

Post-war Development of the Japanese Economy

— Development, Japanese/Asian Style —

For Students in the EDP&M Program



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Objectives of This Presentation

The purpose of this presentation is four-fold:

- 1) to introduce the macroeconomic development process of the postwar Japanese economy (the so-called “**Miracle Recovery**”);
- 2) to explore the **Japan-specific elements of a market system** that supported her rapid development;
- 3) to show the need for **adjustments in the ‘Japanese-style market system’** of the post-catch-up era; and
- 4) to demonstrate the **evolution and revolutions in economic systems** underlying a development process.

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- Part IV: Japanese-Style Market System for a Miracle Recovery**
- Part V: The Evolution of the Japanese Development Model**
End of the Catching-Up Process to the Bubble Economy
(1970s – 1980s)
Lost Decade and Beyond (1990s -)
- Part VI: Structural Reforms in The Japanese Development Model**
- Part VII: Aging Japan, Aging Asia**
- Part VIII: Revolutions and the Evolution of Economic Systems**

Devastation during WWII (1941-1945)



- Human loss – 1.85 million (2.8 million) deaths
- Material loss – 25% of national wealth
- Industrial production dropped to 1/10 of the prewar level.
- Hyper-inflation with commodity shortage



Successes and Failures in Japanese Economic Development

Phase I (1945-1960s) Catching-up process

- Post-war democratization
- Common goal
- Savings shortage & directed allocation
- Japanese-style Market system
 - Employment practices
 - Main bank system
 - Corporate governance
 - Gov't intervention & public policies

Phase II (1970s-'80s) Failure to reform & "bubble" economy

- "Front-runner" necessity for competitive market
- Failure to transform the system
- Expansive behavior by businesses/banks
- Macroeconomic policy to cope with yen's appreciation
- 'Bubble'

Phase III (1990s -) Long stagnation & beyond

- Excess capacity
- NPL and financial crisis
- Confidence crisis
- Deflation
- Expansive macro-economic policy
 - Zero interest
 - Budget deficit
- Structural reform
 - Regulatory
 - Financial, etc.



Part I: Postwar Economic Reforms and Rehabilitation

(1945 – mid 1950s)

1.1 Post-war Economic Reforms

Democratization of the Economy

Zaibatsu dissolution

Dissolution of
Zaibatsu conglomerates;
Prevention of economic
power concentration

Fair market rules

Anti-trust Law;
Securities Exchange
Law; etc.

Agrarian reform

Elimination of
tenant system;
Growing # of
independent farmers

Labor market reform

Legalization of labor
movement;
Establishment of
labor unions



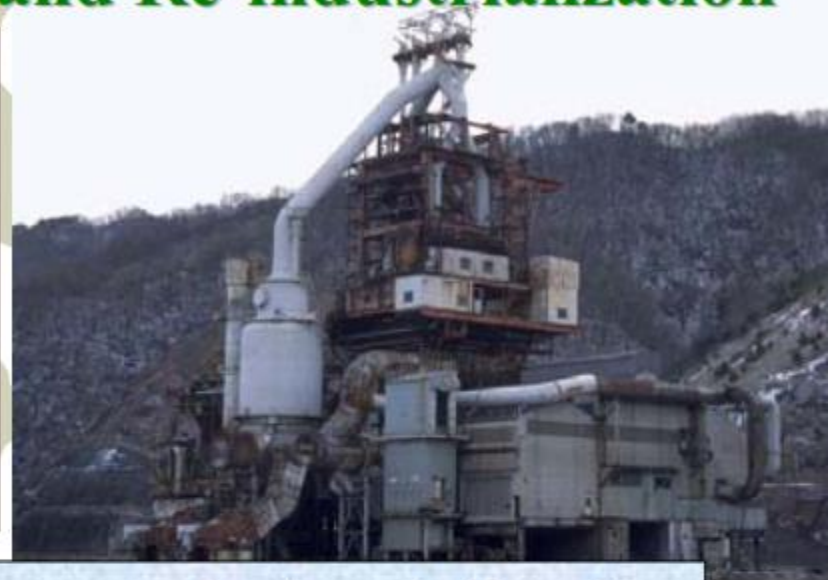
1-2 Economic Reconstruction and Re-industrialization

Economic reconstruction

Priority production strategy

Priority sectors:

Steel, coal mining, electricity,
shipbuilding, marine transportation,
railways, chemical, etc.



The US's strategy changes to allow re-industrialization

Joseph Dodge's stabilization policy in 1949

- Macroeconomic tightening
- Balanced budget on a consolidated basis
- Forced rationalization in private businesses
- Unification of yen exchange rate to 360JPY/1USD



Severe
recession

Favorable international conditions

- Sustained world economic growth
- International trade and investment development

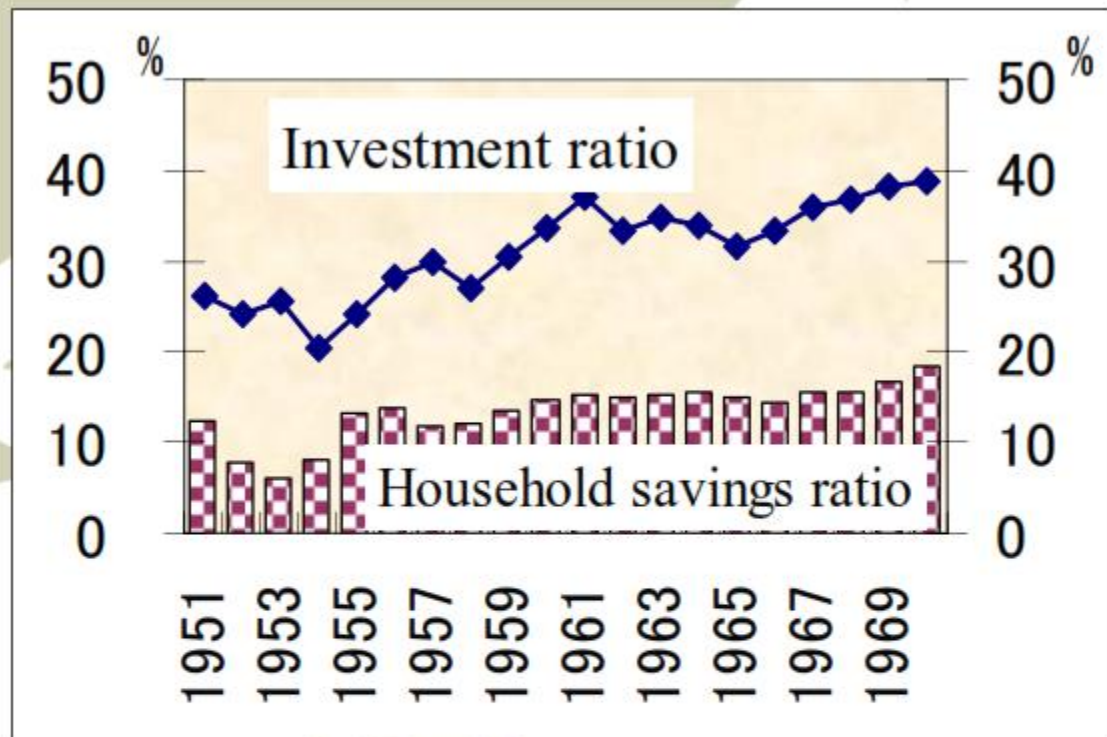
Cold War
Korean War

1.3 From rehabilitation to enhancing competitiveness

- **Introduction of new technology** to fill the gap
 - Steel (strip mills); shipbuilding (electric welding); chemical fertilizers; synthetic fiber; consumer electric appliances, etc.
 - “First machine is imported and the second machine is produced domestically”**‘Improved Engineering’**
- Rural-urban transfer of young workforce
‘Shudan Shushoku’
- **Industrial Policy**
 - Business Rationalization Promotion Act (1952)
 - Government-owned financial institutions – JDB, ExIm Bank, Small Business Credit Corporation
 - Establishment of long-term credit banks



1-4 Coping with Savings Shortage



Source: SNA

Investment ratio = (private and public investment) / GDP

Household savings ratio = (household savings) / (household disposable income)

Prior to 1955, the older SNA level was adjusted using 1955-60 average difference between the two series

Policy measures to cope with savings shortage

Targeted policy to allocate funds to key sectors

- Relying on financial intermediaries for capital supply
- FILP and public financial institutions
- BOJ monetary expansion through “window guidance”
“over-lending”, “over-borrowing”

1-5 Growth without Inflation; Mobilization of Funds

Avoidance of inflation in spite of monetary expansion

Low interest rates and credit rationing

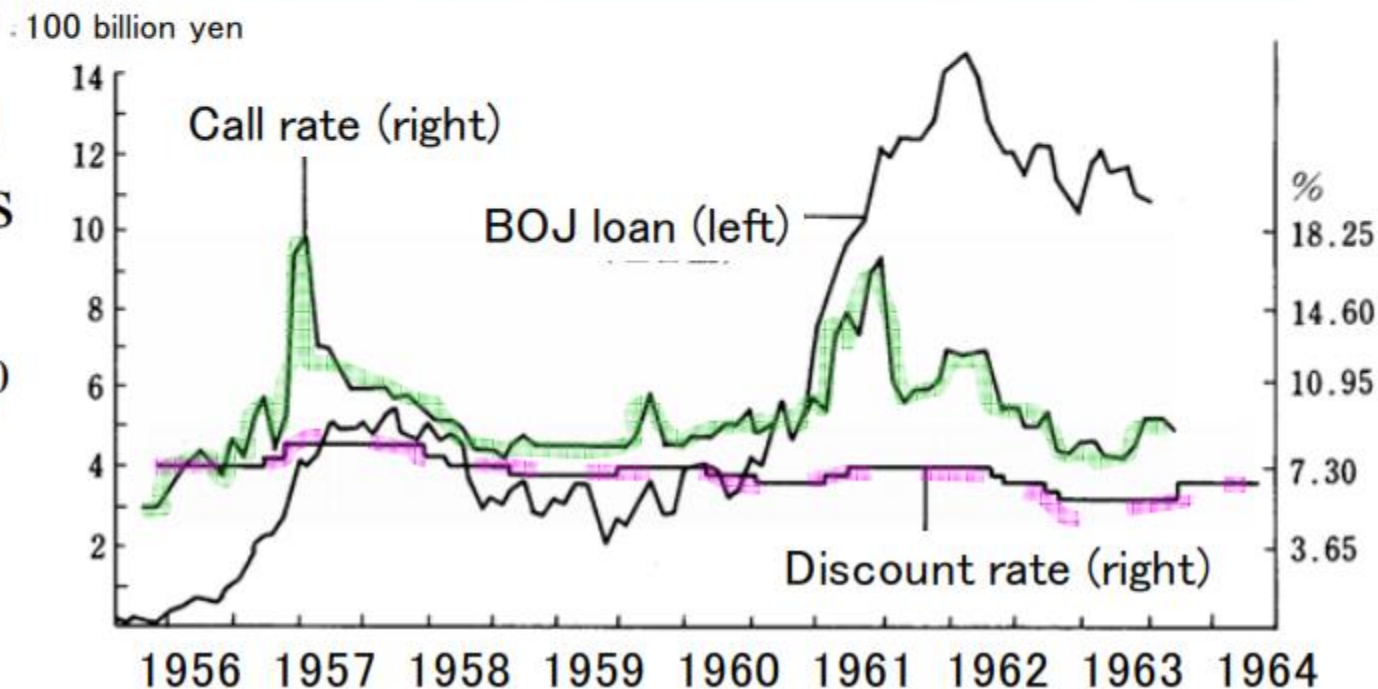
Regulation -- Extraordinary Interest Control Law (1948)

Window guidance -- official discount rate kept low

Interbank 'call' market – higher call rates - incentives for small/regional banks to provide funds for larger banks

