


Sovereign Risk Assessment Methodology of Japan Bank for International Cooperation



April 24, 2006

GEFRI Conference on Modeling and Managing
Sovereign and Systemic Risk

Toshiyuki Kosugi

Chief Representative in Washington, D.C.
Japan Bank for International Cooperation

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- **JBIC's operations and sovereign risk assessment**
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JBIC's operations and sovereign risk assessment (1)

■ Profile of JBIC

- Governmental financial institution

- Mission:

1. promoting Japanese exports, imports and economic activities overseas

2. supporting economic and social development and economic stability in developing countries

3. contributing to the stability of the international environment surrounding Japan

JBIC's operations and sovereign risk assessment (2)

- JBIC's operations and sovereign risk
 - JBIC has an outstanding balance of loans and guarantees amounting to about 171 billion U.S. dollars at the end of 2005.
 - The majority of the loans and guarantees is directed to governments and governmental organizations of developing countries.
- Sovereign risk assessment is indispensable to JBIC's operations.

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Purposes

- JBIC uses sovereign risk assessment for:
 - Judgment of new credit
 - Classification of assets for disclosure
 - Calculation of provisions for possible loan losses
 - Quantification of credit risk of loan portfolio
 - Reference to assessment of (i) country risk factor of credit risk of non-sovereign debtors and (ii) political risk

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Current practices (1)

- JBIC assesses sovereign risk of about 100 countries.
 - Countries with which JBIC has outstanding balance of loans and guarantees
 - Countries to which JBIC is planning to extend new credit

Current practices (2)

- Three types of assessments
 - Quarterly review assessment:
 - all countries
 - at the end of each quarter
 - Annual in-depth review assessment:
 - key countries in overall risk management
 - about 15-20 countries based on annual work plan
 - Re-assessment:
 - upon major changes in situation or environment

Current practices (3)

- Monitoring throughout the year
 - Global political and economic environment
 - Political and economic conditions in the countries
 - Performance of debt servicing, e.g., payment arrears, request for a debt relief, etc.
 - “Early Warning System” on currency crisis
- If major changes are noticed,
 → Re-assessment

Current practices (4)

- Country Economic Analysis Department has a sole authority to implement sovereign risk assessment and reports to the board.
- Country operations departments are required to cooperate in monitoring and providing information about their respective concerned countries.
- Overseas representative offices also assist Country Economic Analysis Department.

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Definition of sovereign risk (1)

- Sovereign risk
 - Probability of default on debt in foreign currency by sovereign entities

What are “sovereign entities”?

What is “default”?

Definition of sovereign risk (2)

- JBIC defines “sovereign entities” as:
 - Central government
 - Central bank
 - Other governmental organizations whose debt is legally regarded as unconditionally and irrevocably owed by central government
- Debt directed to or guaranteed by sovereign entities is regarded as sovereign debt.

Definition of sovereign risk (3)

- JBIC focuses on the following events of default:
 - Payment arrears
 - Debt rescheduling, generally as agreed at Paris Club meeting
 - Debt and debt service reduction operations
 - No prospect for debt service over the foreseeable future

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Expression of assessment results

JBIC uses System of Credit Risk Ratings. (Image)

