

Regional Specifics of Northeast Asia from the Financial Aspects

Japan Bank for International Cooperation

Chief Representative for Energy Resources

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**IEA/KEEI JOINT CONFERENCE ON
NORTHEAST ASIA ENERGY COOPERATION**

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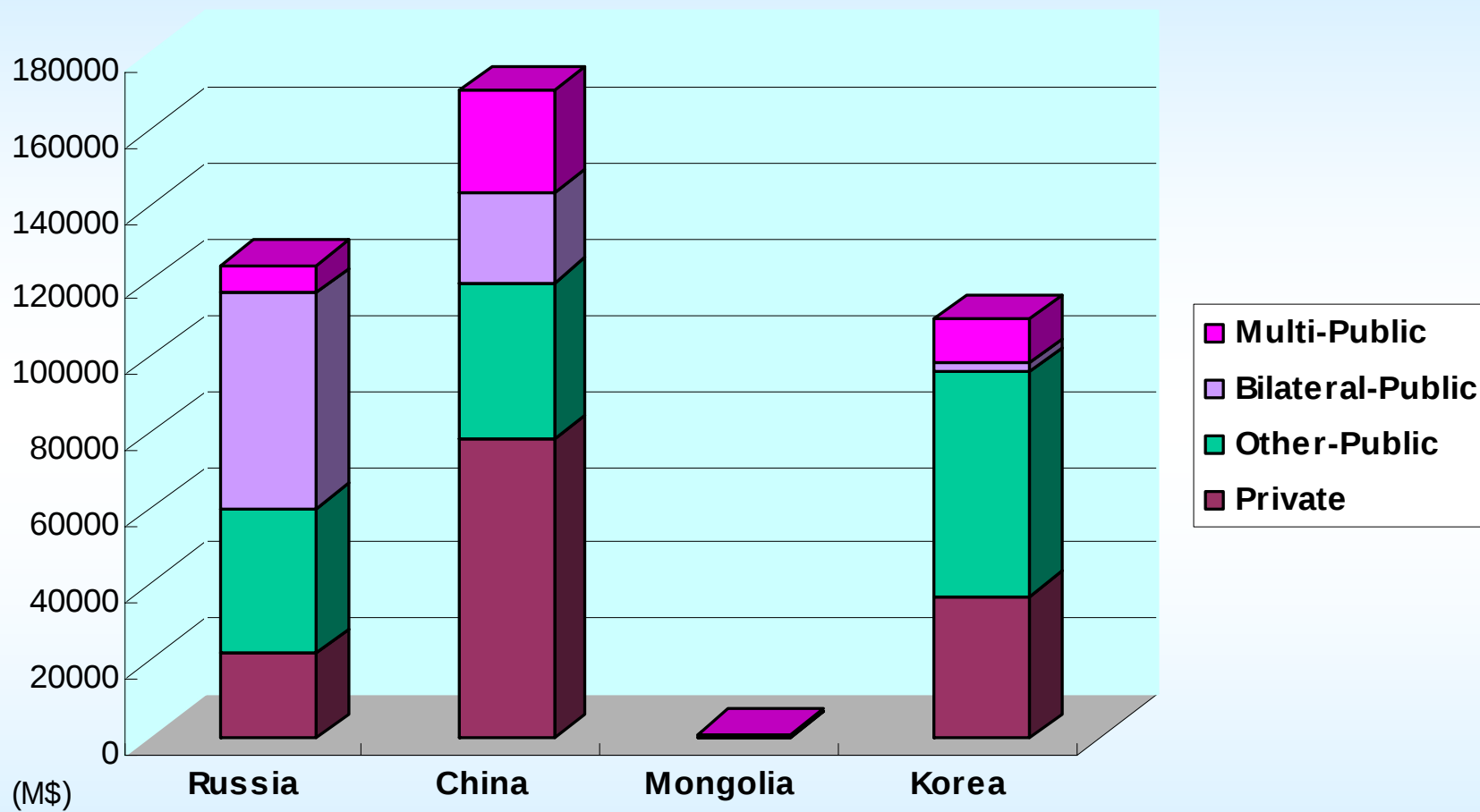
1. Variety and Complementarity in Northeast Asia

	Russia		China		Mongolia	North Korea	South Korea	Japan
	National	Far East	National	Northeast				
GDP (US\$ billion) '01	310	14	1,159	147	1	16	427	4,136
GDP per capita (US\$) '01	2,141	1,911	911	1,134	451	706	9,000	32,490
GDP growth (%) '02	5.0		4.3	9.2	1.4	3.7	3.0	-0.6
Current-Account Balance '02 (US\$ million)	29,905		49,912		-158		6,092	112
Foreign reserves '02 (US\$ million)	44,054		291,128		350		121,345	461,186
Ratings '04	Moody's							
		A2	Baa3				A3	Aa1
(Sovereign, long-term)	S&P	BBB	BB+				A-	AA-
	Futch	A-	BB+				A	AA
Crude oil import '00 (thousand ton)	-136,334	56,9622			124,396	215,087	124,396	215,087
Natural gas import '00 (MOET)	-146,92				17,056	62,569	17,056	622,569