Interest rates and BOJ loans

Source: Tomita p.110



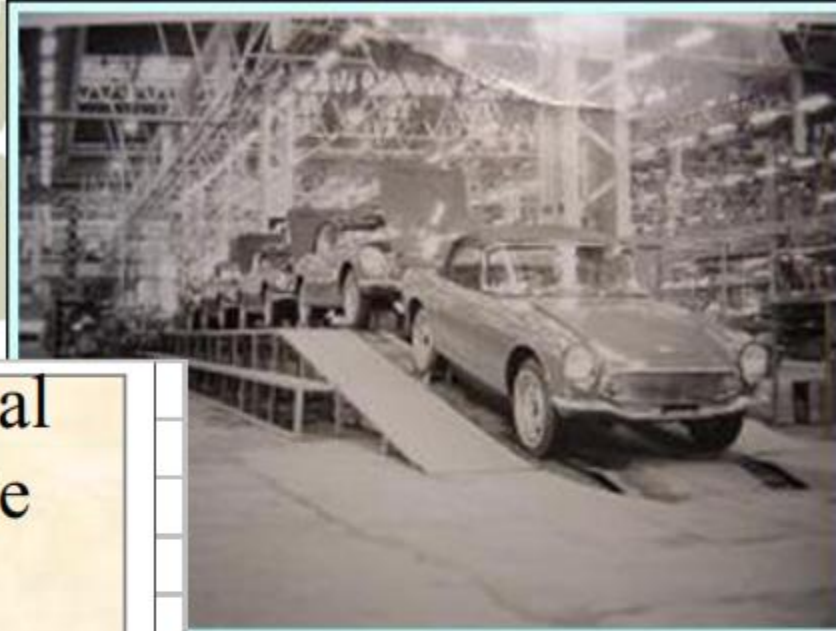
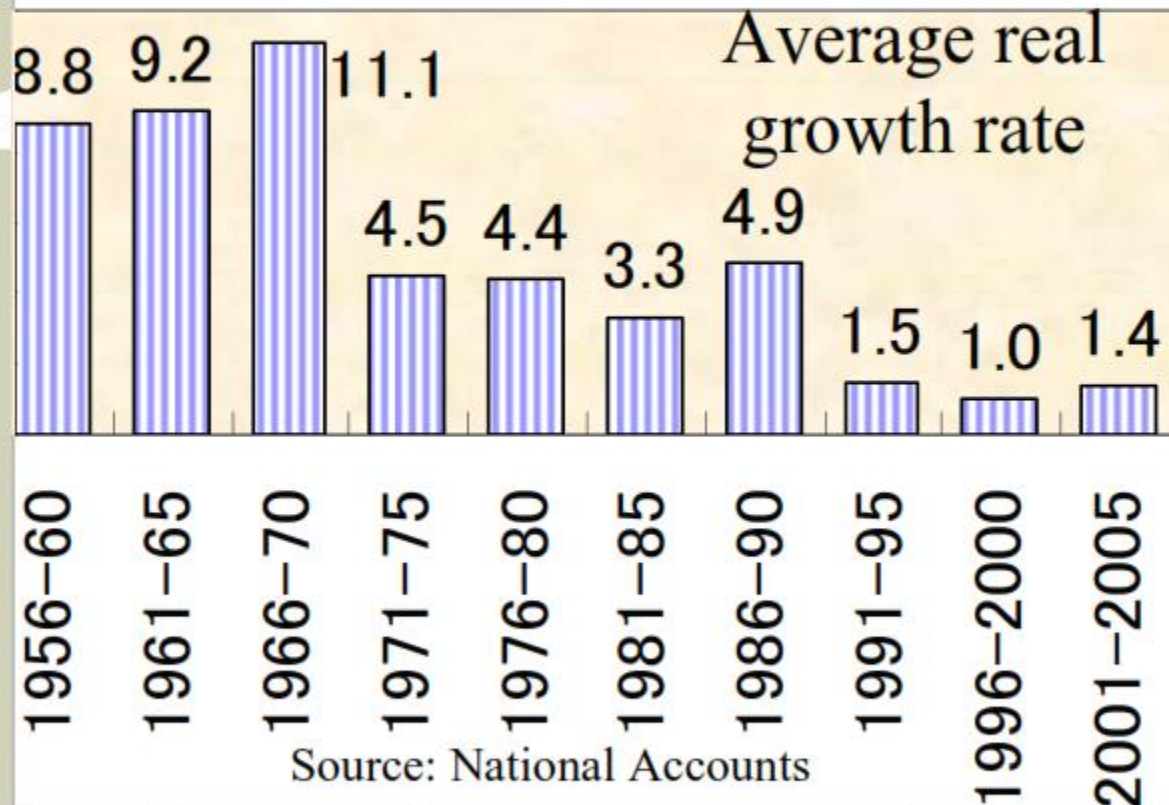


Part II: High Economic Growth Period

(mid 1950s – early 1970s)

2-1 Entering Virtuous Cycle

Period of rapid growth (1955--1970)



Dual structure -- lower productivity and poorer working conditions
in small businesses, consumption-goods and service sectors
National consensus -- trickle-down strategy

2-2 Demand and supply side factors for rapid growth

- **Demand side**
 - **Shortage of production capacity – investment demand**
 - **New consumer durables – consumer demand**
 - **Increased Quality and undervalued exchange rate – export expansion**
- **Supply side**
 - **Innovation seeds from overseas**
 - **Growth of working-age population and its migration**
 - **Increase in household savings**
 - **Rise in education attainment to enhance human capacity**

National Income Doubling Plan (1961-70): great success

2-3 Rapid growth as a “catching-up” process

Catching-up process

Goal of development

Consensus formation

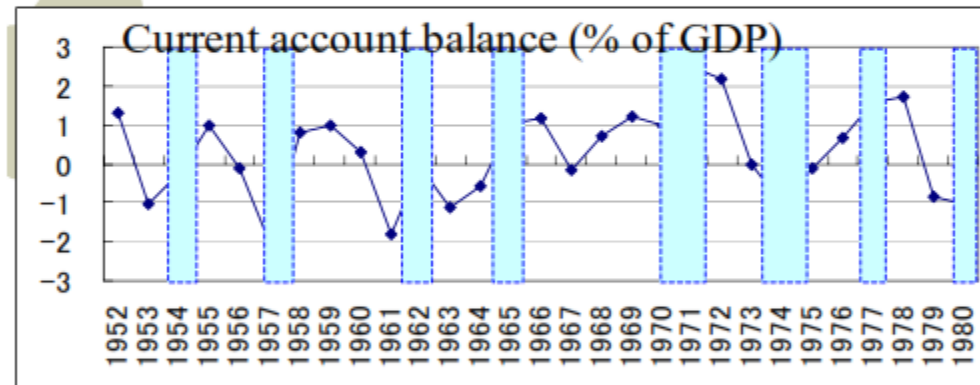
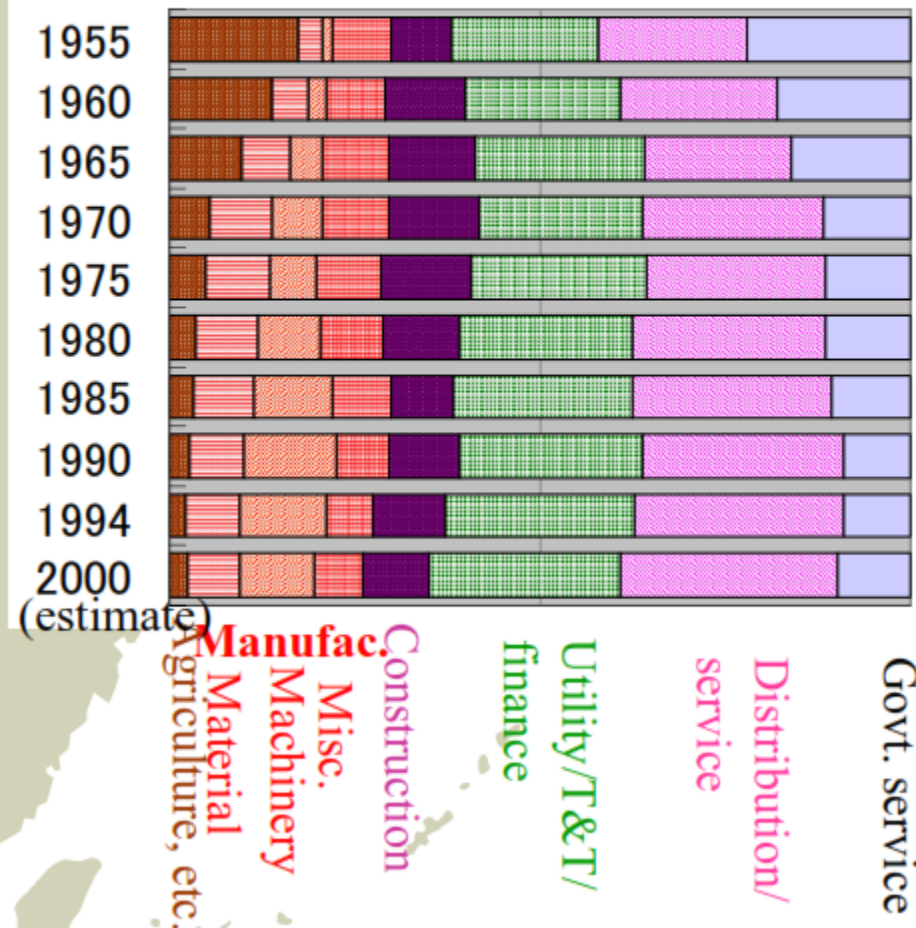
Advantage of latecomers

- introduction of technology and process innovation
- lower business risks
- incentive for innovation and quality control through competition in foreign market

2-4 Industrial Development and Market Opening

Protection of infant industries through foreign currency quota

“Ceiling of the balance of payment”



Protection of infant industries through foreign currency quota

2-5 Market Opening in the 1960s

Market opening on a scheduled, step-by-step basis

Foreign trade

1960: Trade Liberalization Program

“Positive list” ⇒
“Negative list”

Foreign currency quota ⇒
Automatic approval

Import liberalization ratio

1959	1966
34%	93%

Foreign exchange

1960
Restoring yen's
convertibility

1964
Accepting
IMF Code
Article 8

Inward FDI

1967~1970
Basic Program for
Capital Account
Liberalization

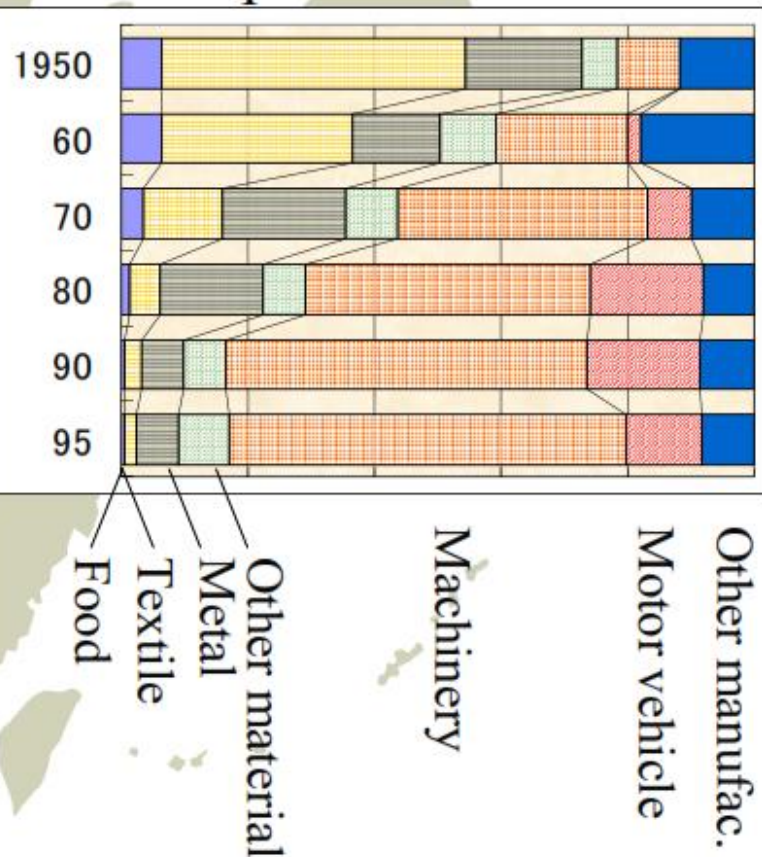
1970
Majority foreign
ownership was
allowed in
80% of
industries

2-6 Changes in Japan's Comparative Advantage

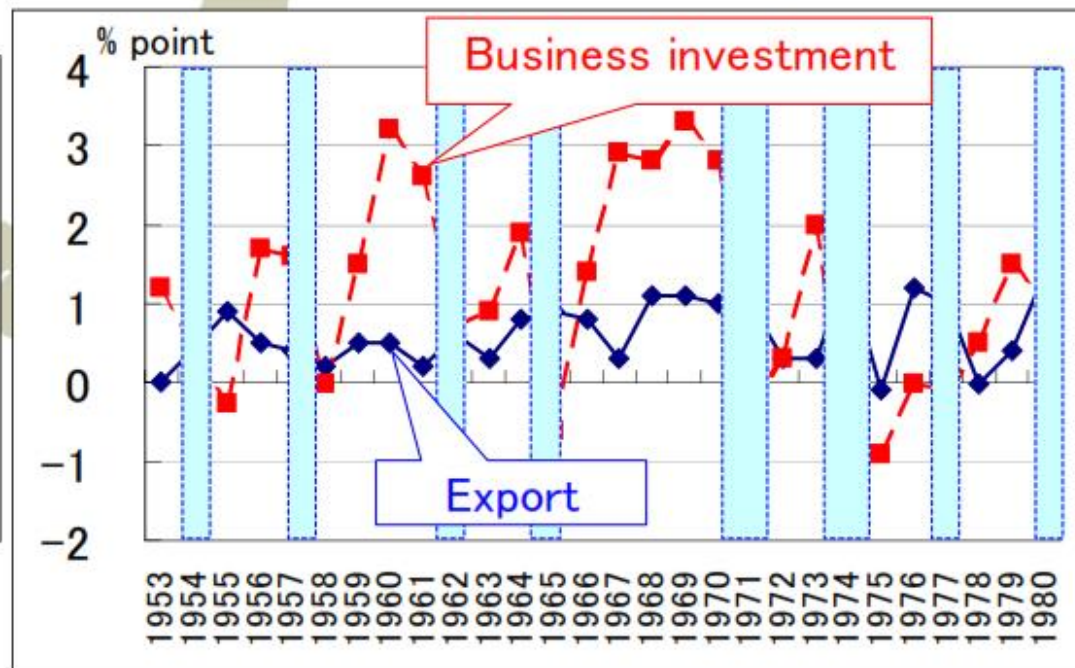
Changes in trade structure
and positive adjustments

Export-led growth?