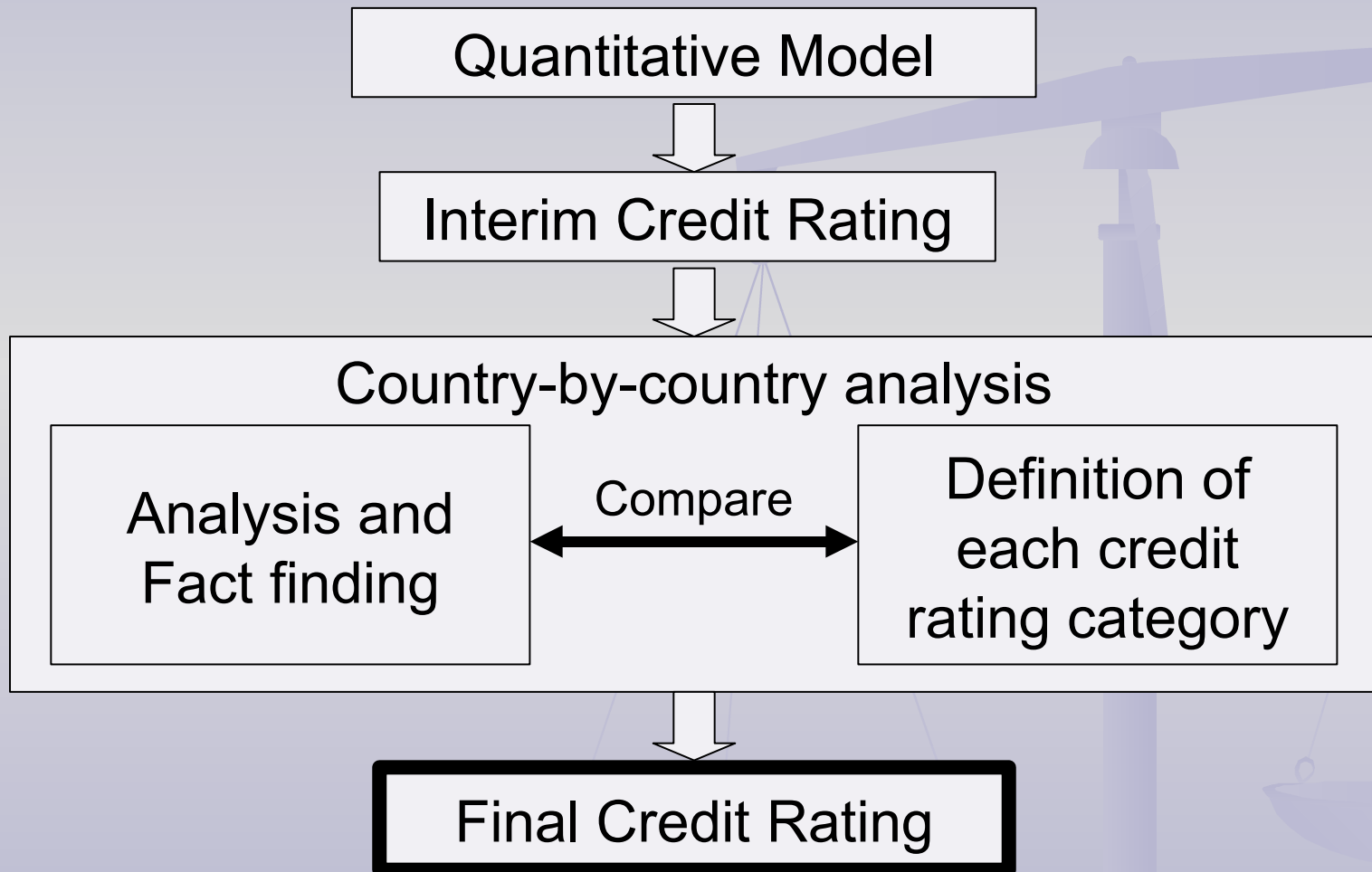
I	No concern over debt servicing
II*	Basically no concern over debt servicing but temporary debt servicing difficulties possible
III	Problems or concern in debt servicing, but debt and debt service reduction operations impossible
IV	Problems or concern in debt servicing and debt and debt service reduction operations possible
V	Difficulties in debt servicing and debt and debt service reduction operations highly probable
VI	In the process of debt and debt service reduction operations or no prospects for near-future debt servicing

(*) Divided into sub-categories.

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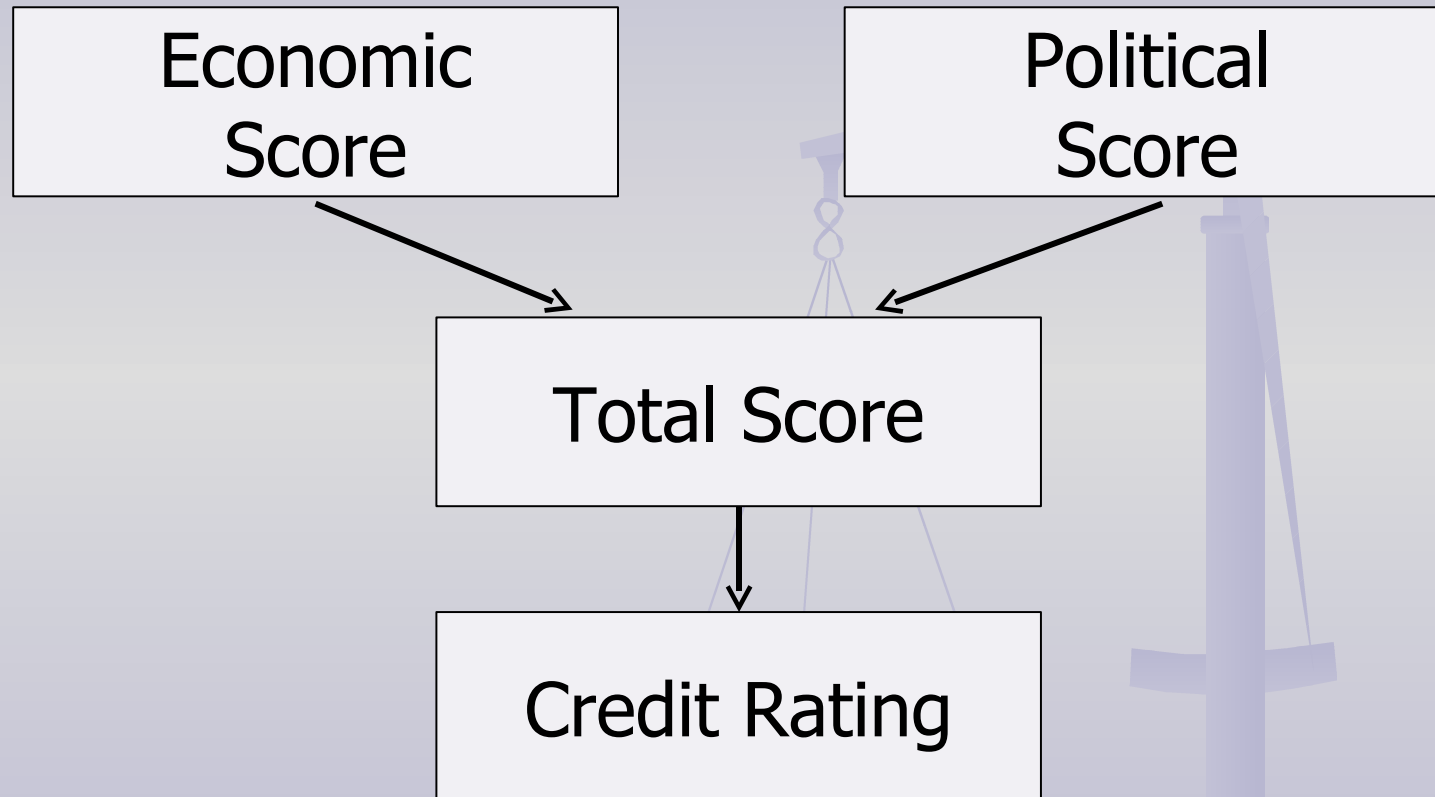
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Methodology (1)



