3) Chance of gaining international experience, usually being accompanied with a transfer of technical know-how from the lender.	(1) Absence of exchange risk, (2) Ability to use tax measures to attract local investors (or alternatively, to use legal means to force them to invest in government securities) (3) Development of the domestic capital market and financial sector.
Disadvantages	(1) May turn out to be very expensive in case of devaluation. (2) Difficulties in calculating exchange rate risk and hedging against over a long period.	(1) Small market base and the risk of crowding out. (2) Interest rates may be very high. (3) Difficulty in raising long-term funds due to the lack of confidence in inflation control.

6. Policy options and risk

The authorities need to choose between two following options, when unable to issue long-term, fixed rate domestic debt at a reasonable cost.

a. Risky short-term or floating rate domestic debt
b. Longer-term but also risky foreign currency debt

Assessment of risks

- Short-term or floating rate debt (both domestic or foreign) may appear less expensive, but over the long run, can create substantial rollover risk.
- It may also constrain the central bank's monetary policy in the sense that it cannot raise interest rates to curb inflation or support the exchange rate because of concerns on the fiscal impact.
- Foreign currency debt may appear less expensive, but it could become more costly in volatile capital markets or in case of depreciation.

➔Use macroeconomic indicators for assessing external vulnerability.

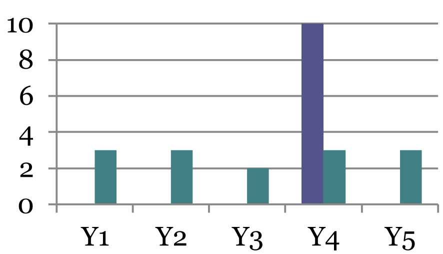
7. Duration target and debt redemption

Which is riskier, a single serial bond with maturity of 4 years or a combination of bonds spreading over years?

- The former is riskier. The smoother the redemption profile, the lower the risk.
- Targeting duration plus keeping the yearly debt redemption as smooth as possible is advisable.

(Example)

- Average maturity: longer than 5 years
- Annual redemption to the total debt: less than 20% or 25%;



8. Risk analysis of debt services

1. Identify and analyze the cost and risks of existing debt.
2. Project expected future debt servicing costs over the mid to long term based on the following assumptions:
   - New financing requirements (borrowing needs)
   - Potential funding sources, including cost and risk characteristics: Interest rate and currency of new debt
   - Assumptions for future interest rates and exchange rates
   - Relevant non-financial variables (commodity prices, etc.)
   - Maturity profile of the debt stock
3. Identify baseline projections and risks in key policy areas—fiscal, monetary, external and market.

(Continued)

4. Generate a “debt profile,” consisting of key risk indicators of the existing and projected debt portfolio over the projected horizon.
5. Calculate risks which are typically measured as the potential increase in debt servicing costs due to changes in interest or exchange rates relative to the expected costs under the risk scenarios.
6. Summarize the costs and risks of alternative strategies for the debt portfolio management.

In addition to fiscal cost (i.e., debt servicing), macroeconomic cost (economic loss in case of default) are another aspect of cost.

Stress test

- To assess risk, regularly conduct stress tests on the potential shocks the country are exposed to.
  - Various models are available ranging from simple scenario-based models to more complex statistical and simulation techniques.
  - When conducting such assessments, it is necessary to factor in the rollover risk and default.
  - Consider the interactions between the fiscal situation and the financial and nonfinancial sectors in times of stress—spillover risk to the private sector.

9. Contingent liabilities

- The authorities should examine the impact of contingent liabilities—not only direct government debt.
  - Contingent liabilities: *potential* claims which have not yet but could be materialized under certain circumstances
  - There are both explicit and implicit contingent liabilities.
  - For implicit contingent liabilities the government does not have a contractual obligation. However, the government (ex-post) may be required to extend financial assistance because the cost of denying assistance is unacceptably high in the case of bailouts of the financial sector, state-owned enterprises, or subnational governments.

Matrix of government liability definition

<table>
<tr><th>Liabilities</th><th>Direct
(obligation in any event)</th><th>Contingent
(obligation if a particular event occurs)</th></tr>
<tr><td><u>Explicit</u>
Government liability recognized by a law or contract</td><td>• foreign and domestic sovereign borrowing (loans contracted by central government)
• Budgetary expenditures legally binding in the long term (civil servants’ salaries and pensions)</td><td>• state guarantees for non-sovereign borrowing, e.g., subnational governments and public and private sector entities (development banks)
• umbrella state guarantees for various loans (e.g., mortgage loans, small business loans)
• trade and exchange rate guarantees
• state guarantees on private investments
• state insurance schemes (deposit insurance, crop insurance, flood insurance etc.)</td></tr>
<tr><td><u>Implicit</u>
A de facto obligation of government driven by public and interest-group pressures</td><td>• 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 required by law
• future recurrent costs of public investments</td><td>• defaults of subnational government or SOEs
• cleanup of liabilities of privatized SOEs
• banking failure (beyond deposit insurance)
• failure of a nonguaranteed pension fund, employment fund or social security fund
• default of central bank on its obligations (foreign exchange contracts, currency defense, balance of payments stability)
• bailouts following private capital outflows
• environmental recovery, disaster relief, military financing</td></tr>
</table>

Management of contingent liabilities

- Contingent liabilities have a high degree of uncertainty. It can be very large, particularly when involving recapitalization of banking system or poorly designed privatization.
- Government can reduce the risks by;
  - strong prudential supervision and regulation;
  - appropriate deposit insurance schemes;
  - sound governance reforms of public sector enterprises; and
  - Improvement of the quality of macroeconomic management.
- Government should ensure that those risks are well identified and presented transparently, and monitor their risk exposures.
- Government should also be conscious of the conditions that could trigger implicit contingent liabilities.

10. Transparency and accountability

- Transparency in debt management operations can help identify fiscal vulnerabilities; analysis of key debt indicators can highlight where potential problems are emerging.
- Timely and accurate recording, reporting and analysis of debt portfolio are important elements in identifying possible risks to the fiscal position; Misreporting or lack of timeliness or coverage may understate the extent of government obligations.
- Transparency enhances good governance through greater accountability of public institutions involved with debt management.

11. Key points

(Strategy)

- With the good debt management, the emerging country government can mobilize fund at reasonable cost and mitigate severe damage to the economy under the financial contagion.
- Debt management strategy clearly placed in the overall macroeconomic framework needs to be worked out and regularly updated.
- Clear separation of debt management from from political influence and monetary policy responsibilities is important.
- Cost and risk analysis of the existing debt is the first step, and preferably these data and analysis should be published for transparency.

(Continued)

- It is necessary to develop a framework to identify and manage the trade-off between costs and risks from viewpoint of risk tolerance.
- Consider risks in addition to costs: Select maturities, currencies and interest rate in order to match the objective of risk management. Try to maximize concessional debts.
- Countries with limited access to capital markets may realistically have the only option of placing limits on deficit reduction.

(Continued)

(Bond Issuance)

- Rely primarily on market-determined instruments in bond issuance with sufficient transparency and predictability including publication of annual issue calendar.
- Maintain continuous dialogue with domestic and international investors.
- Promote more liquid and efficient secondary market.
- Discontinue distortive arrangements to remove important fiscal discipline, to distort flow of investment funds, and to inhibit secondary market development. These will be costly and inefficient in the end.

(Continued)

(JICA)

- JICA macroeconomic assessment mission discusses country’s macroeconomic policy and debt management strategy.
- JICA also refers to IMF/World Bank Debt Sustainability Analysis.

Thank you very much!