Export structure



Contribution to GDP growth



Source: SNA
1953-55: older SNA

2-7 Balanced Budget and Issuance of Gov't Bond

Balanced budget

1947: Budget Law -- Prohibiting “deficit financing bonds”

1949: Attainment of balanced budget on consolidated basis

Bond issuance

1965 recession

Perception of the end of
investment-led growth

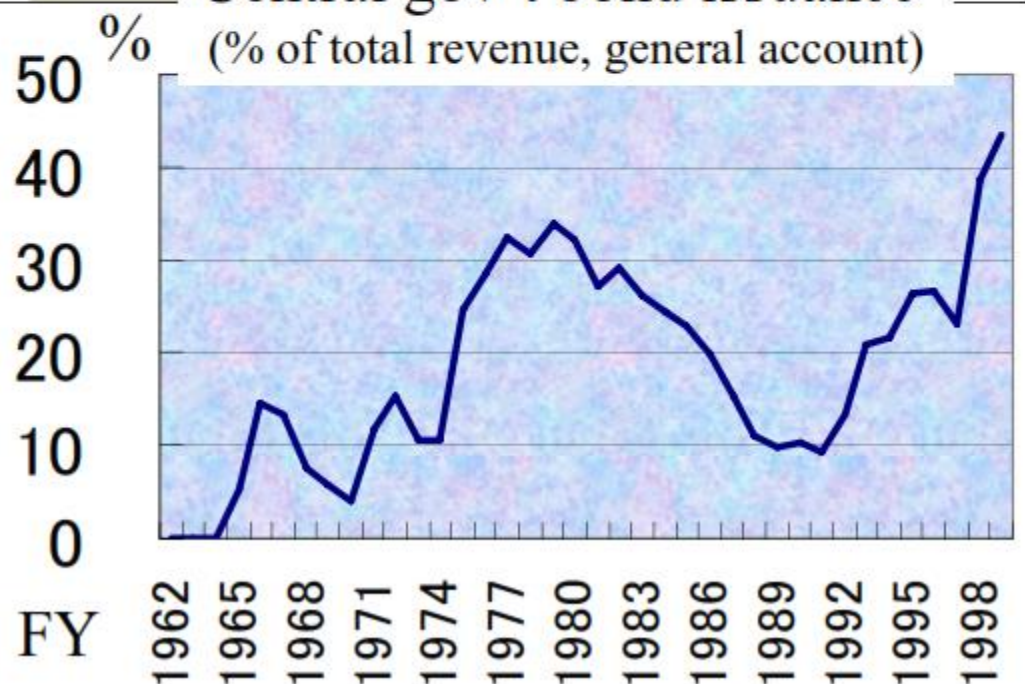
Issuance of deficit
covering bond

1966~

“Construction” bond

Central gov't bond issuance

(% of total revenue, general account)



2-8 Role of Economic Planning

14 economic plans officially adopted

Economic plans in a free market economy

‘Indicative-type’ rather than ‘Command-type’

Sharing of information between the government and the public (business and household sectors)

- Medium-run development scenario the government assumes, including target economic growth rate and other indicators
- Medium-run economic policy stance and policy priority, including allocation of funds for investment in social overhead capital
- Economic behavior of household and business sectors that the government deems desirable

Examples of Adopted Economic Plans

Name	Plan period	Major purposes	Growth target /actual growth
1.Economic Self-Reliance Plan	1956 ~1960	Economic self-reliance Full employment	4.9% 8.8%
3.Doubling National Income Plan	1961 ~1970	High growth Higher living standard	7.8% 10.0%
5.Economic and Social Development Plan	1967 ~1971	Balanced and fulfilled economy/society	8.2% 9.8%
7.Economic and Social Basic Plan	1973 ~1977	People's welfare International relations	9.4% 3.5%
8.Economic Plan for 2 nd Half of the 1970s	1976 ~1980	Stable development Fulfilled people's living	6%+ 4.5%

Part III:
Socio-Economic Outcome
of Rapid Growth

(– 1970s –)

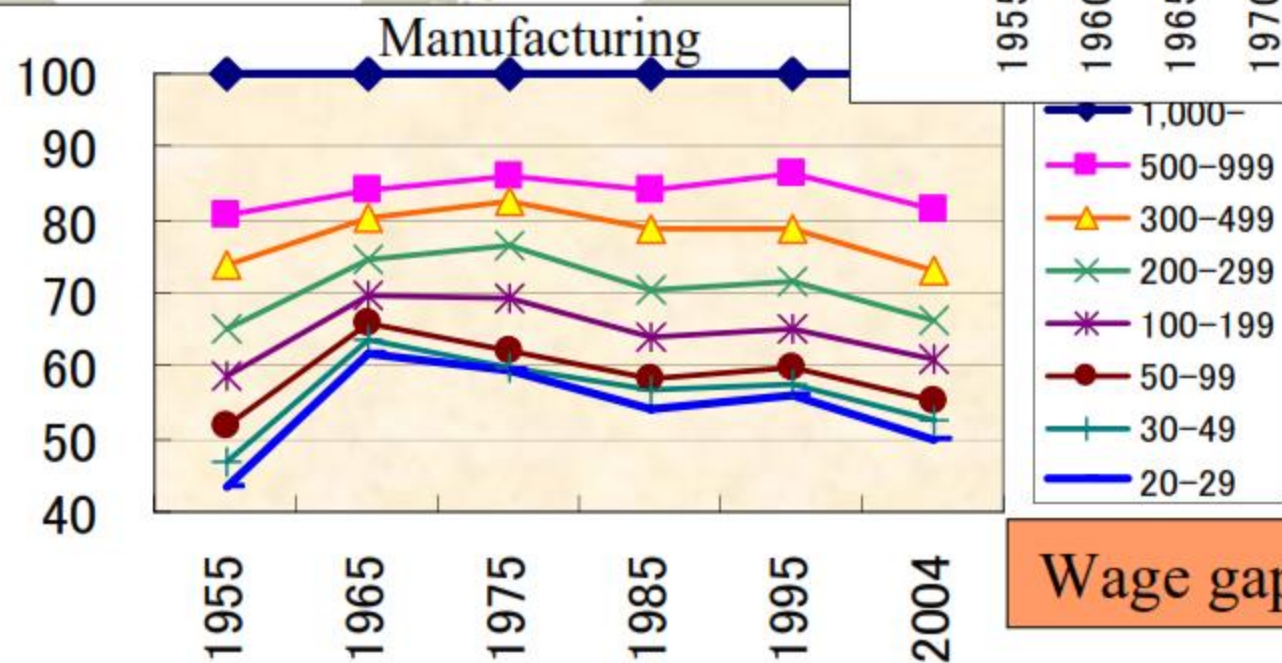
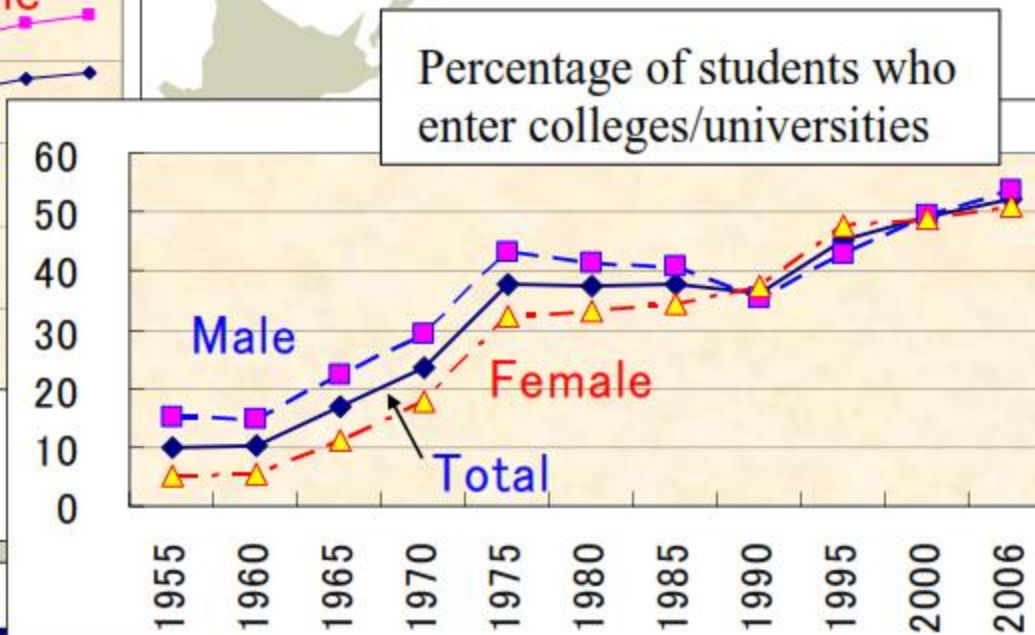
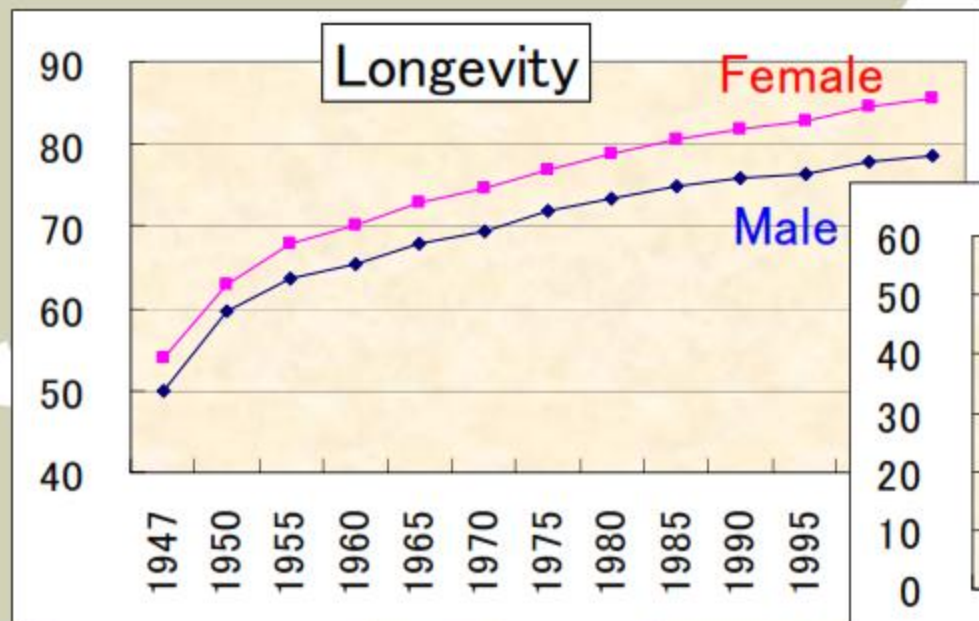
3-1 Socio-Economic Transformation

Employment share	1955	1970
Primary industry	41.3%	19.7%
Secondary industry	24.9%	35.3%
Tertiary industry	33.8%	45.0%

- Labor market – labor surplus to labor shortage
 - Wage increase – productivity-differential inflation
- Infrastructure
 - *Tokaido* bullet train; *Meishin* super highway
 - Physical transportation modes – motorization
- Negative side
 - Underdevelopment of social overhead capital (infrastructure) for better living
 - Overpopulation in urban areas and depopulation in rural areas
 - Environmental degradation
- Public pension system extended to self-employed