Source: ERINA, IMF, IFR

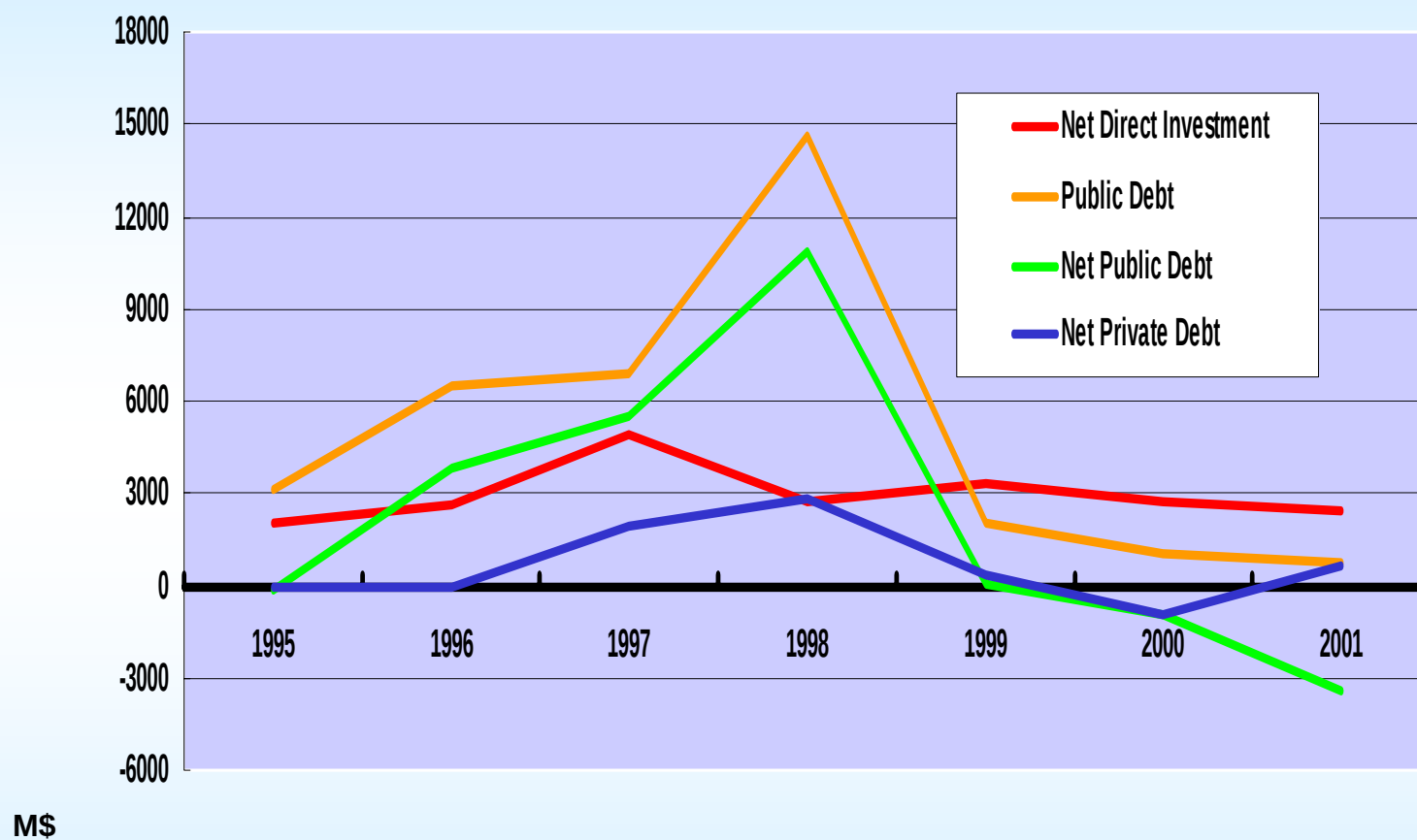


2. External Debt 2001



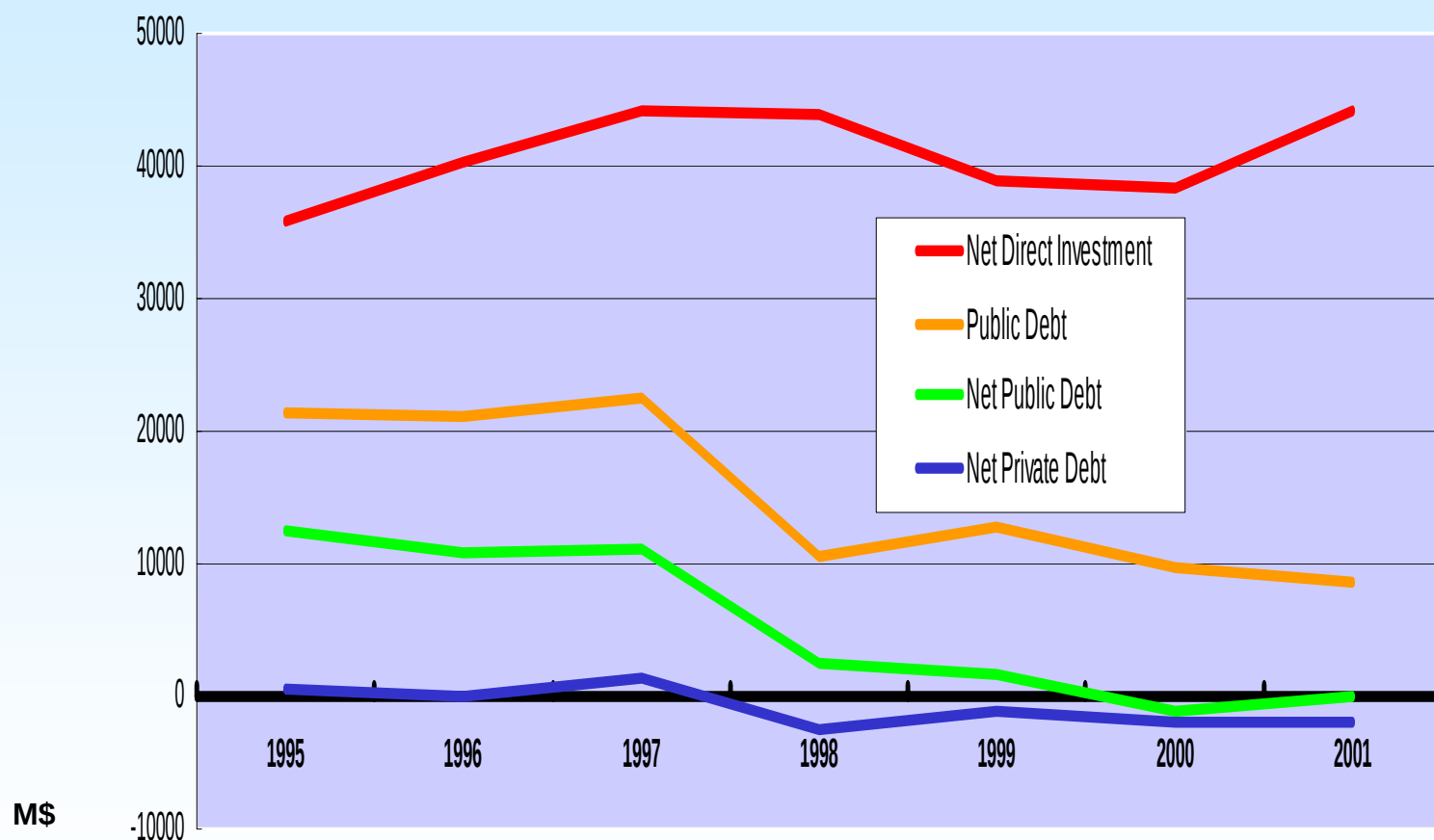
Source: IBRD

3-1 Monetary & Capital Flows <Russia>



Source: IBRD

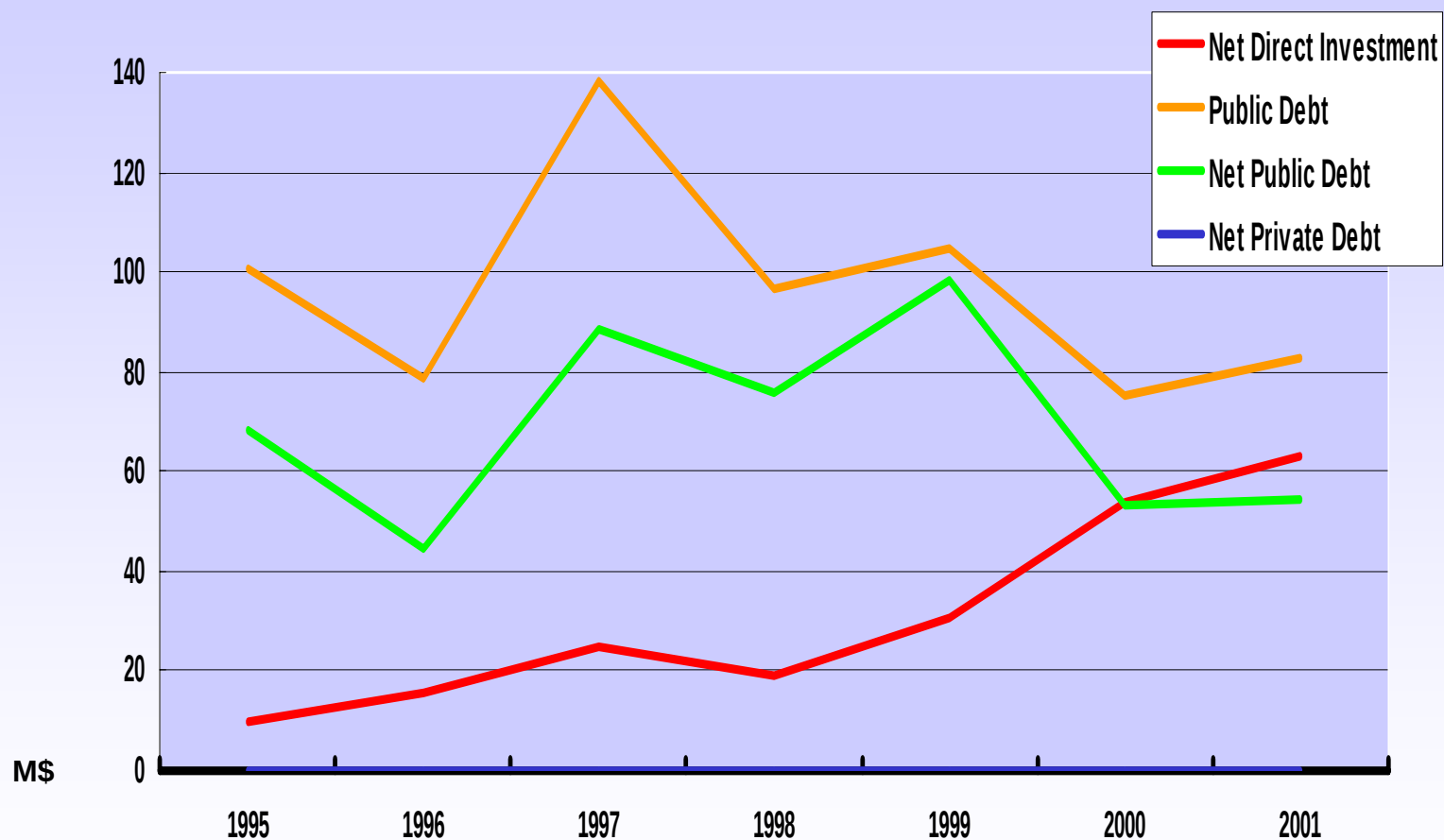
3-2 Monetary & Capital Flows <China>



Source: IBRD



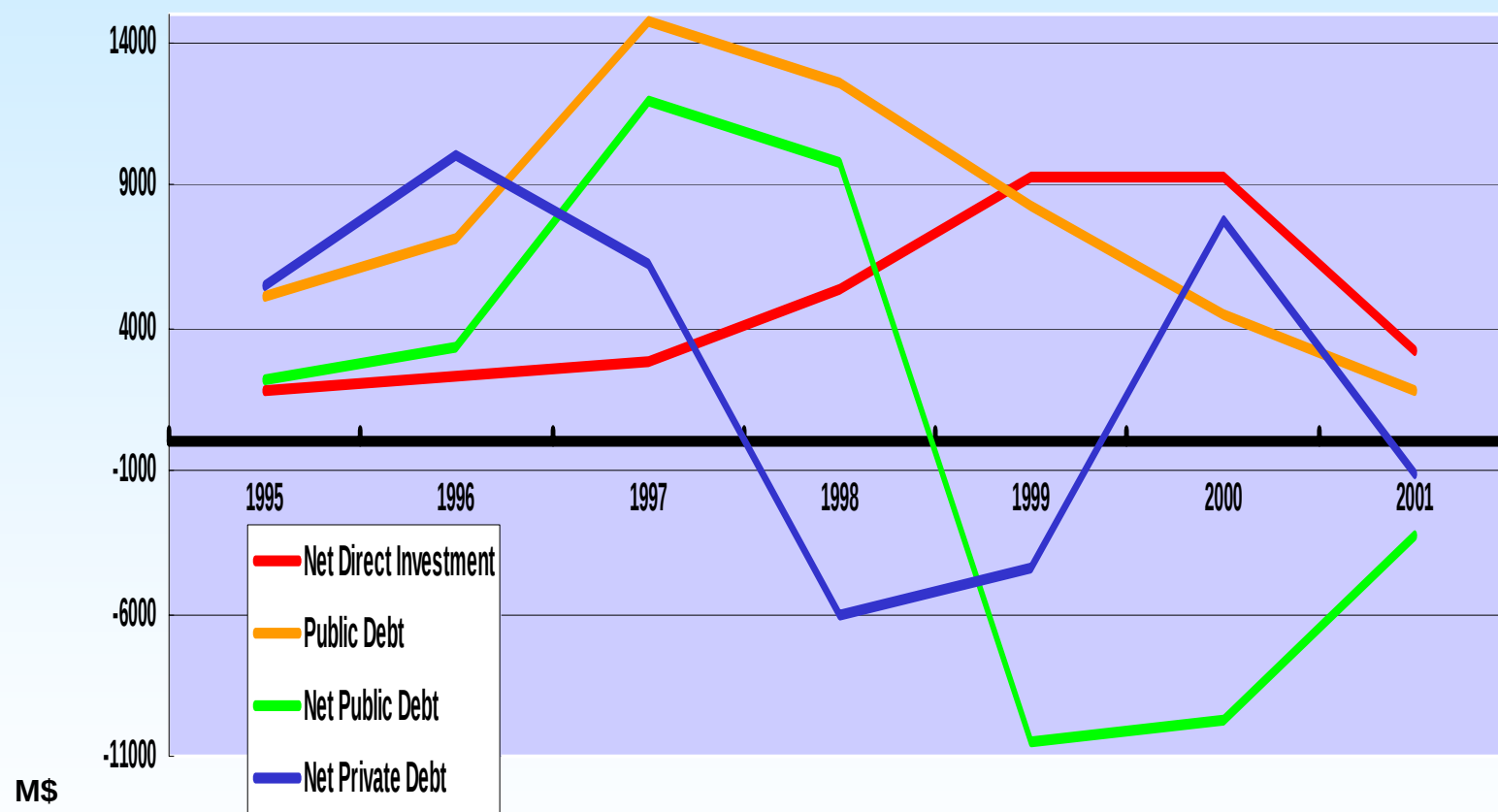