Methodology (2)

Quantitative Model



Back-testing on an annual basis

Quantitative Model: Economic Score

■ Economic indicators used for economic score

- [-] Real GDP growth rate
- [-] GNI per capita
- [+] Inflation rate (CPI)
- [-] Current account balance/GDP
- [-] (Exports + Imports)/GDP
- [+] Debt service ratio
- [+] External debt outstanding/GDP
- [+] Short-term external debt outstanding/exports
- [+] Debt owed to IFIs/total MLT external debt
- [+] Debt owed to official creditors/total MLT external debt
- [-] International reserves/average monthly imports

Economic indicators are selected by empirical test (logit model).

[+/-]: The higher ratio/amount implies the higher/lower risk.

Quantitative Model: Political Score

- Political indicators used for political score
 - The PRS Group: Political risk point
 - Euromoney: Political risk score

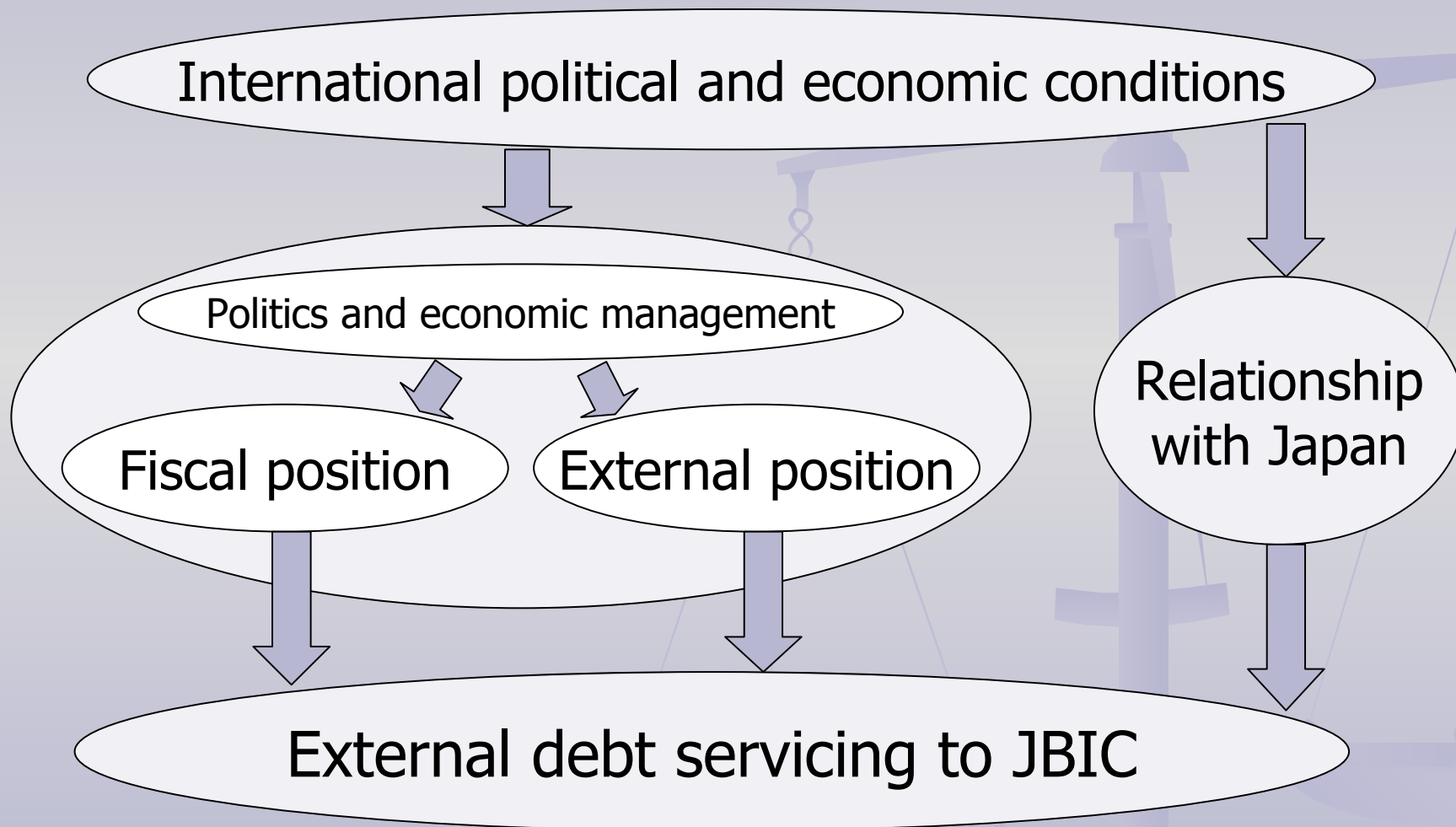
Methodology (3)