3-2 Positive Outcomes of the Rapid Growth

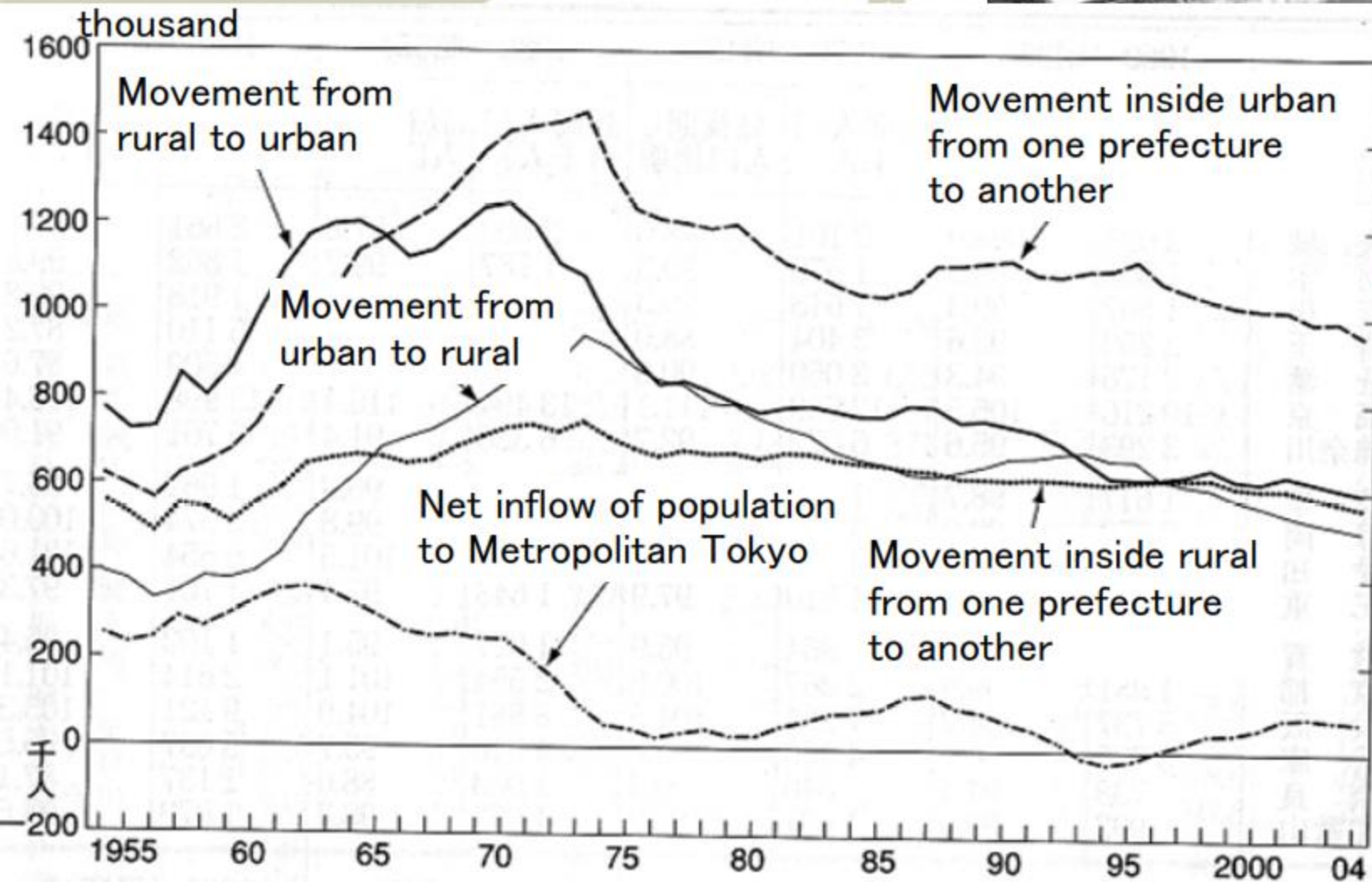


Wage gap by size of company

3-3 Negative Outcomes of the Rapid Growth

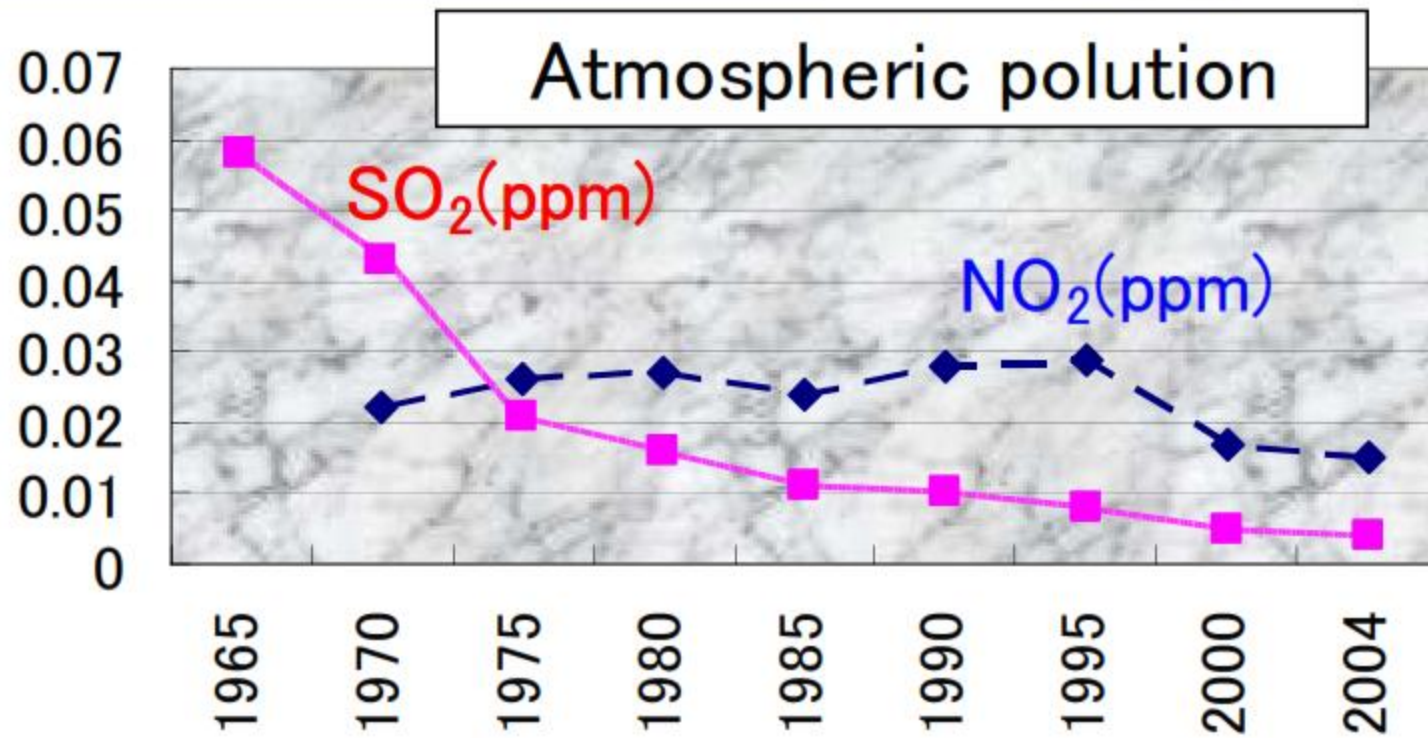
(1) Overpopulation and Depopulation

八代熊本門司方面
FOR YATSUSHIRO
KUMAMOTO & MOJI

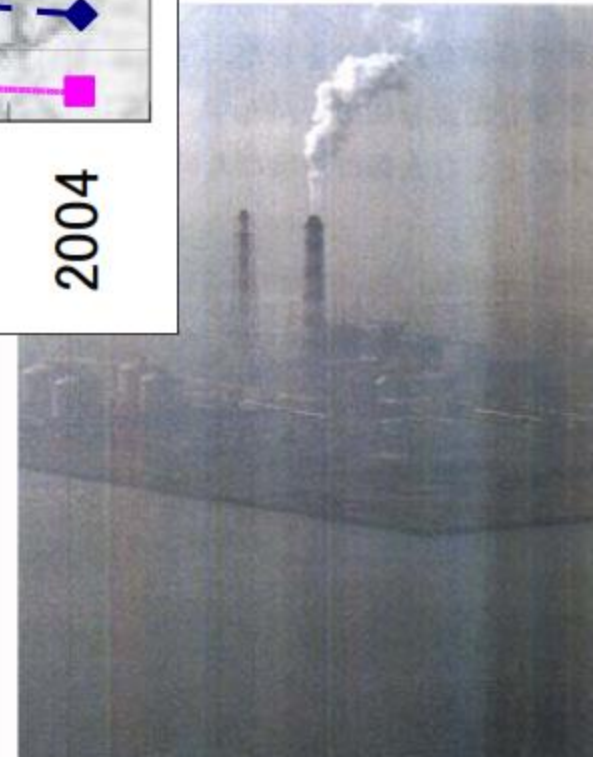


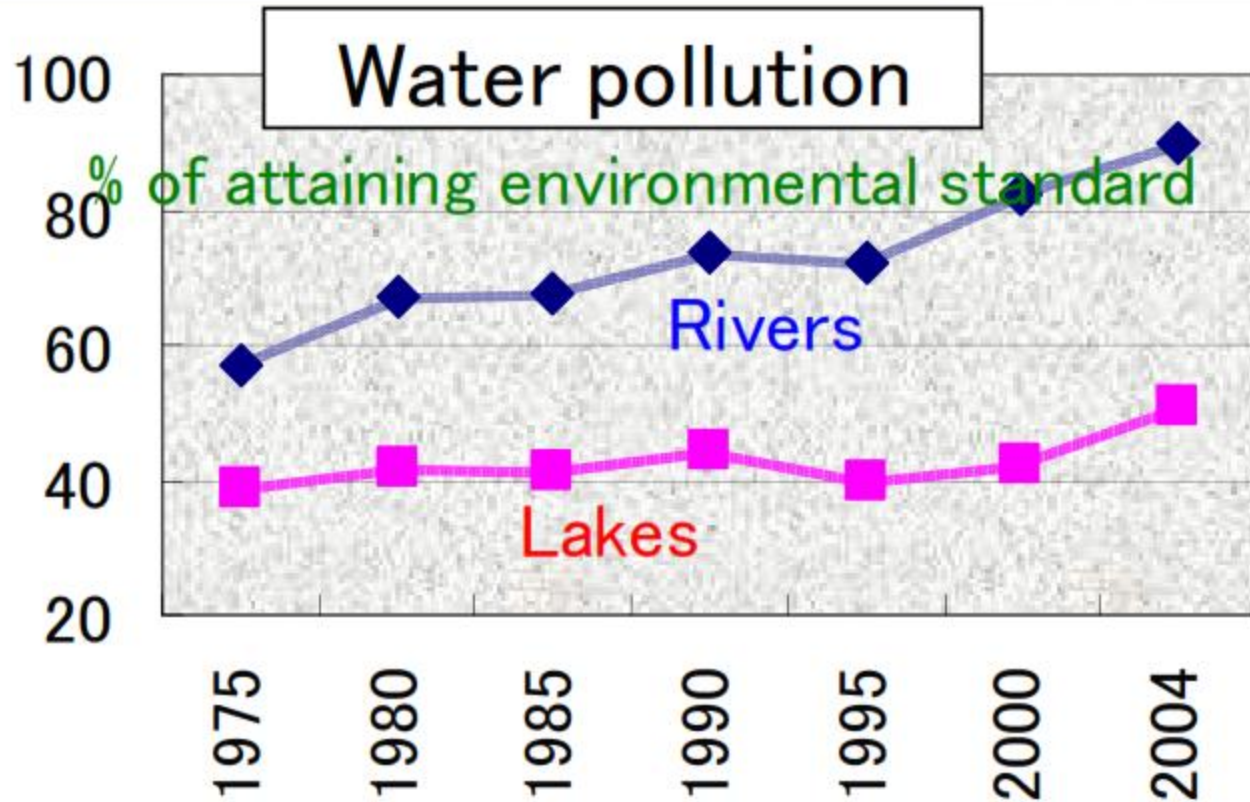
3-3 Negative Outcome of the Rapid Growth