3-3 Monetary & Capital Flows <Mongolia>



Source: IBRD



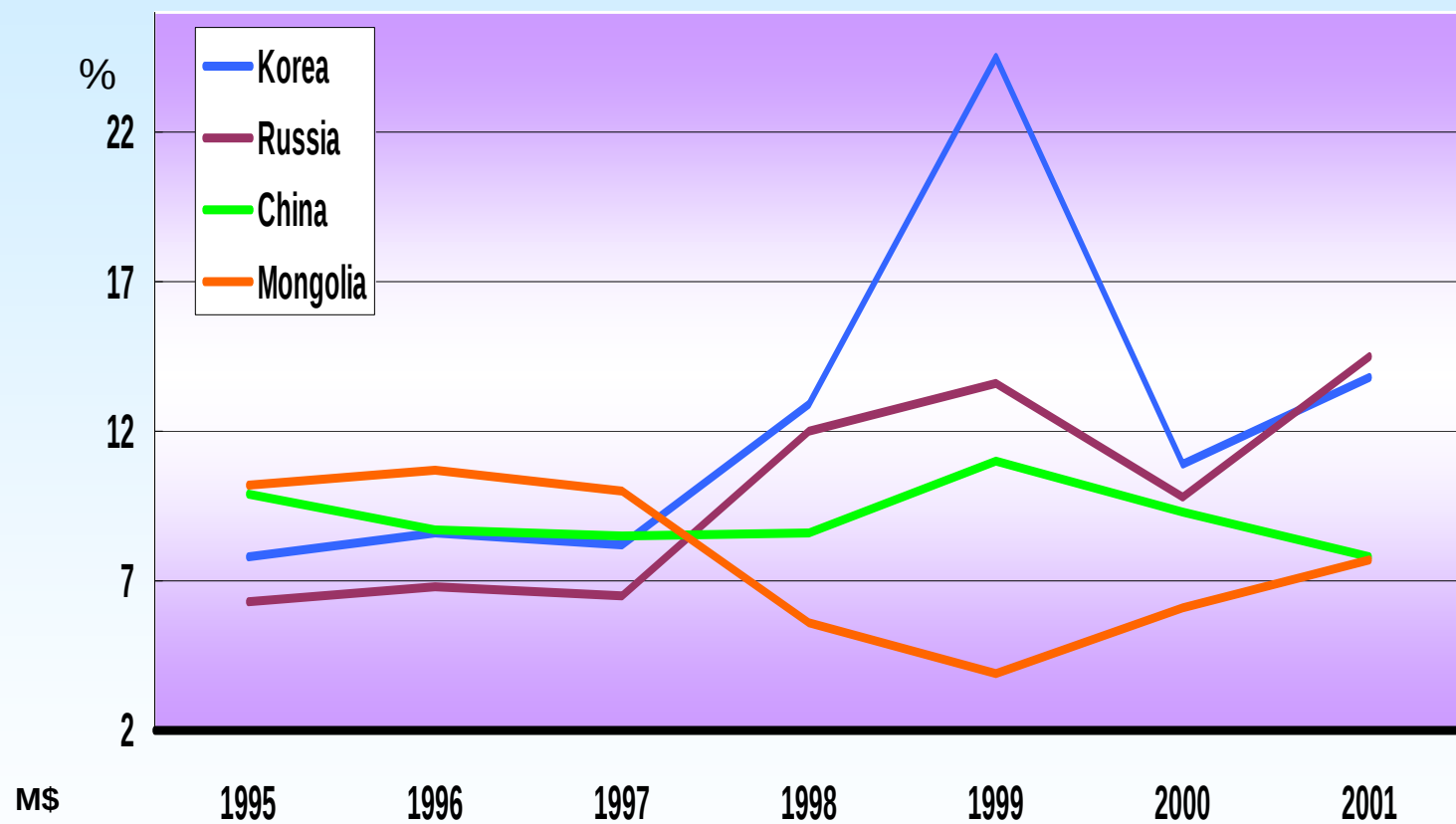
3-4 Monetary & Capital Flows <Korea>



Source: IBRD



4. Debt Service Coverage Ratio*

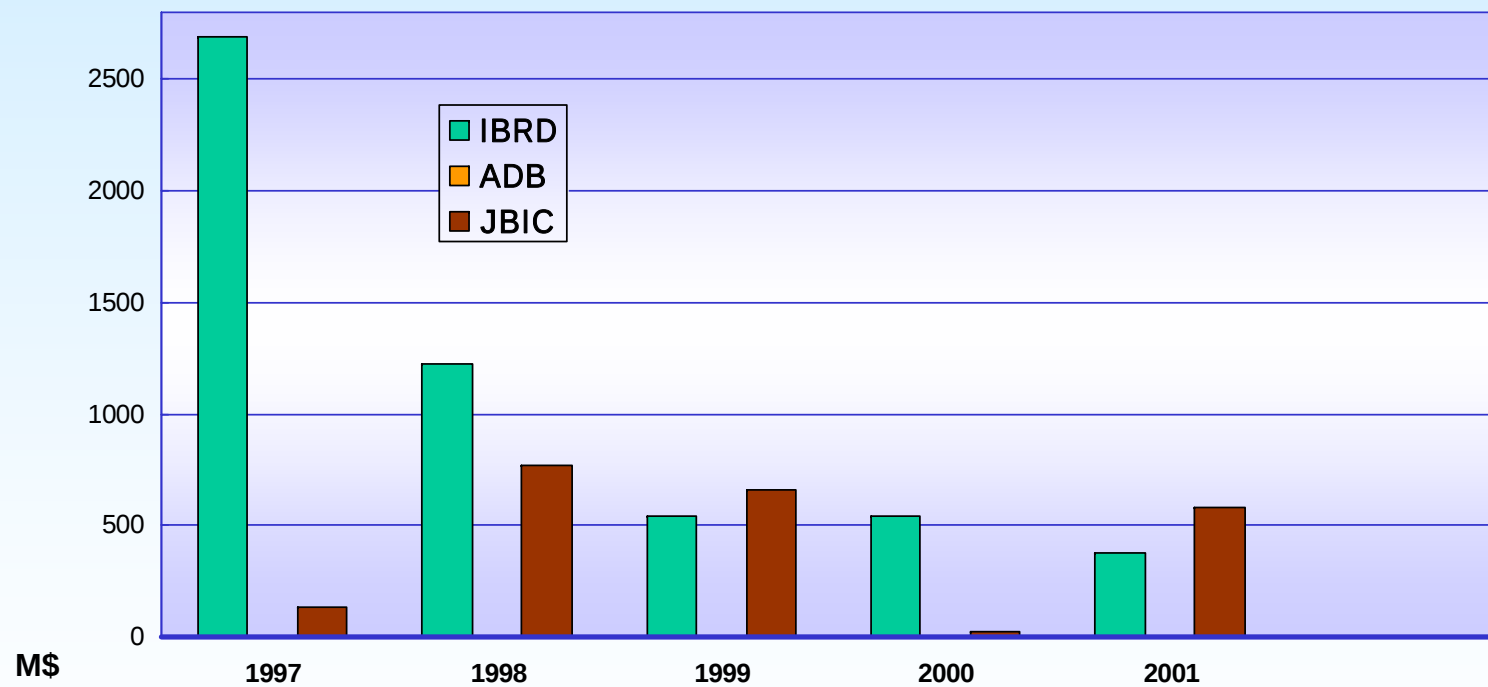


*Total debt service paid divided by export of goods & services