Country-by-country analysis

- Three elements of analysis and fact finding
 - Political and economic conditions
 - Current performance of debt servicing
 - Debt relief in prospect or request, or under negotiation or implementation

Country-by-country analysis

Analyzing political and economic conditions



Country-by-country analysis

Analyzing political and economic conditions

- Politics (stability, foreign policy, society)
- Economic conditions
 - Real sector (production and prices)
 - Fiscal sector (deficit, domestic public debt)
 - Monetary sector
 - External sector (BOP, reserves, external debt)
 - International capital markets (flows, spreads)
- Economic management (macroeconomic policies, structural reforms)

Country-by-country analysis

Analyzing political and economic conditions

- Desk works, missions, and discussions
- Information sources:
 - Host country government and central bank
 - International organizations (IMF, World Bank, OECD, etc.) and regional development banks
 - Other official bilateral creditors
 - Commercial lenders and capital markets
 - Rating companies
 - Think tanks, consulting firms, experts, etc.

Country-by-country analysis

Fact finding on debt servicing and debt relief

- Payment arrears to JBIC and other creditors
- Debt servicing on rescheduled debt
- Debt relief at the Paris Club
- The HIPC Initiative and other debt reduction measures
- Relationship with IMF

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Application of sovereign risk assessment (1)

- Judgment of new credit (in principle)
 - I,II → "Yes"
 - III, IV,V, VI → "No"
- Classification of assets for disclosure
 - I,II → "Normal Borrowers"
 - III,IV → "Needs Attention Borrowers"
 - V,VI → "Debtors in danger of bankruptcy"

Application of sovereign risk assessment (2)

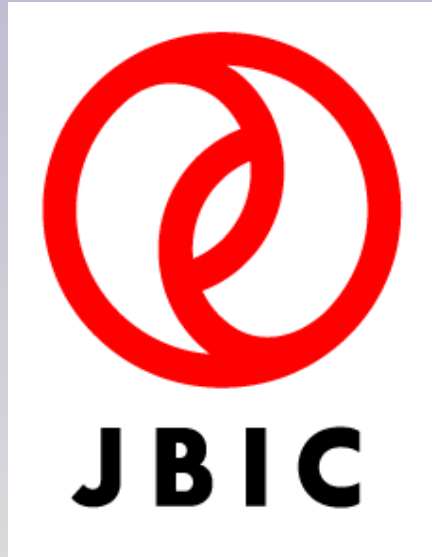
- Calculation of provisions for possible loan losses
 - Average loss ratios in the past are calculated by credit rating category.
- Quantification of credit risk of loan portfolio
 - A transition matrix of credit ratings is estimated.
 - Combined with loss given default (LGD)
→ Value at risk

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Summary

- Sovereign risk assessment of JBIC has the following features:
 - Multi purposes
 - Unique definitions of “default” as an official bilateral creditor
 - Use of quantitative model plus country-by-country analysis



Japan Bank for International Cooperation

Country Risk Analysis Department (Head Office): +81-3-5218-3073

Representative Office in Washington, D.C.: +1-202-785-5242