(2) Environmental degradation

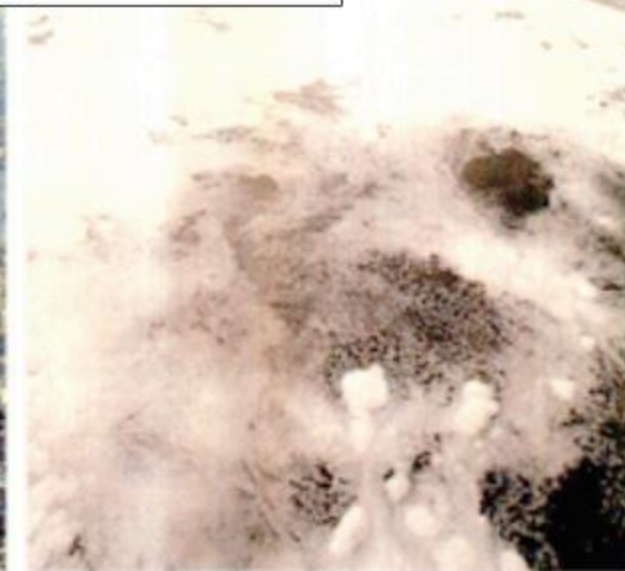


Source: Ministry of Environment

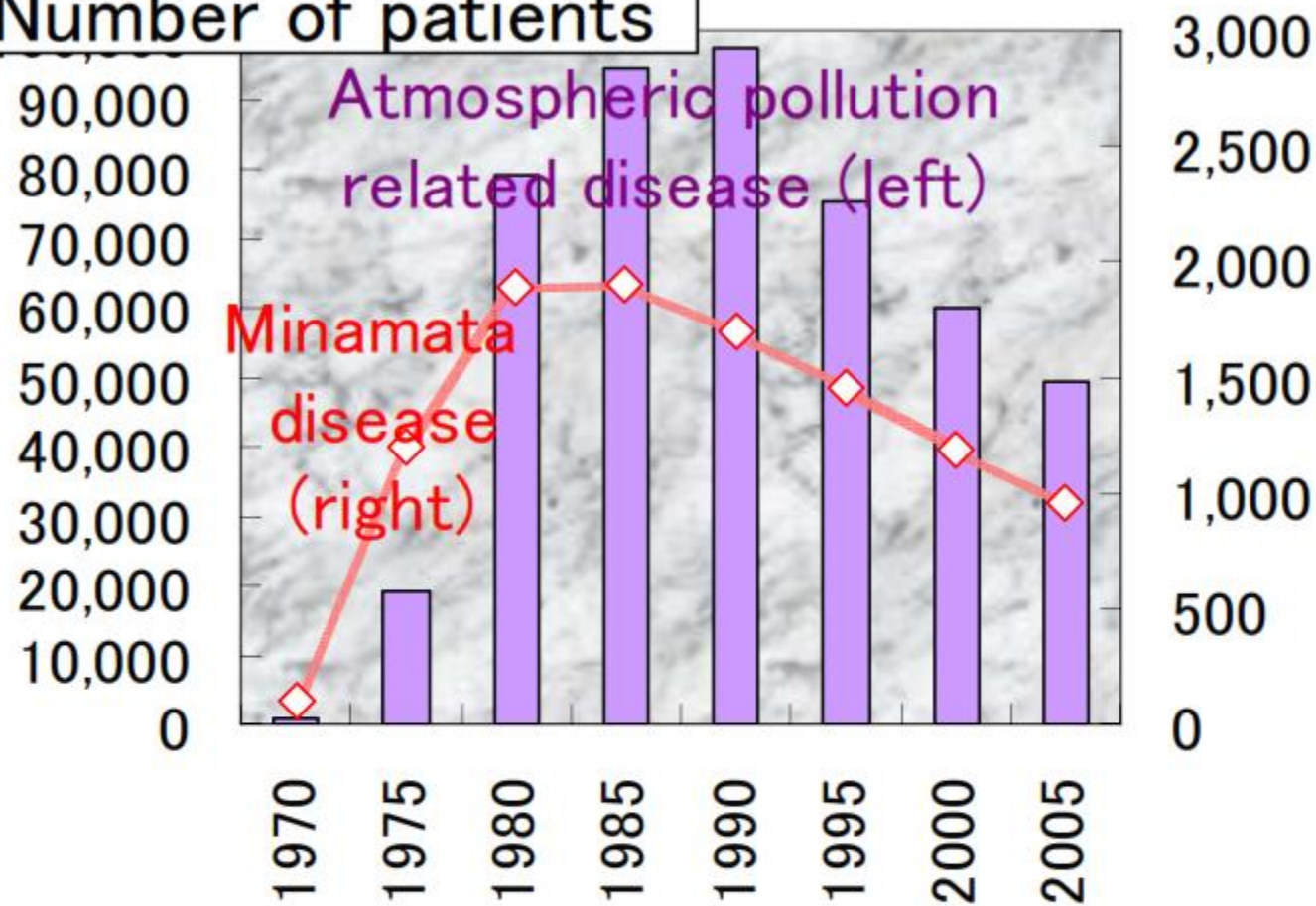




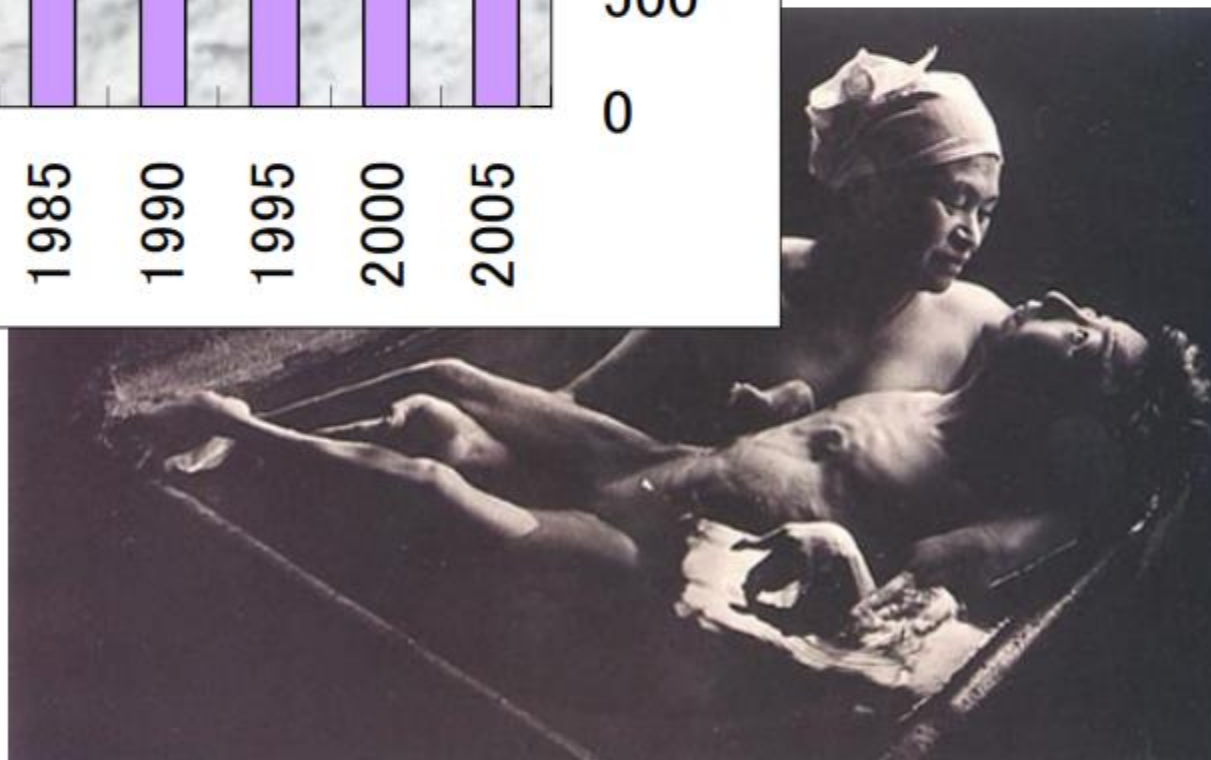
Source: Ministry of Environment



Number of patients



Source: Ministry of Environment



3-4 Gaps between Manufacturing and Non-Manufacturing Sectors

Manufacturing sector -- productivity growth
Non-manufacturing sector -- stagnant productivity

-- preferential financial and foreign exchange allocation
-- difference in market competitiveness

Manufacturing

Non-manufacturing

Catch-up process

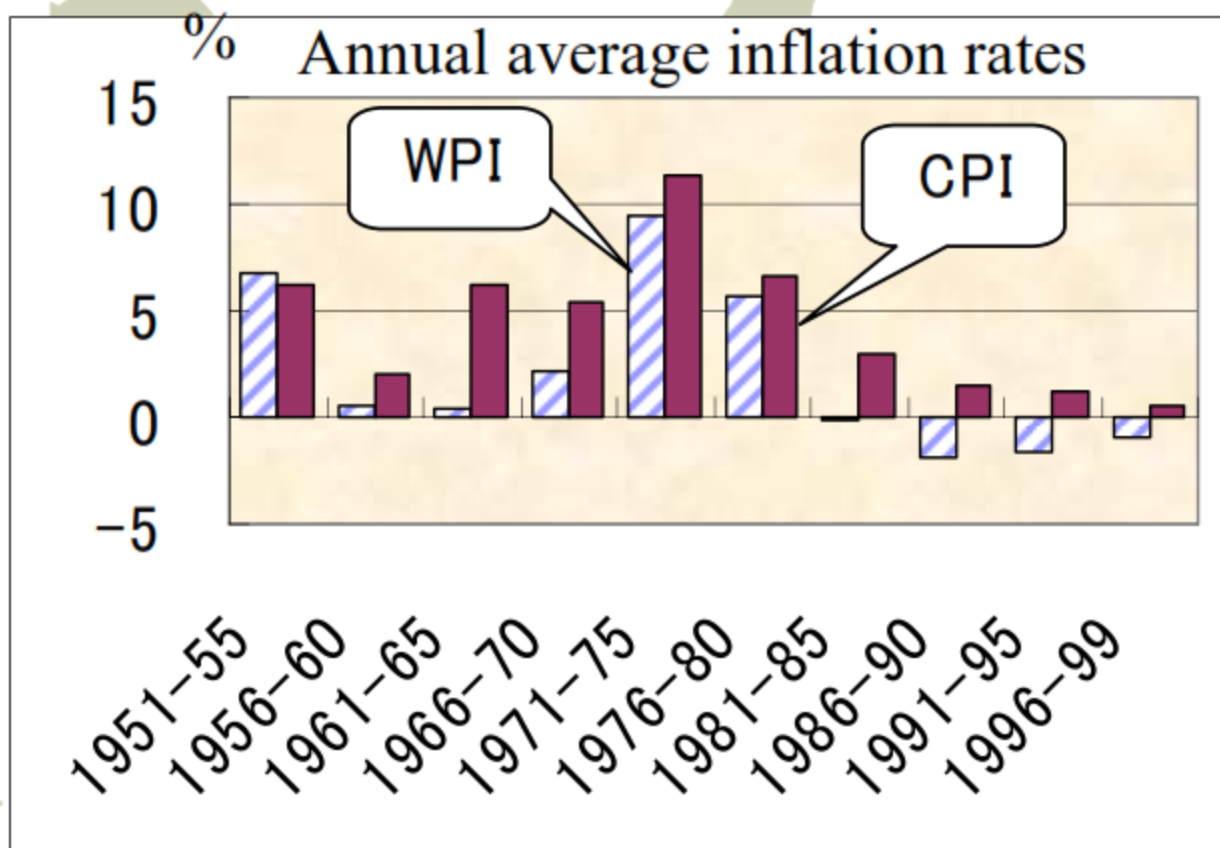
Japanese-style market system

International competition

Regulation and protection

Relatively low productivity growth in the non-tradable sector and resultant mild inflation

BOJ's accommodative monetary policies effectively stimulated corporate profits, investment, employment, and consumption



Annual growth of total factor productivity

	1955-70	1970-80	1980-95
Manufacturing	6.0	2.1	2.3
Light manufacturing	2.7	1.7	0.2
Materials	9.2	-1.9	0.6
Machinery	11.9	7.6	5.5
Non-manufacturing	4.2	0.3	0.3
Construction	2.7	-2.9	0.3
Finance/utility/T&T	6.4	1.8	0.7
Distribution & service	3.3	-0.1	0.2

Part IV:
Japanese-Style Market System
For a
Miracle Recovery

4-1 Elements of Japanese-Style Market System

Employment system
Main-bank system
Corporate management
Cross share-holding
Parts supplier Keiretsu
Industrial policy/regulation

**‘The 1940 Regime’
originated just
before WWII
Adjusted by themselves
after the war**

**Long-term relations
Organizational trade
Stability-oriented**

**Interventionist
government**

Development of Japanese-style Market System = **The 1940 Regime**

The 1940 Regime [Yukio Noguchi (2002)]

- **Main-bank system**
 - 1941: syndicate loan group w/ the leadership of IBJ
 - 1942: examination departments in commercial banks
- **Corporate governance** – 1939: dividend regulation
- **Employment practice** – 1937: intra-firm labor unions;
1939: wage increase regulation (annual wage hike)
- **Parts supplier keiretsu** – established during war-time
- **Industrial policy** – 1941: regulation of industries
- **Taxation** relying on income tax – 1940: withholding tax

Corporate governance built on **cross share-holdings**

Substitute for
Zaibatsu
Prevention of
M&As

- Autonomy of corporate managers
- Long-term management perspective
- Low capital cost of equity finance

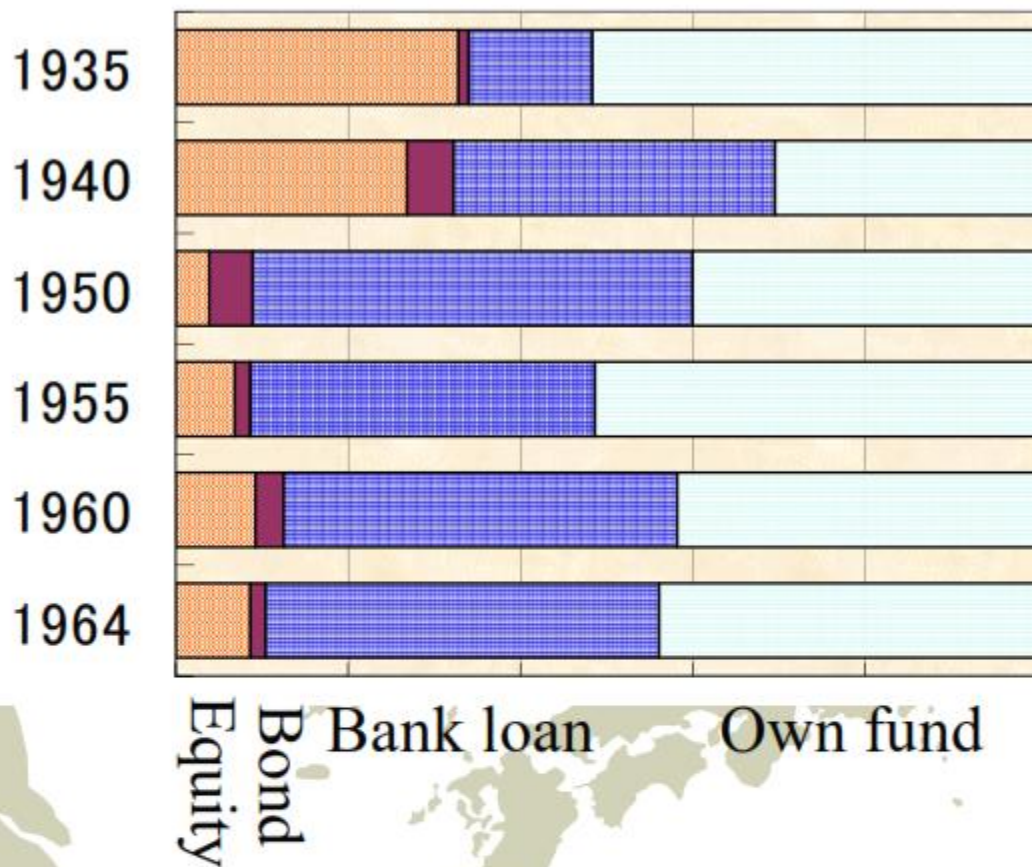
	1987	1995	1999
Shares issued by business companies			
Ratio of shares held by <i>stable</i> holders	29.7%	28.7%	27.9%
<i>of which</i> held by financial institutions	22.0%	20.1%	12.9%
Shares issued by banks			
Ratio of shares held by <i>stable</i> holders	55.7%	53.3%	45.6%
<i>of which</i> held by business companies	34.4%	32.9%	28.5%

Source: NLI Research Institute (adjusted series for changes in disclosure rules)

Corporate finance relying on banking sector

- **Functions of the 'main-bank system'**
 - **Saving of costs associated with asymmetry of information**
 - Screening and monitoring
 - Signaling to other financial institutions
 - Corporate governance
 - **Insurance to corporate management risks**
 - **Information exchange**

Financing Sources of industrial investment



“Convoy” system
tight regulation

Before the war:
Equity finance
dominant

During the war:
Banking was
promoted

After the war:
Bank finance
Main-bank system

Labor market practices based on long-term employment

- **Japanese-style employment practices**
 - Long-term or 'life-time' employment
 - Wage increases and promotions based on seniority
 - On-the-job training (OJT)
 - Intra-company labor unions
- **Rationality of long-term employment**
 - Accumulation of company-specific skills and technology
 - Smooth transfer of skills from one employee to another
 - Smooth introduction of new technology
 - Saving of workers' transition costs of changing jobs
 - Less need to monitor workers

Part V:
**The Evolution of the
Japanese Development Model**

**End of Catching-Up Process
Bubble Economy
(1970s – 1980s)**

**

**Lost Decade and Beyond
(1990s -)**

5-1 Failure to Adjust to Post-Catch-Up Era

The end of the “catch-up” process
Survival of the Japanese-style economic system and practices
Strengthened by the success in overcoming the oil crises

Implicit goals shared by
all segments during
the “catch-up” period



To attain success
-- consensus formation
-- coordinated actions

Japanese-Style
Market System
-- long-term relations
-- information sharing



Post-catch-up period
Common goal disappeared



Autonomous action
Top management forced to
steer the ship

Manufacturing: adjustments to changing environment

- persistent appreciation of yen
- industrialization of Asian economies

Long-term employment

- survived, taking advantage of OJT
- (after bubble burst)
- increased share of part-time or temp workers

Parts-supplier “keiretsu”

- survived, taking advantage of information sharing
 - strengthened bargaining power of suppliers
- (after bubble burst)
- transforming into a more market-oriented network

Main-bank system

- lowering of big Businesses’ reliance on bank loans
- (after bubble burst)
- consolidation in the banking sector itself