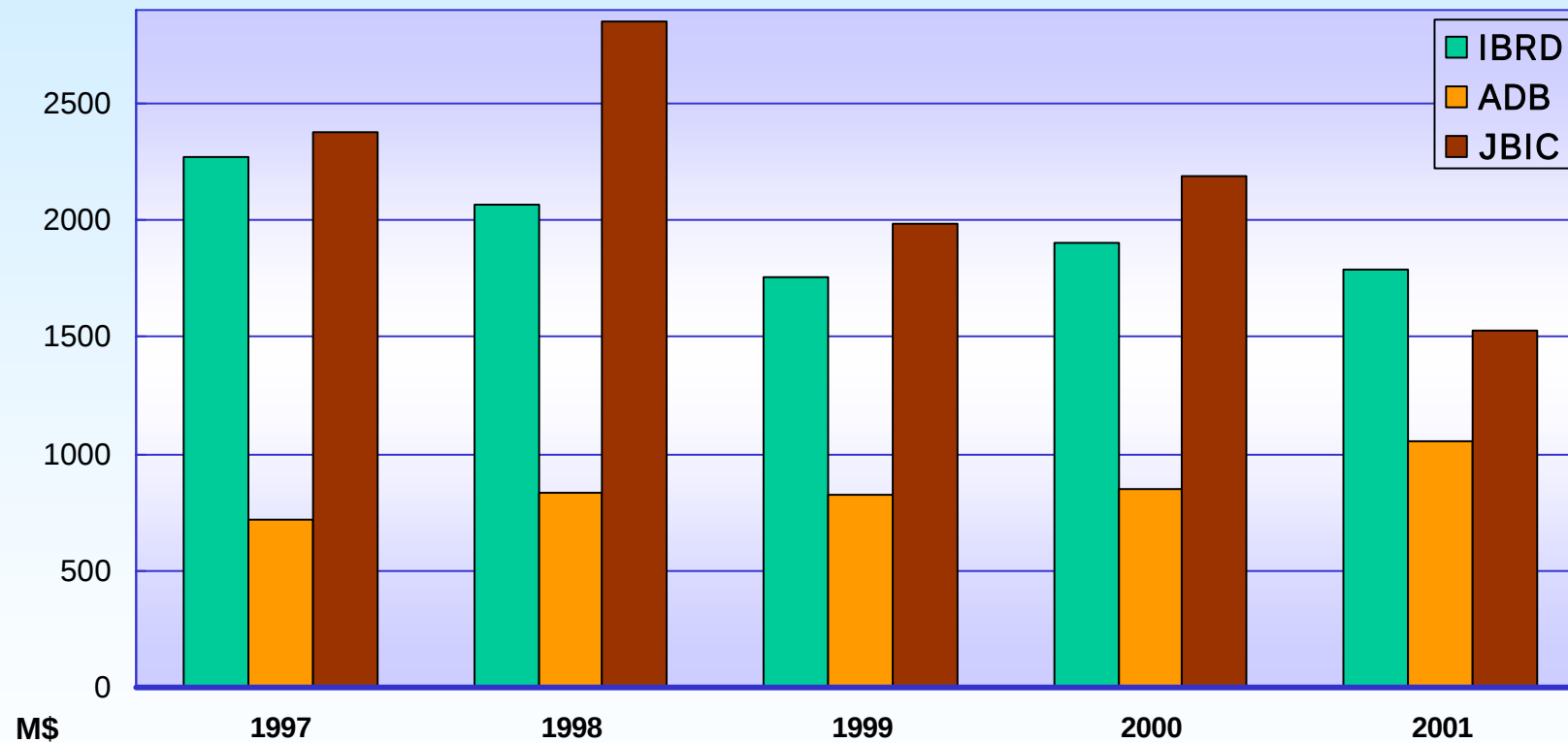
Source: IBRD



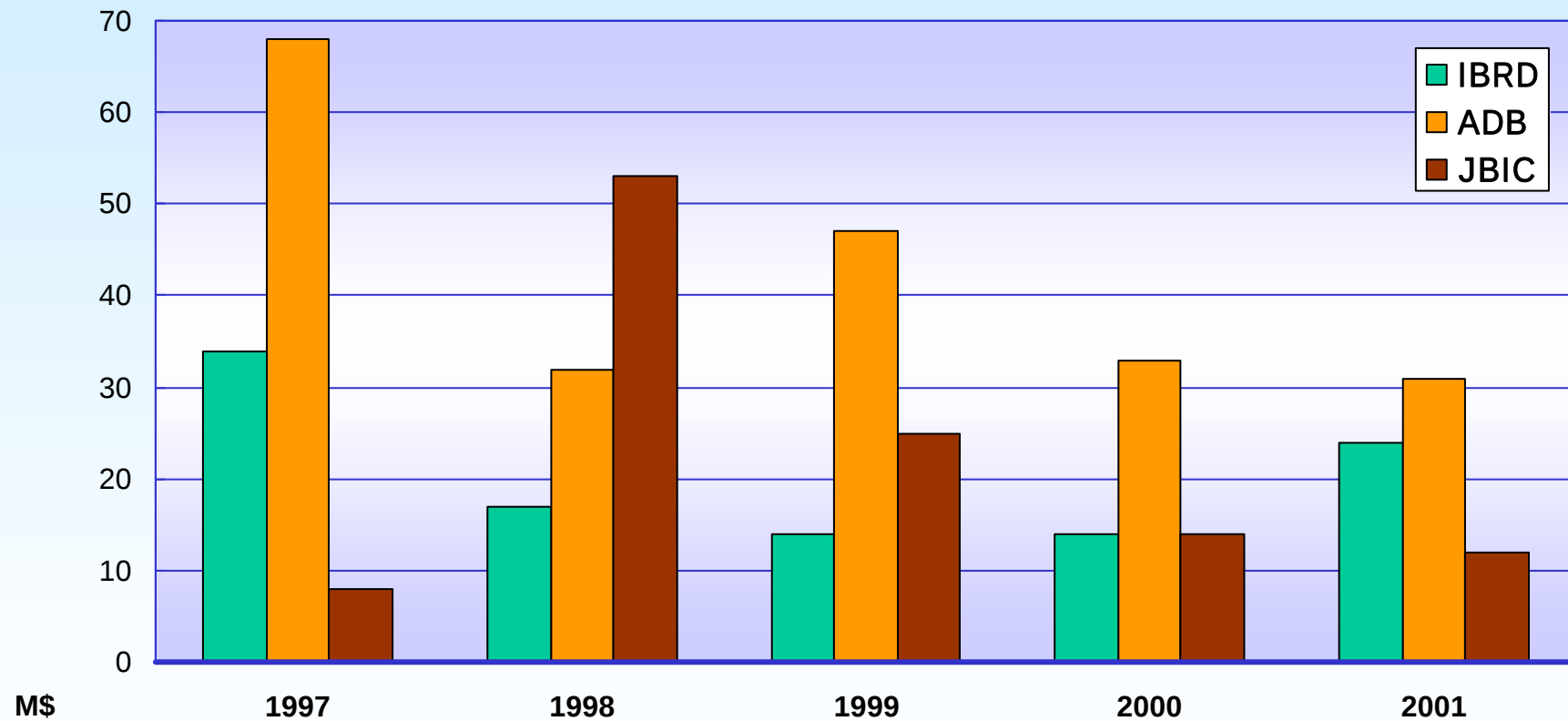
5-1 Disbursement of IBRD, ADB & JBIC <Russia>



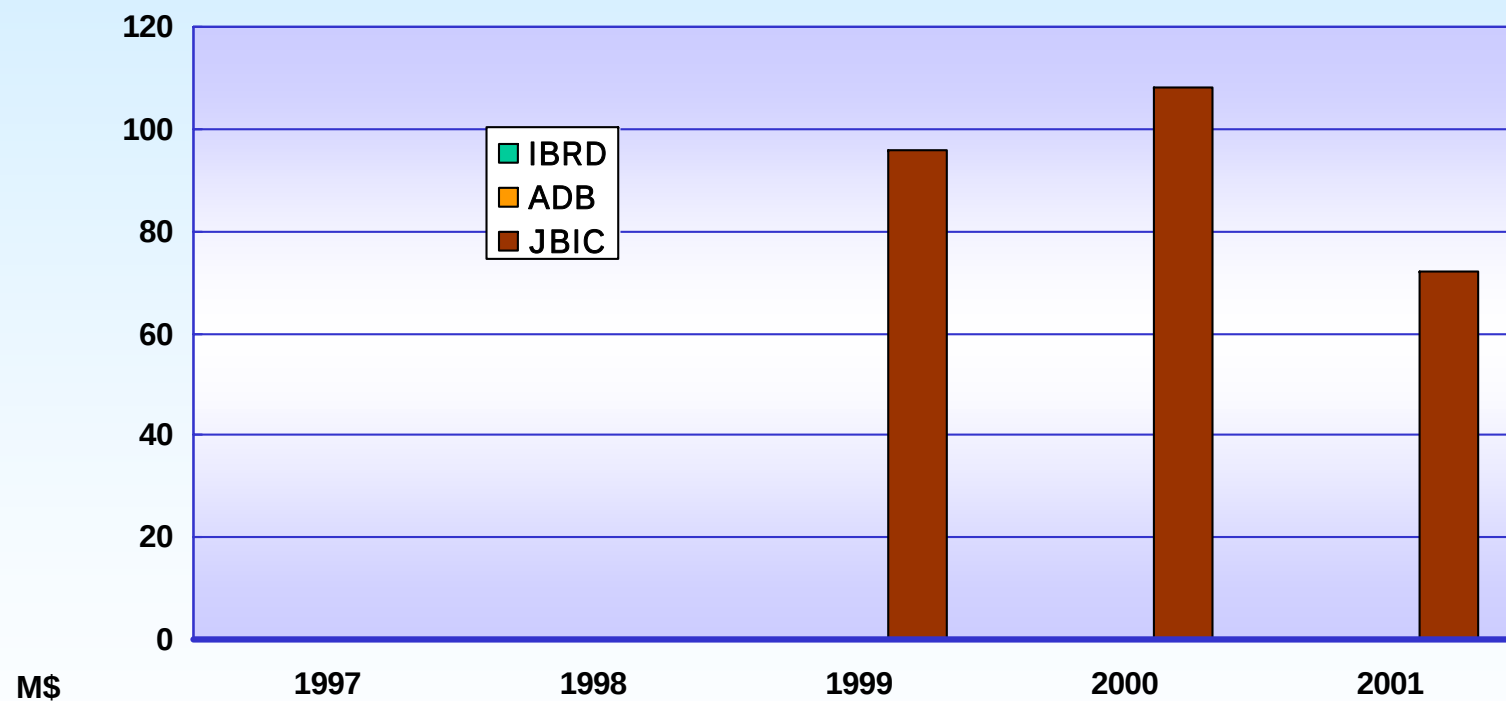
5-2 Disbursement of IBRD, ADB & JBIC <China>



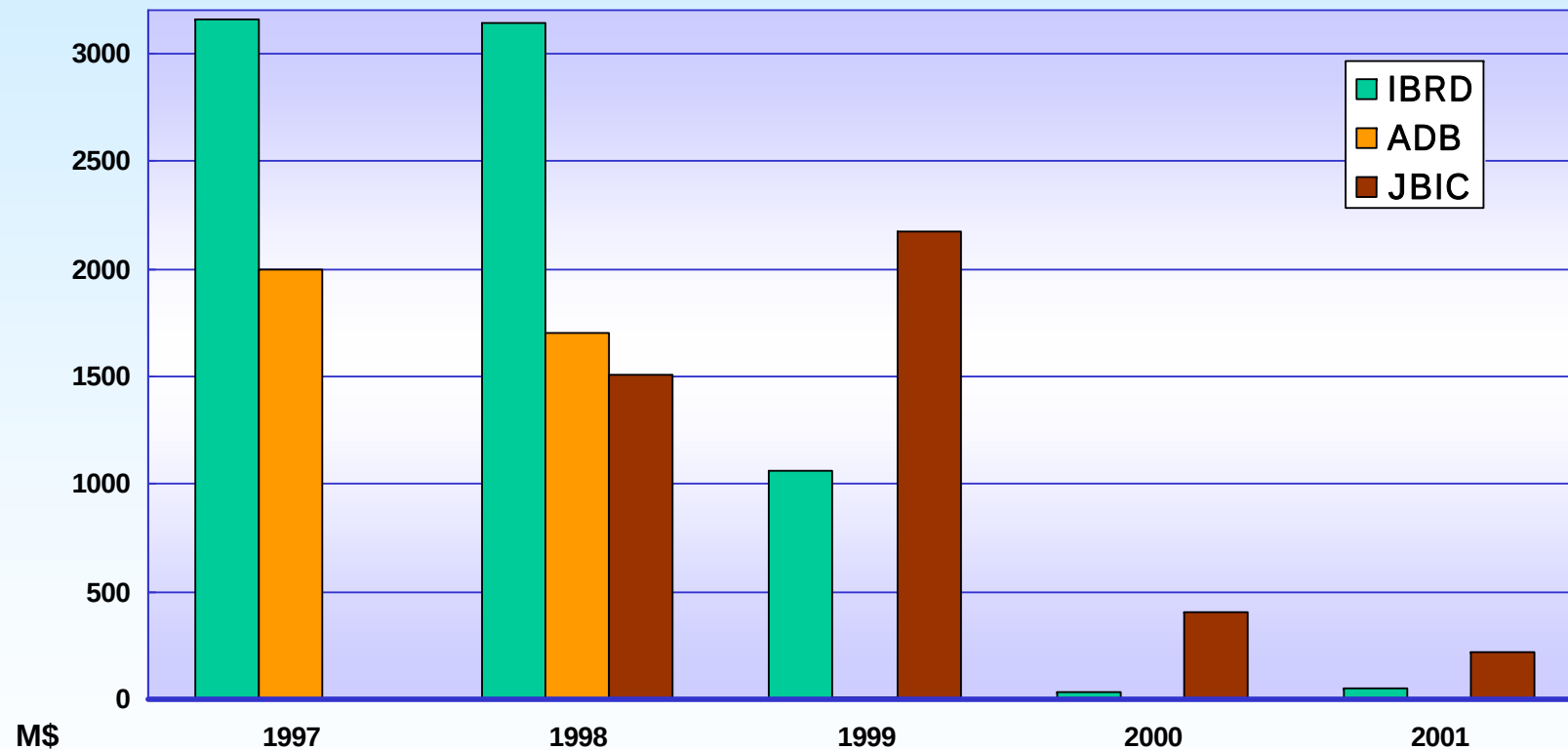
5-3 Disbursement of IBRD, ADB & JBIC <Mongolia>