Non-manufacturing: delay in adjustments

- weaker market competition
- lack of global competition
- public regulations

High costs imposed on

- consumers
- tradable sector businesses
- business startups
- inward FDI

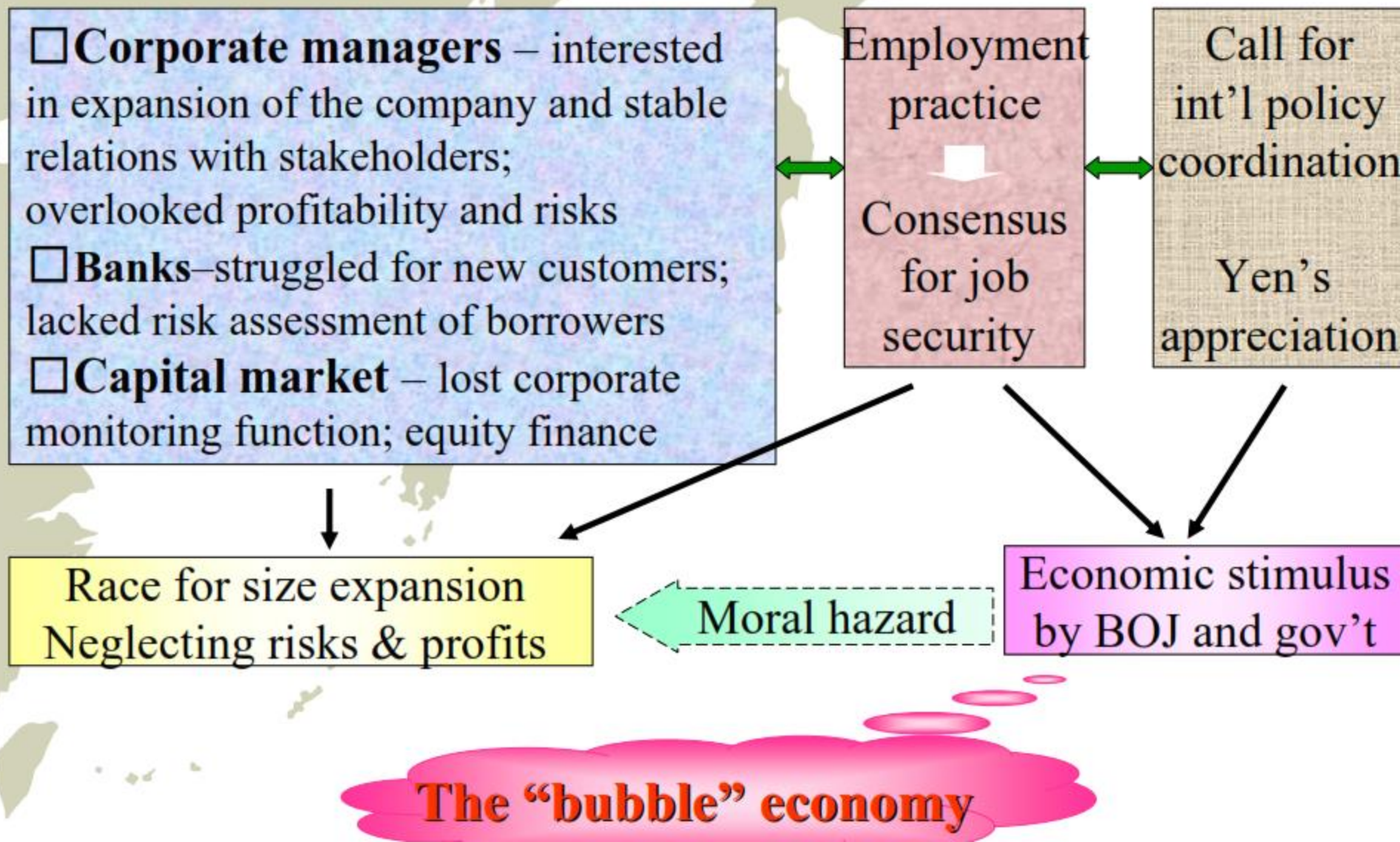
Changes in Environment

- globalization
- developments of IT
- FDI

Necessity of

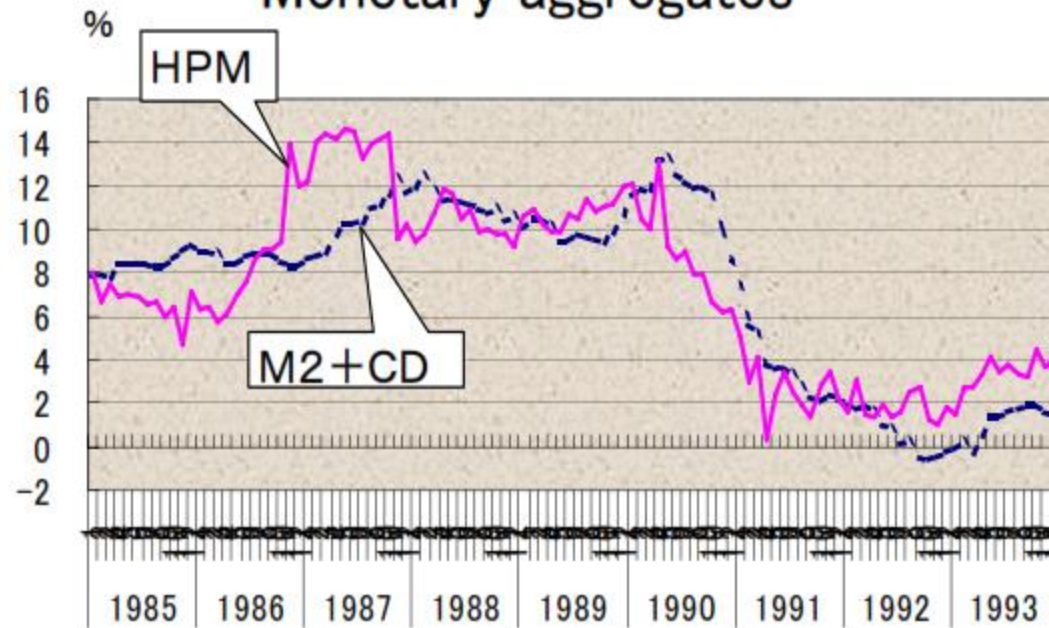
- creativity
- risk-taking

5-2 Japanese (poor) corporate governance that caused the bubble

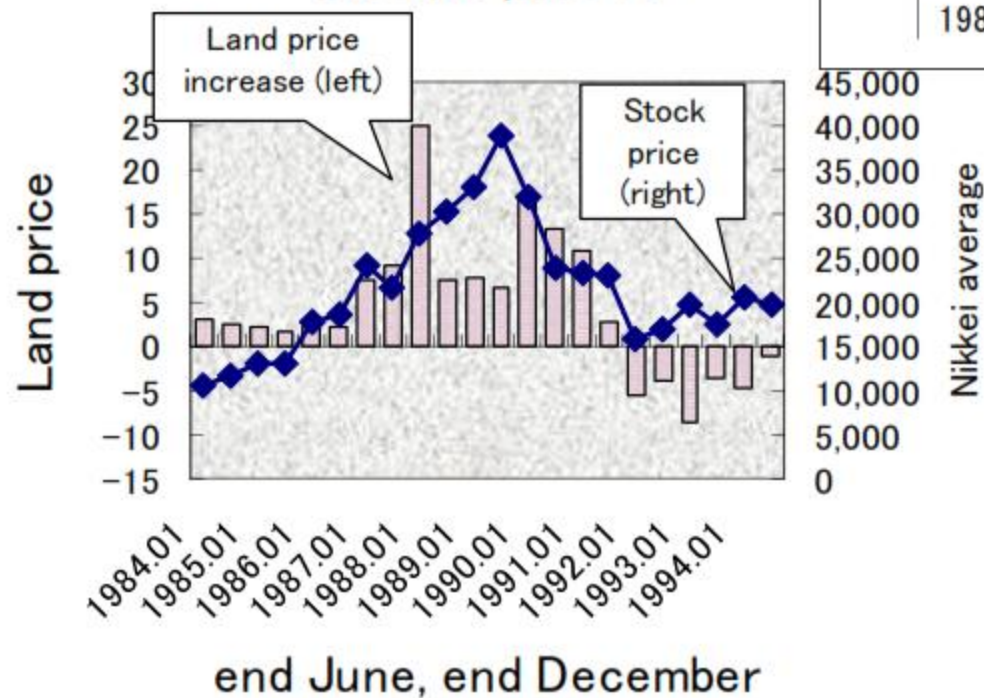


5-3 Emergence of the 'bubble'

Monetary aggregates



Asset prices



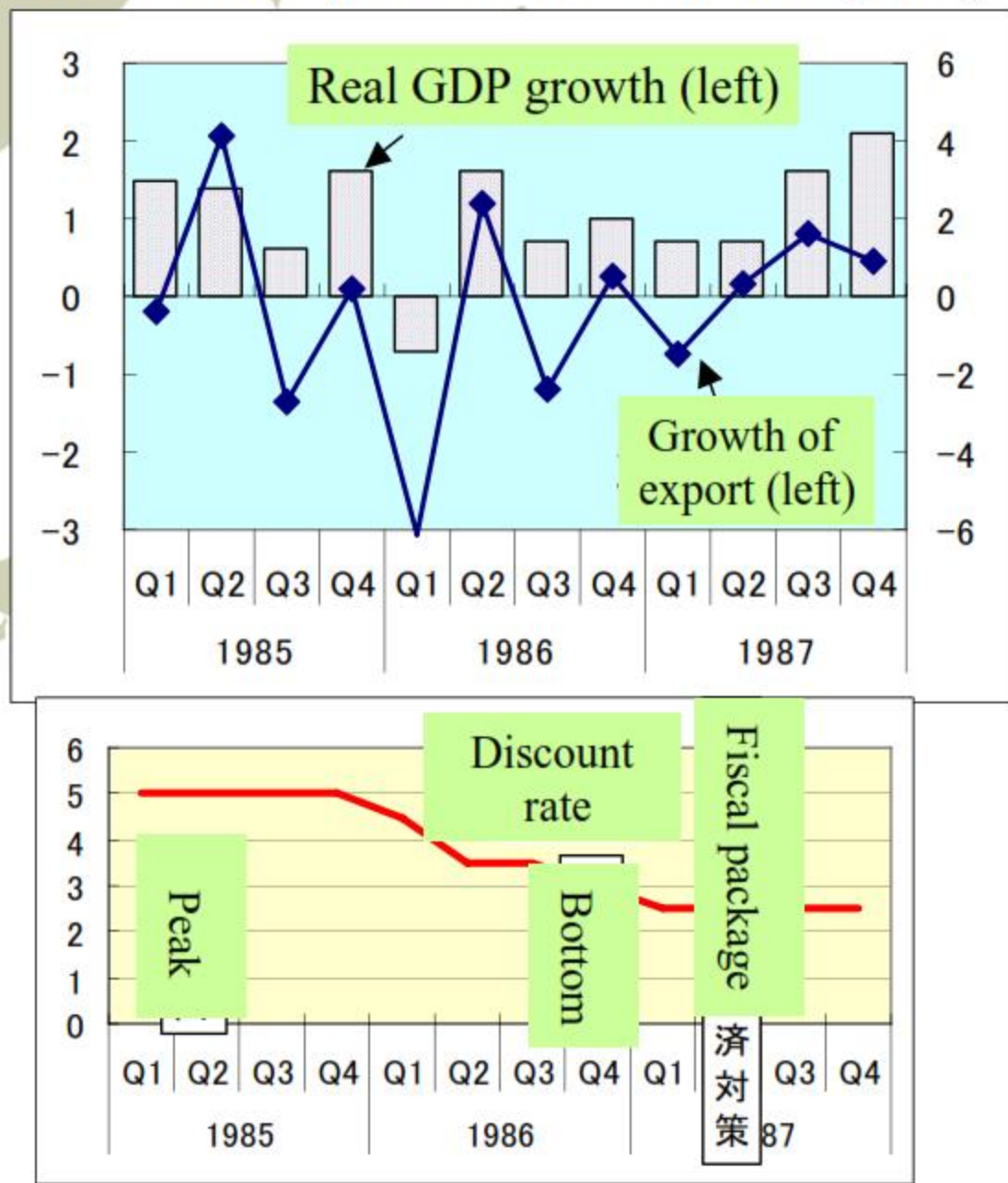
Macroeconomic Policy that fueled speculative bubble

- Reaction to yen's appreciation
- "Black Monday"

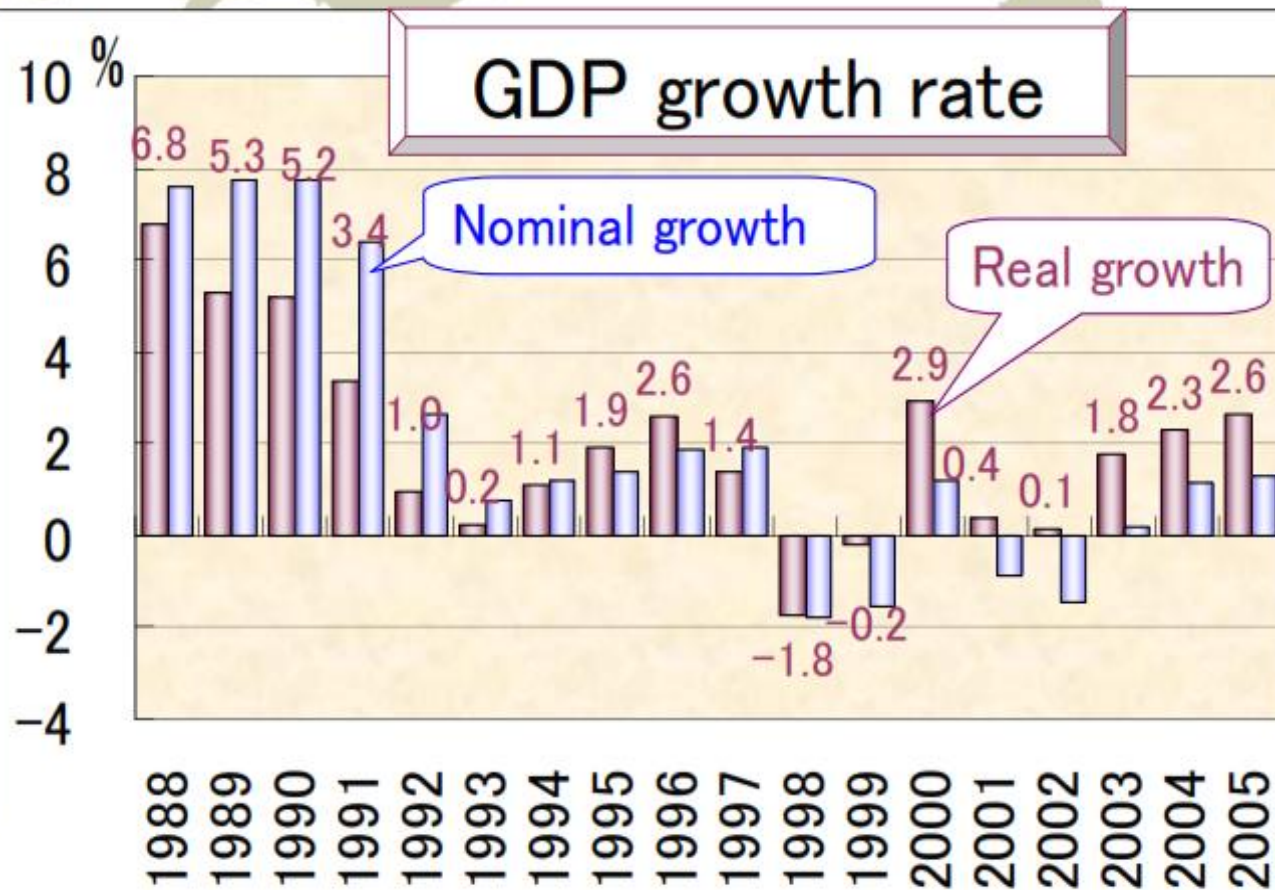


- Low interest rates remained until 1989
- Fiscal stimulus in 1987

Accommodative macroeconomic policy



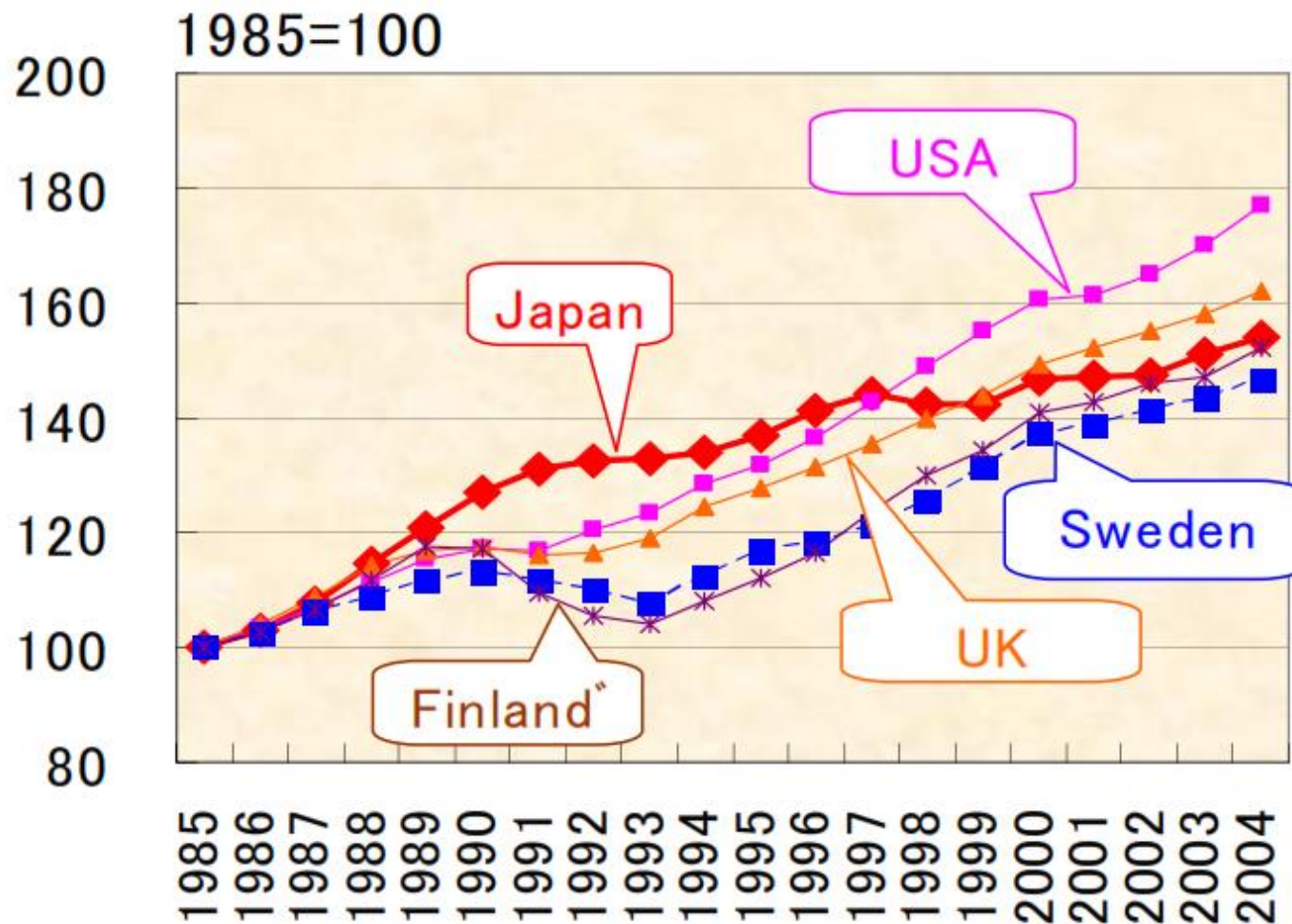
5-4 Burst Bubble and the 'Lost Decade'



Average annual growth rate	
1956 ~ 60	8.8%
1961 ~ 65	9.2%
1966 ~ 70	11.1%
1971 ~ 75	4.5%
1976 ~ 80	4.4%
1981 ~ 85	3.3%
1986 ~ 90	4.9%
1991 ~ 95	1.5%
1996 ~ 2000	1.0%
2001 ~ 05	1.4%

5-5 Adjustment process after the bubble burst

Real GDP development in
economies with 'bubble' experience

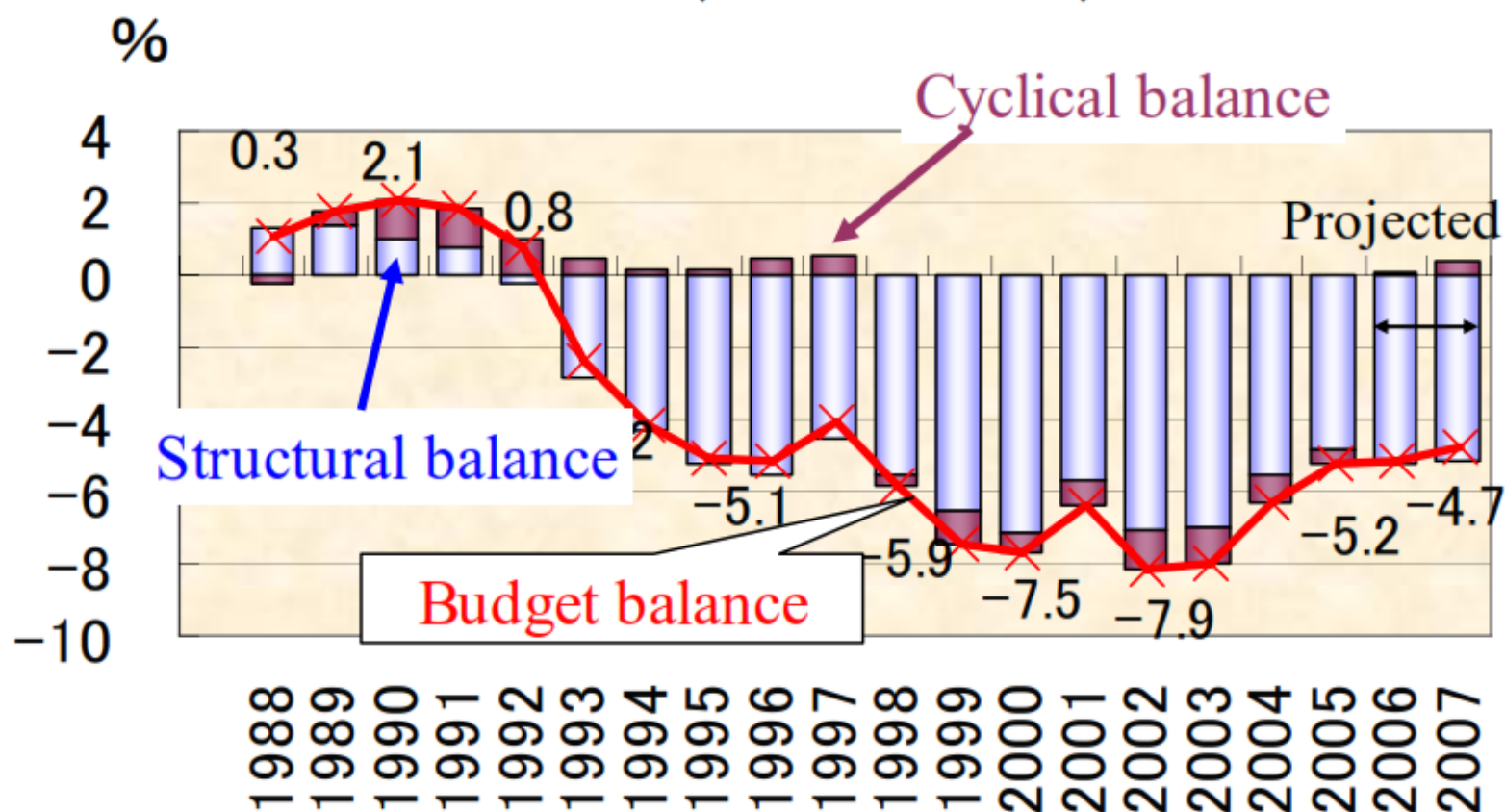


Source: OECD
"Economic Outlook 74
(Dec. 2003)



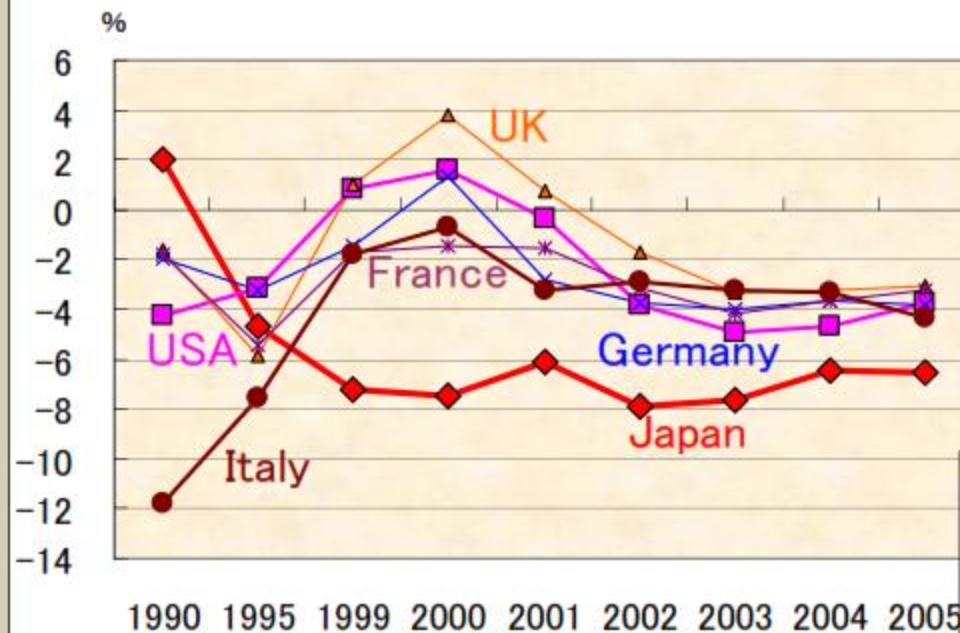
5-6 Deterioration of the government fiscal balance

General government budget balance (% of GDP)



Source: OECD "Economic Outlook 79" (June 2006)

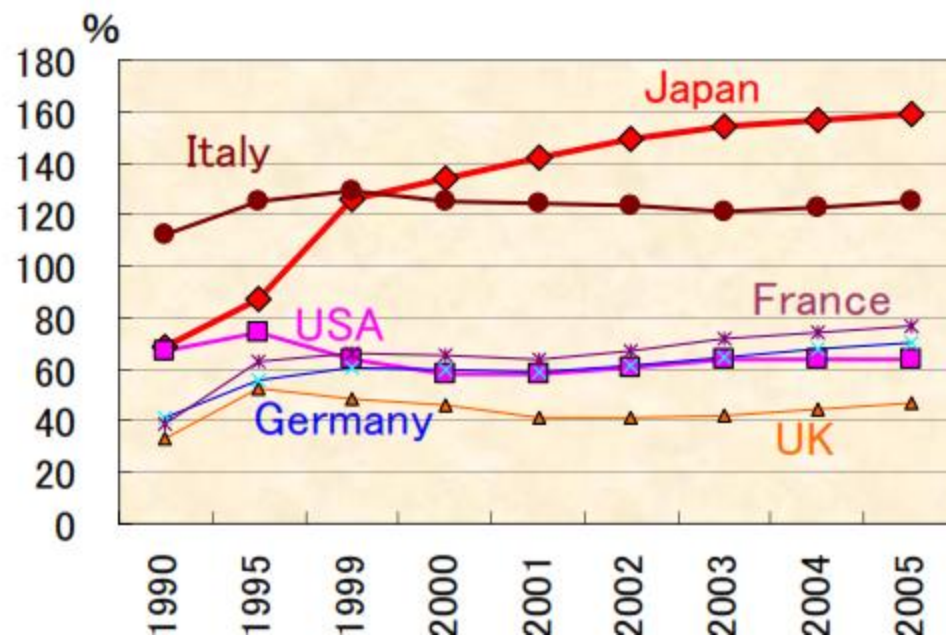
Budget balance (% of GDP)



Source: OECD "Economic Outlook 78"
(Dec. 2005)