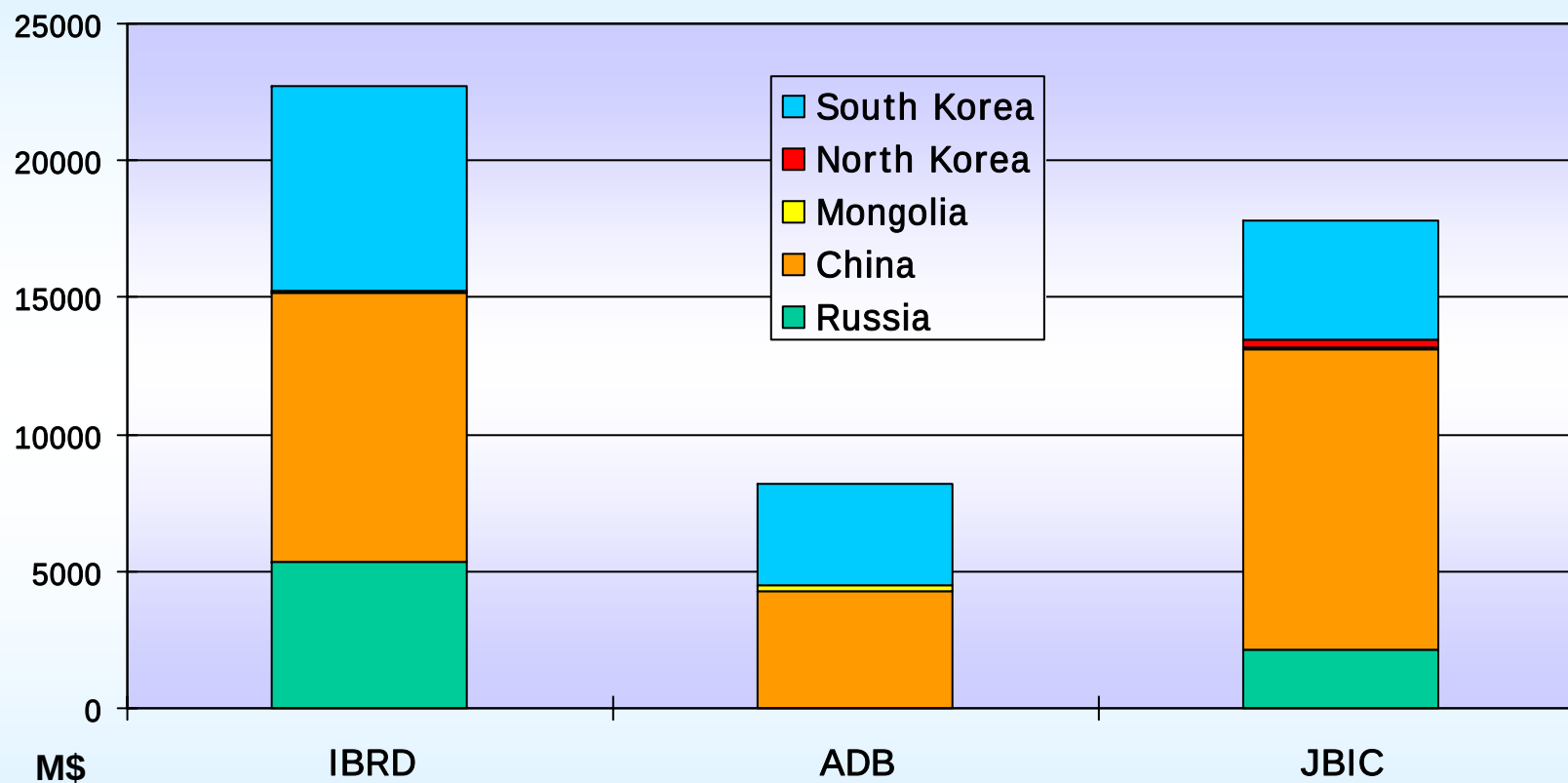
5-4 Disbursement of IBRD, ADB & JBIC <North Korea>



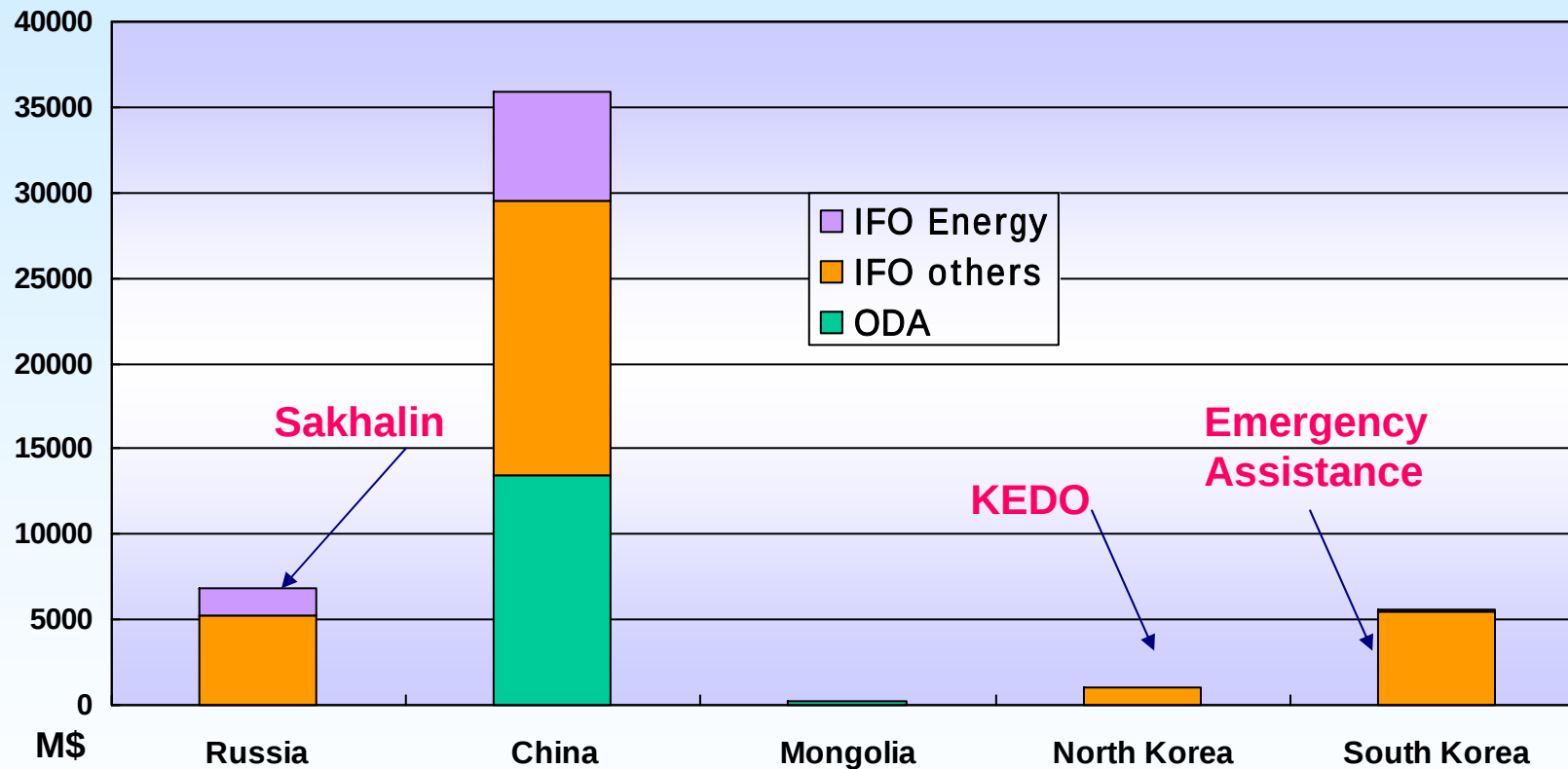
5-5 Disbursement of IBRD, ADB & JBIC <South Korea>



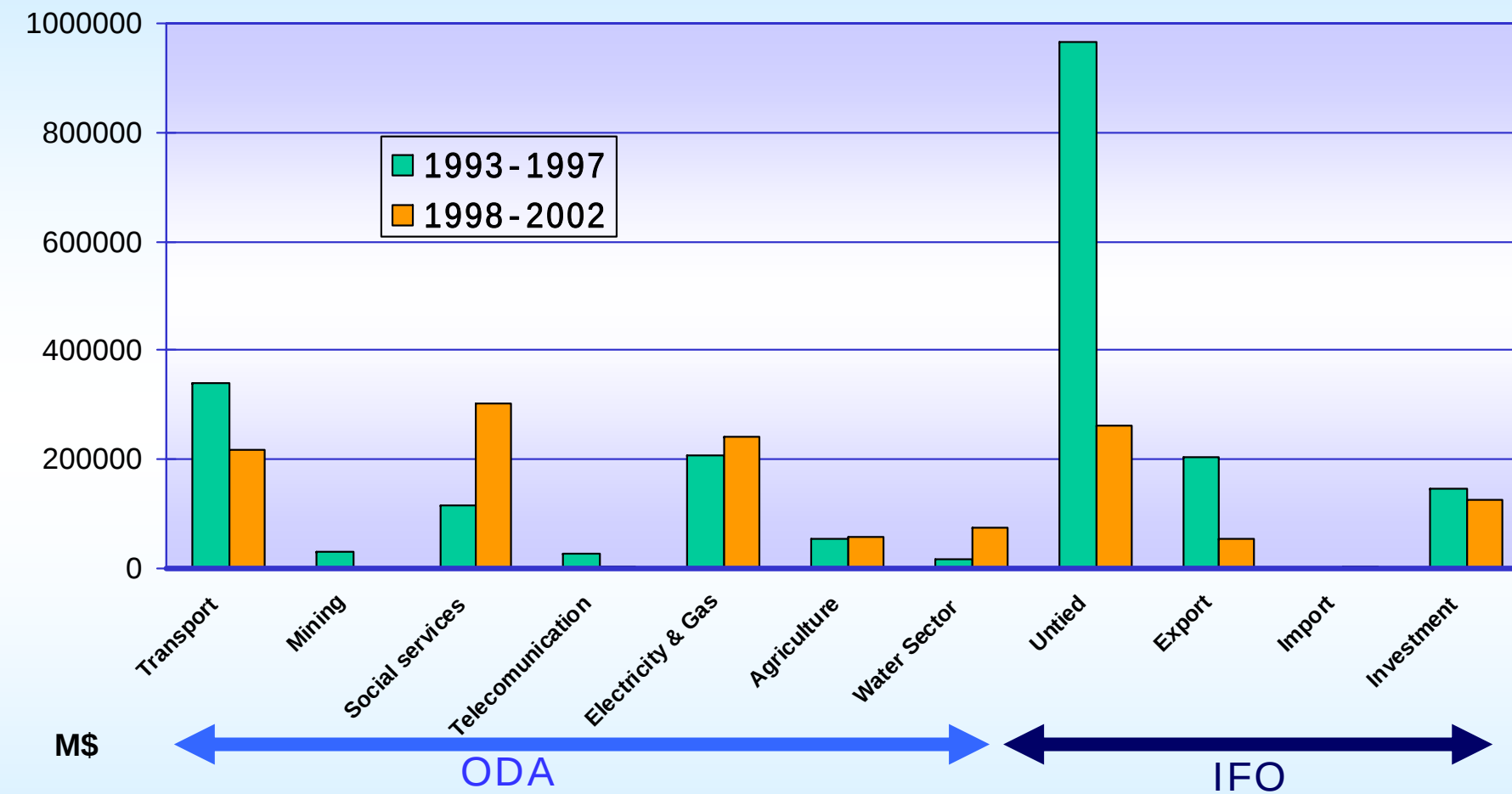
5-6. Total Disbursement of IBRD, ADB & JBIC (1997-2001)



6. JBIC's Activities in Northeast Asia (1993-2002)



7.JBIC's Finance to China (by Sectors)



8.Foreign Loans and Investments to the Northeast Region in China

External Debt

US\$ million	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Liaoning	400	430	550	490	450	300	720	850	350	330
Jilin	110	70	490	490	550	490	170	120	160	180
Heilongjiang	0	70	140	230	220	300	340	290	270	290
Total China	7910	11,190	9,277	10,330	12,670	12,020	11,000	10,210	10,000	n.a.

Foreign Direct Investment

US\$ million	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Liaoning	440	1,230	1,420	1,400	1,670	2,210	2,200	2,060	2,550	3,110
Jilin	70	240	320	400	450	400	410	300	310	340
Heilongjiang	10	230	340	450	550	730	530	820	830	860
Total China	11,010	27,520	33,770	37,520	41,730	45,260	45,460	40,320	40,720	46,880

Sources: ERINA



9. Financial Situation in the Northeast Region in China

	GDP per capita		Expenditure per capita		Revenue per capita		Subsidiary from the Central Gov. per capita	
	Mil. Yuan	*	Mil. Yuan	*	Mil. Yuan	*	Mil. Yuan	*
Shanghai	406.3	1	53.1	1	37.5	1	14.0	3
Liaoning	130.0	8	16.4	10	8.8	6	8	9
Jilin	53.2	13	13.4	13	4.5	14	7.7	10
Heilongjiang	102.4	10	14.0	12	5.6	10	7.2	11
Guizhou	31.4	31	8.2	26	2.6	30	4.6	19
China	101.1		15.6		6.1		4.8	

*Ranking



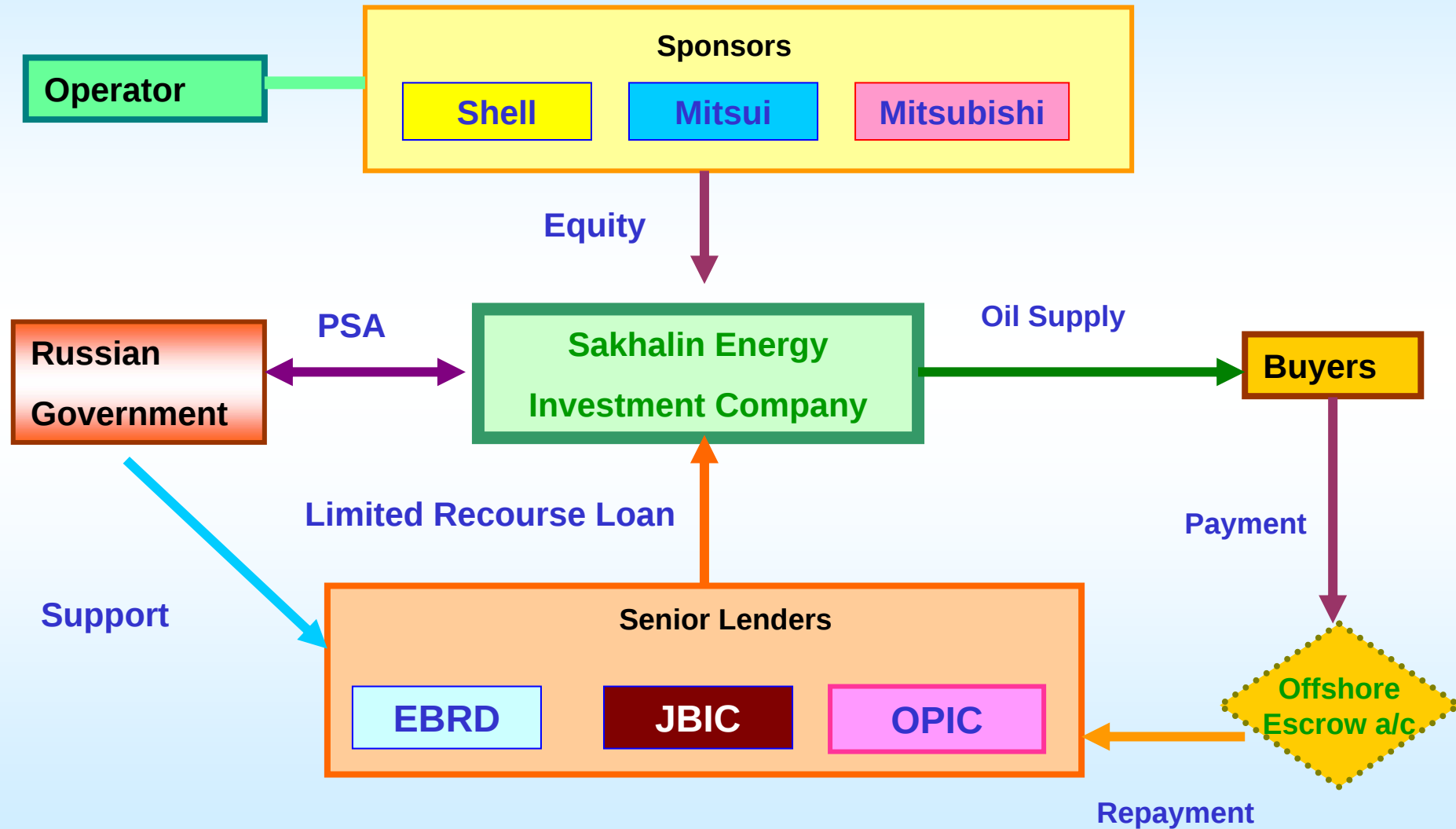
10. Japan-USSR Cooperation Projects in Far East Russia (1968-1985)

Signing year	Project
1968	Far East Woods Development (1 st)
1970	Urangel Port Project
1971	Pulpwood & Chip Projects (1 st)
1974	South Yakutsk Coal Development
1974	Yakutsk Natural Gas Development
1974	Far East Woods Development (2 nd)
1975	Sakhalin Oil & Gas Exploration
1981	Far East Woods Development (3 rd)
1985	Pulpwood & Chip Project (2 nd)

11. Priority Projects Proposed in Japan-Russia Joint Economic Committee (1998)

PROJECT
Yakutsk Gas Pipeline
Sakhalin-Vladivostok Gas Pipeline
Ksuk-Kamchatski Gas Pipeline
Bureya Hydro Power
Electrometal Industry
Aniwa Gas Development

12. Sakhalin II Project (Oil Phase)



13. Types of Project Finance

Project Type	Export-Oriented Projects	Domestic Projects
Industry	Oil,Gas,etc.	Power,Water,etc.
Market	International	Domestic
Price	International Market Price	Local Price Regulated Tariff
Hard Currency Generated from The Project	Yes	No
Currency Risk Control	Off-shore Escrow Account	Hard Currency Based on Off-take Contract
Governmental Support for Currency	No	Yes

14. Finance for Cross-border Projects

- Key Points in the Case of Gas Pipeline Projects -

1. Public Investment or Private Investment?

Public Investment - - - Sovereign Finance is suitable

Private Investment - - - Project Finance may be considered

2. Unified with Up-stream / Down-stream or “Unbundling”

Unified system - - - Additional Risk (Up-stream Risk, Market Risk etc.)

Unbundling - - - Insufficient Throughput Risk, Regulation Change Risk

3. Hard Currency or local Currency?

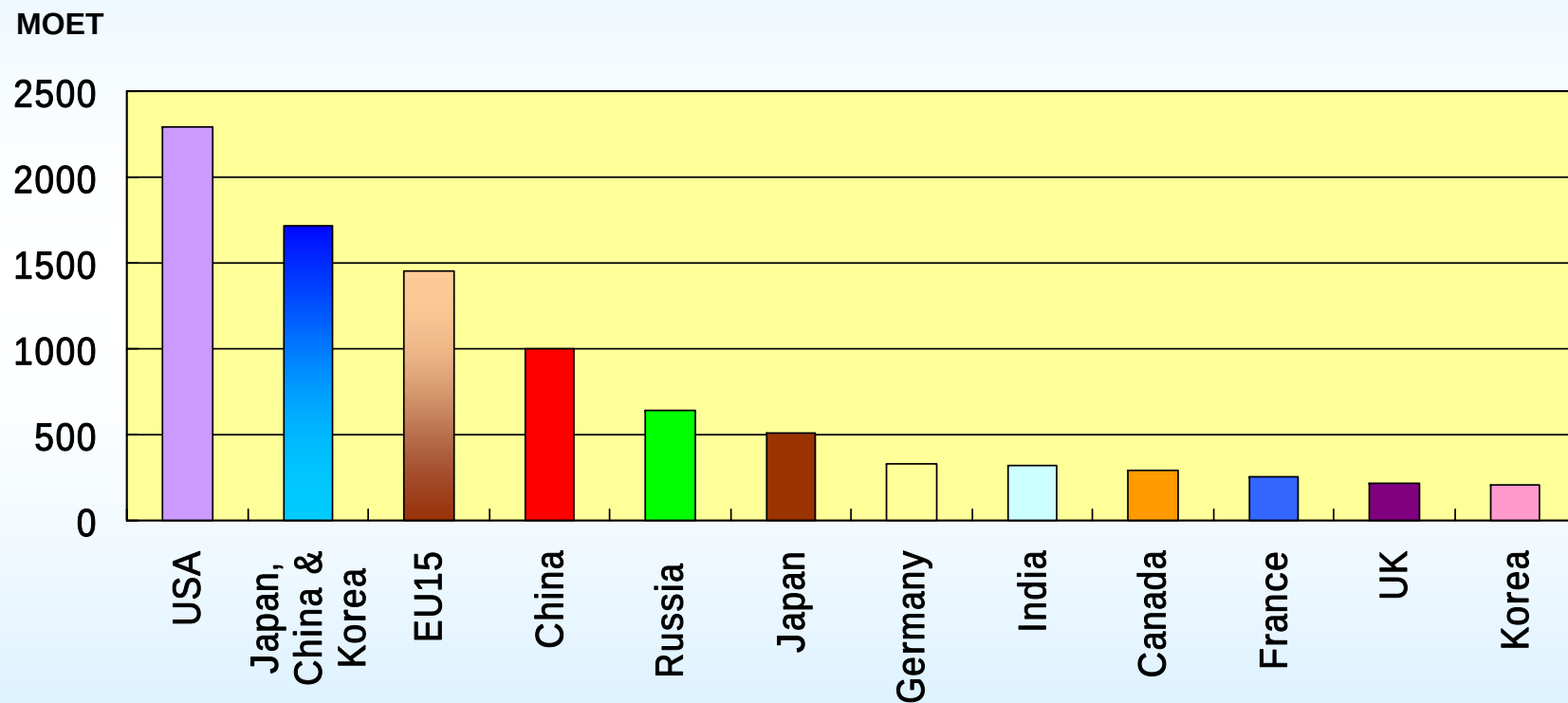
Pipeline Tariff - - - Hard Currency

The Revenue of Users - - - Local Currency

15. Regional Specifics of Northeast Asia from the Financial Aspects

- 1. Sound Macro-economic Situations
of International Financing (Except North Korea)**
- 2. The Issue of Relations between the Central Government and
Local Government (China, Russia)**
- 3. The Issue of Relations between the Public Sector and
Private Sector**
- 4. The Lack of Framework for Promoting Cross-Border
Projects**
- 5. The Issue of Local Currency**

16. World Top 10 countries in Primary Energy Consumption



Source: BP Statistics 2003

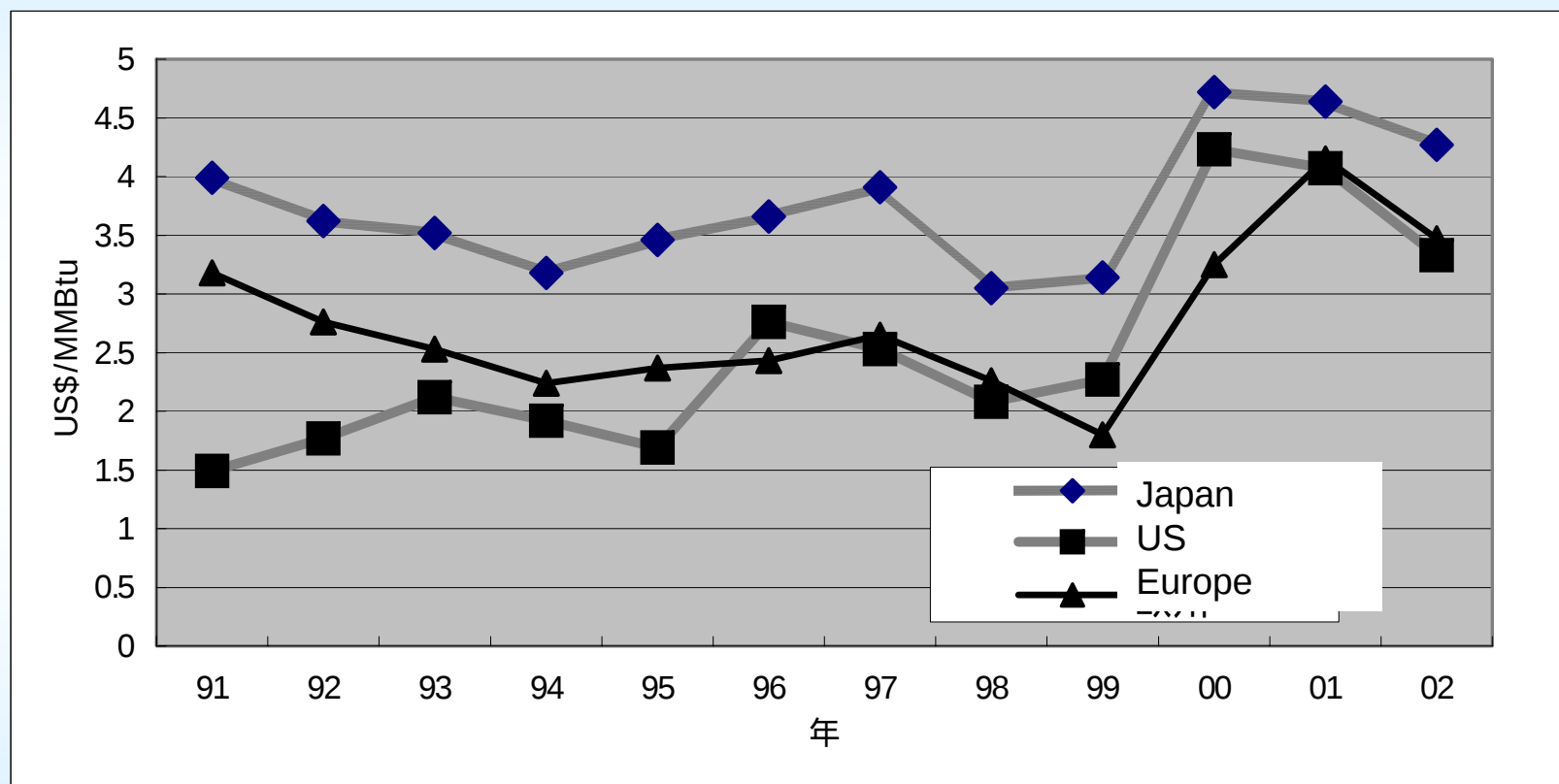
17. Share of LNG Imports in the World

(Billion cubic meters)	Japan	Korea	Taiwan	East Asia	Europe	USA	World
Volume	72.7	24.6	7.0	104.3	33.7	6.5	150
%	48.5	16.4	4.7	69.5	22.5	4.3	100

Source: BP Statistics 2003

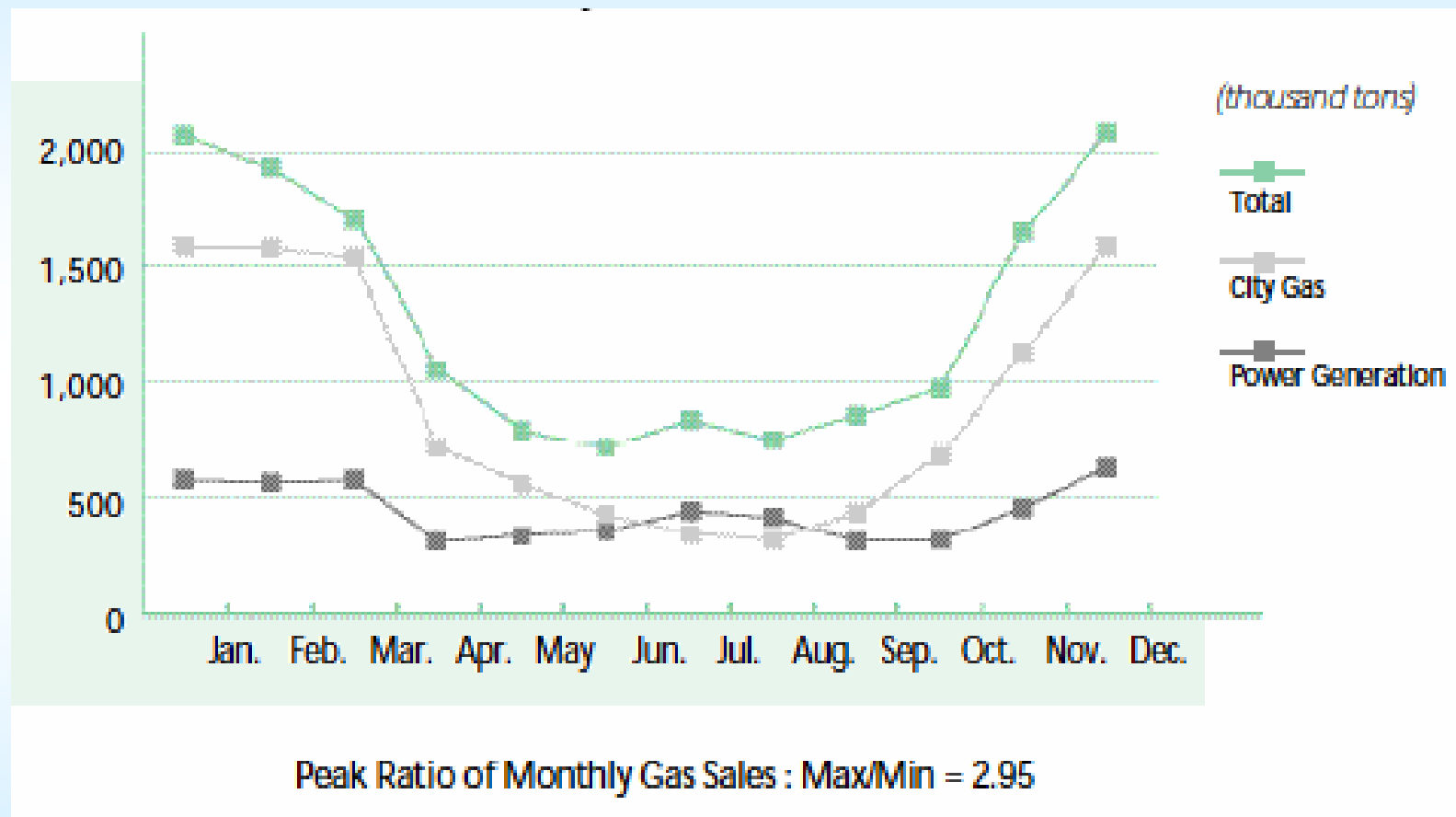


18. Natural Gas Price in Japan, the US & Europe



(注) 日本はLNG輸入価格(CIF)、アメリカはヘンリーハブ価格、欧州はパイプライン輸入価格(CIF)

19. Seasonal Demand Gap in KOGAS



20. Change in LNG Market

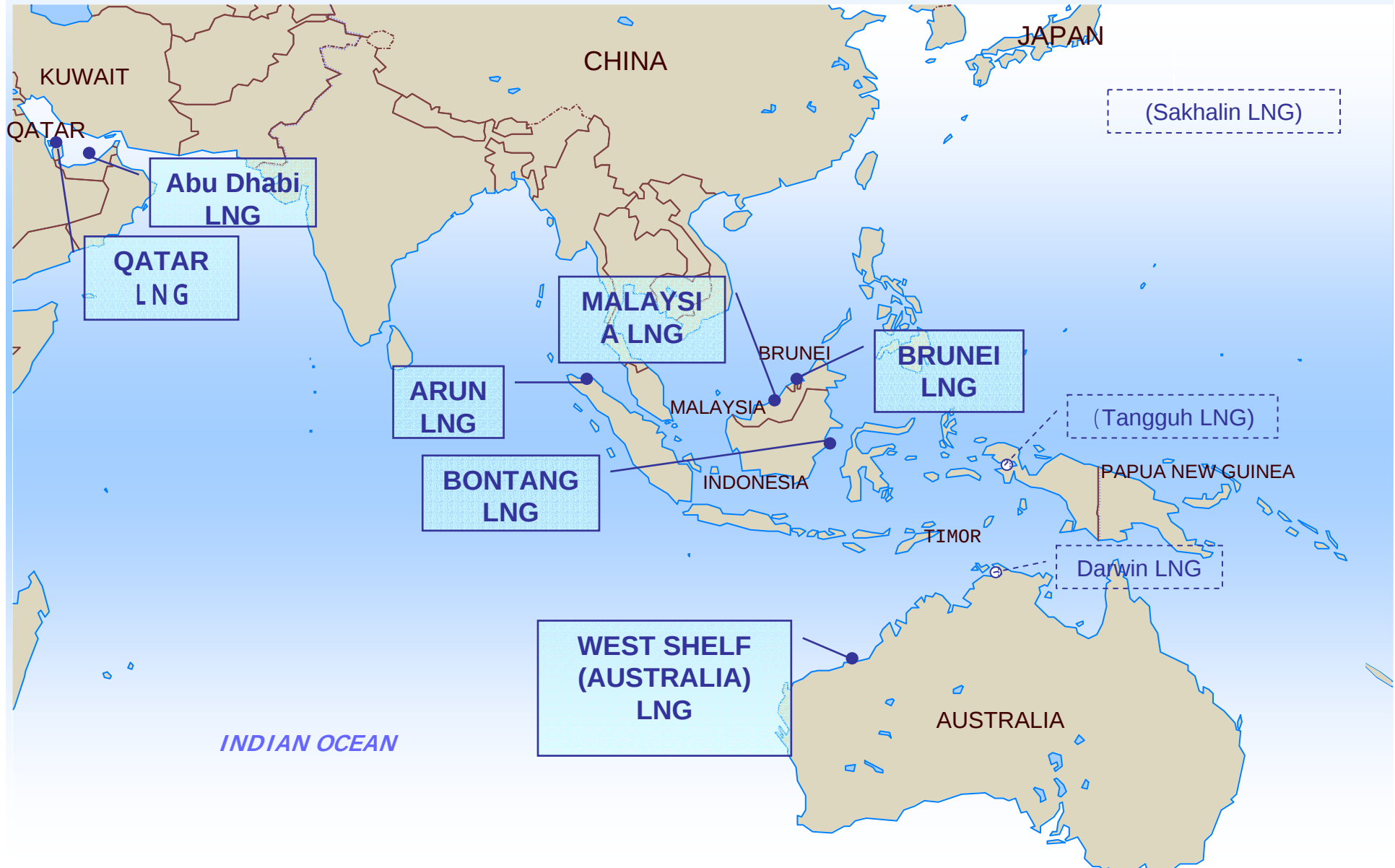
Change in Buyer's Surroundings

- Liberalization - - - The uncertainty of future demand
- Seasonal Demand Gap
- The Change of LNG Usage - - - Mid to Peak
- Back-up for Emergency

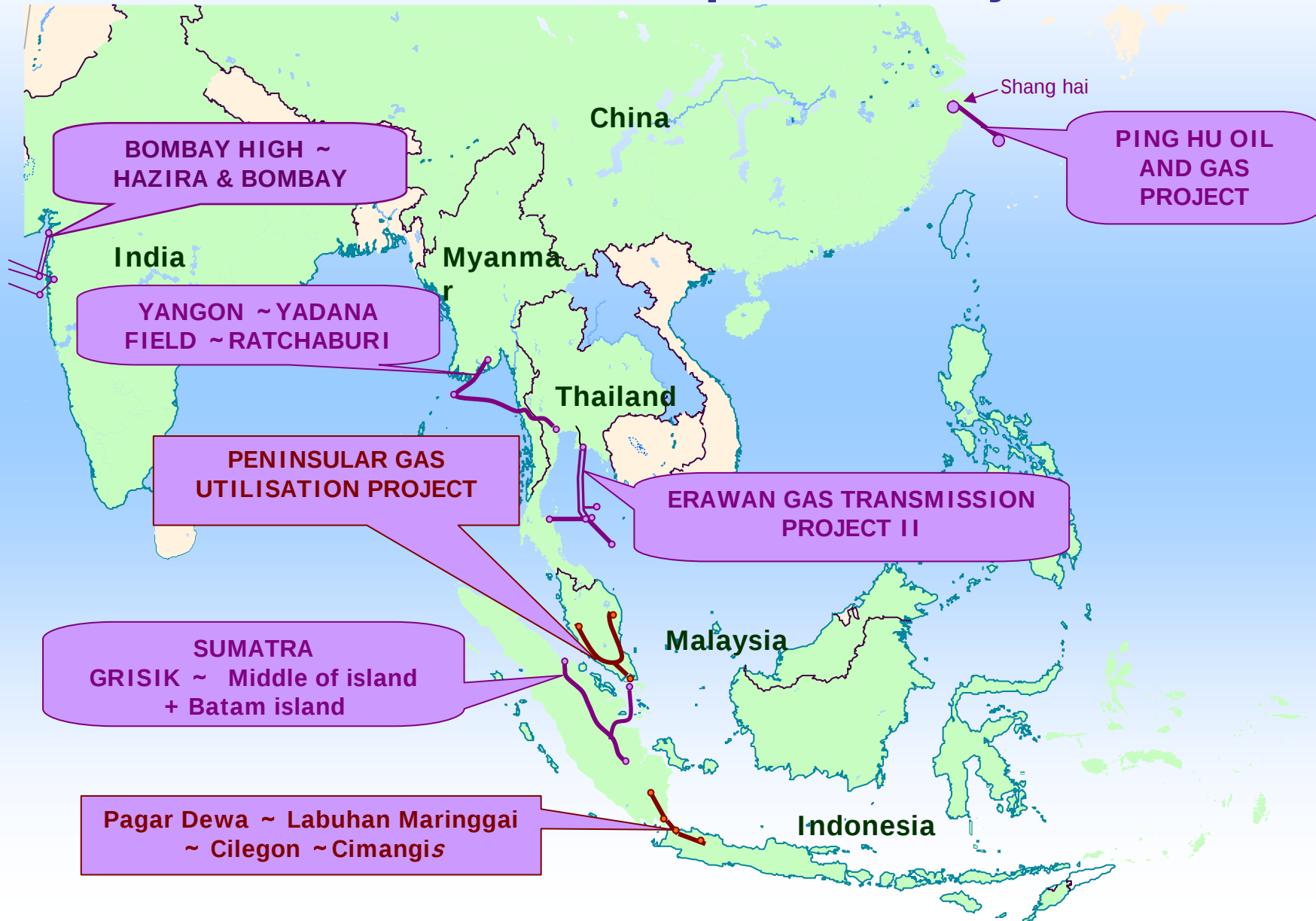
Direction of the Change

- Flexible Contract - - - Medium/Short-term, Option
- Flexible Trade - - - Spot, Swap
(Issue of the "Destination Clause")
- One project supply to Multi Markets, Arbitration,
- Integration of World Market
- Gas to Gas Competition

21. JBIC's involvement in LNG projects



22. JBIC's involvement in Natural Gas Pipeline Projects



23. Pipeline projects in Northeast Asia



24. Energy Cooperation in Northeast Asia to realize Advantageous Markets for Consumer Countries

- LNG
- Pipeline
- New Energy Development
GTL, DME, Clean Coal Technology, etc.
- Energy Saving
- CO2 Emission Issues
“Carbon Fund”
- Currency Issues
“Asia Currency Bond”