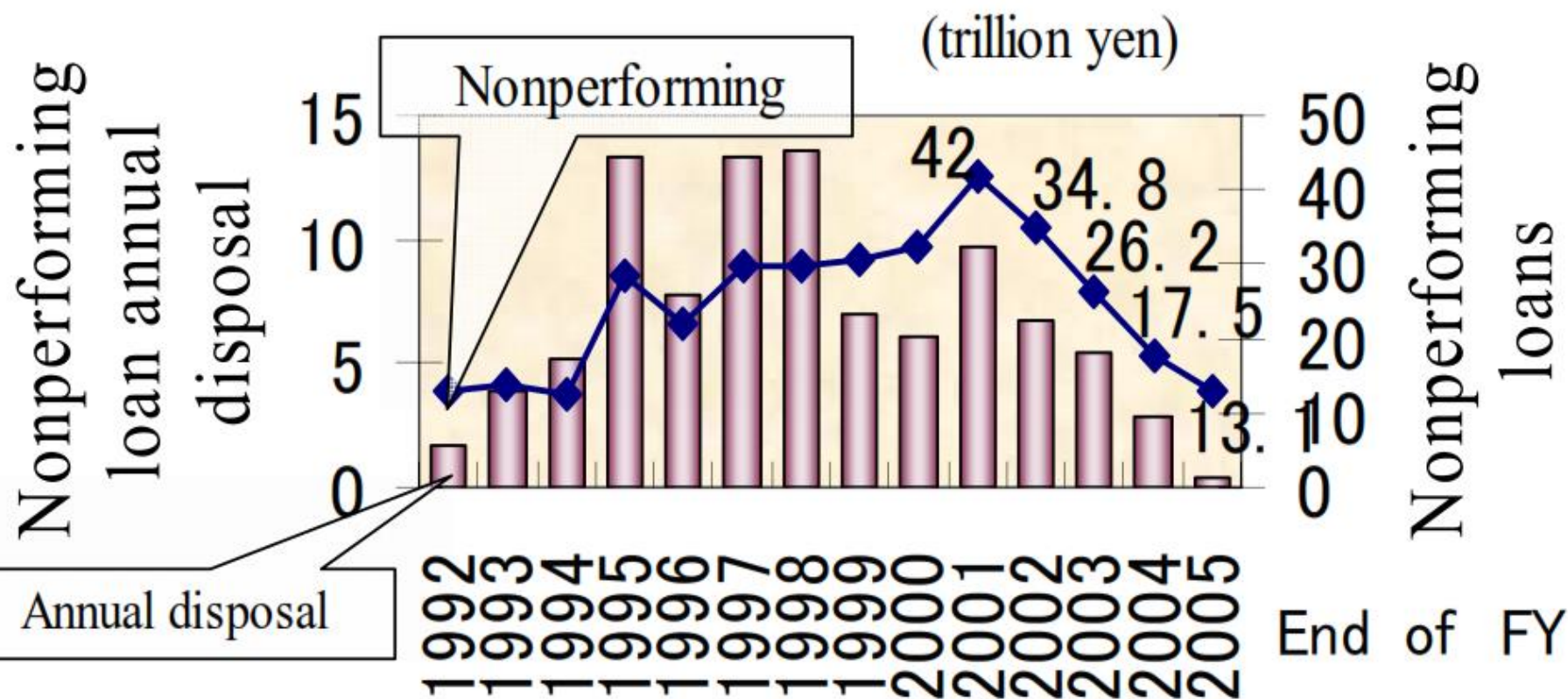
Note: General government budget

Government debt (% of GDP)



5-7 Non-performing loans of financial institutions

Nonperforming loans and disposal



Source: Financial Service Agency

Note: end of fiscal year

Part VI:
Structural Reforms
in
The Japanese Development Model

6-1 Japanese System in Transformation

Employment system
Main-bank system
Corporate management
Cross share holding
Parts supplier Keiretsu
Industrial policy/regulation

Major challenge
IT and globalization
Mega-competition
Aging of labor force
Change of values

**Structural
reform**

○Marketization, competition, choice, diversity, own risk
○Cohabitation and competition of systems
based on comparative advantage

6-2 Weakening of main-bank functions

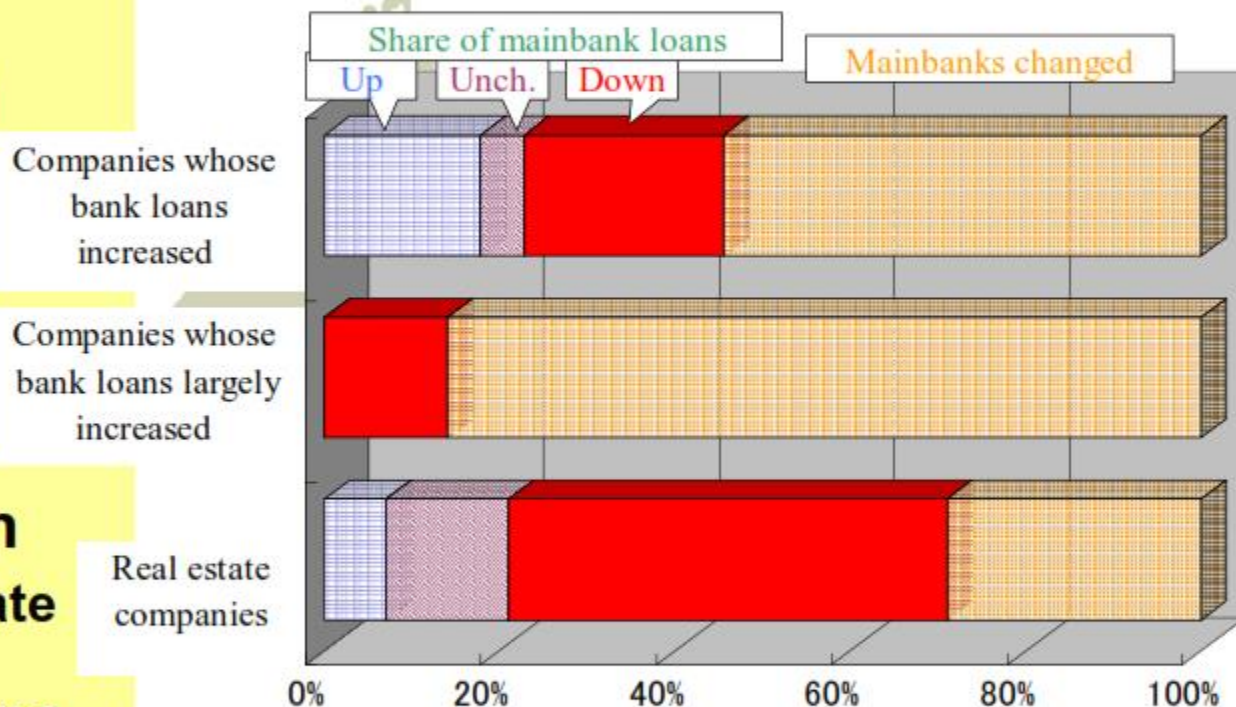
- **Environmental change**

- Financial liberalization
- Strengthening of corporate financial basis
- Growing diversity among banks

- **Weakening of main-bank function**

- Weakening corporate governance and screening/monitoring during the “bubble” period
- Weakening of the insurance function in the 1990s

Banking loan share between 1985~90
among companies expanding loans



Economic white paper 1996

6-3 Declining cross share-holdings

- Lack of corporate discipline during the “bubble”
- Weak capital market governance due to cross share-holding
 - Weak discipline imposed by capital market
- Rapid weakening of cross share-holding

	1987	1995	1999
Shares issued by business corporations			
ratio of stable holders	29.7%	28.7%	27.9%
(of which) held by FIs	22.0%	20.1%	12.9%
Shares issued by banks			
ratio of stable holders	55.7%	53.3%	45.6%
(of which) held by companies	34.4%	32.9%	28.5%

6-4 Weakening of Japanese-style employment practices

- **Aging of workers leading to higher wage cost**
- **Development of “external” labor market**
 - Dependence on part-time and other irregular workers
 - Development of temp services
- **Lowering of growth of corporate size**
- **Changes in industry structure, globalization and IT**
 - Manufacturing industries: skill transfer through OJT, process innovation, and team work
 - Knowledge based industries: higher speed and risk of innovation, leading to more flexible recruitment from external labor market and ability-based wage determination

Comparison of wage profile (production workers in manufacturing)

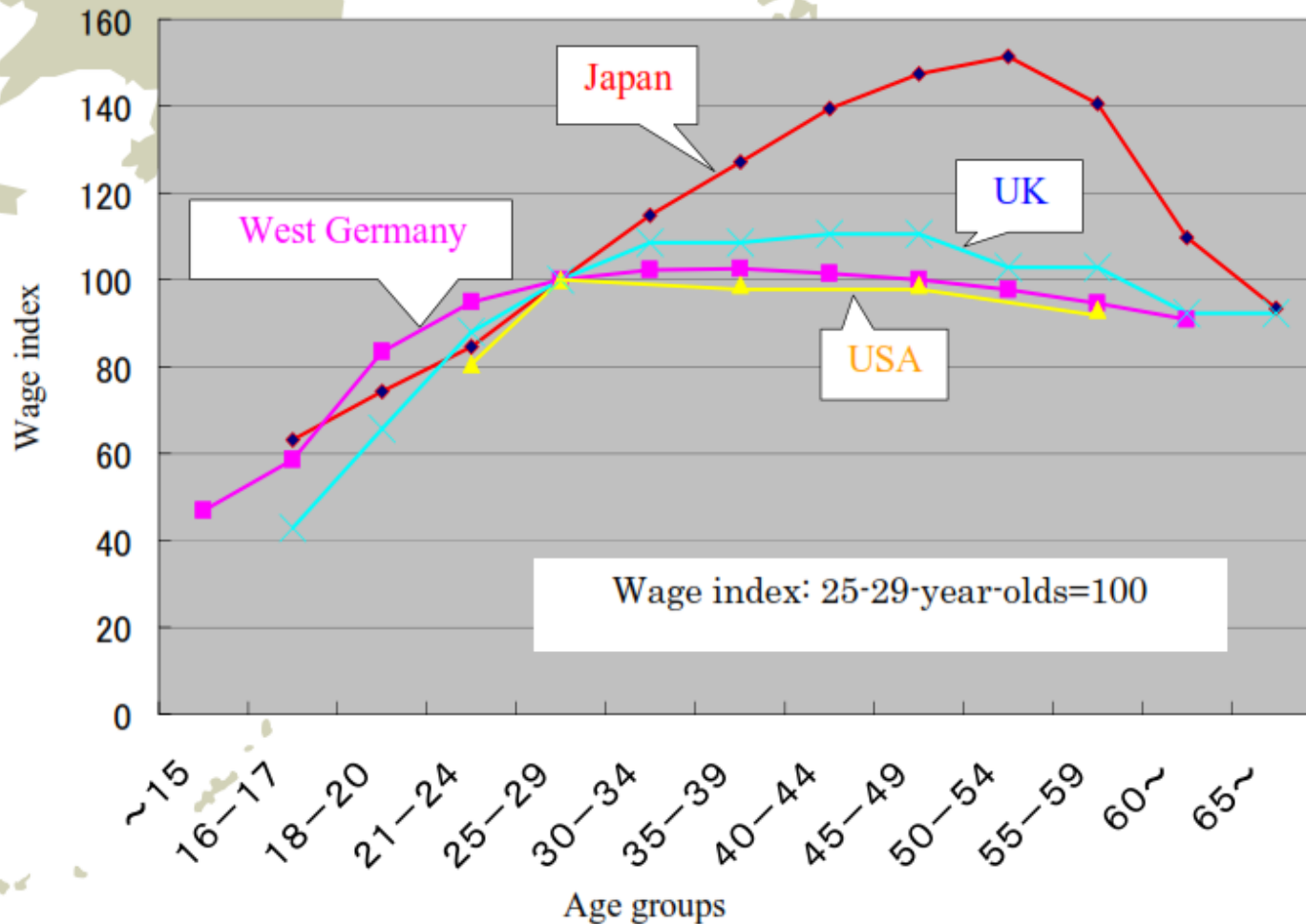
Survey year

Japan: 1994

UK: 1991

Germany: 1972

USA: 1969



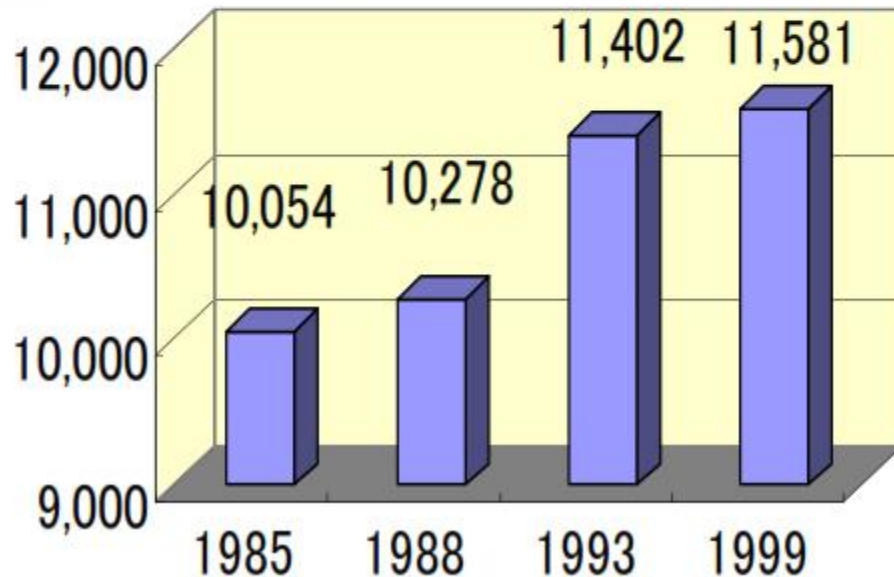
6-5 Regulatory Reform

(1) Coverage of regulation

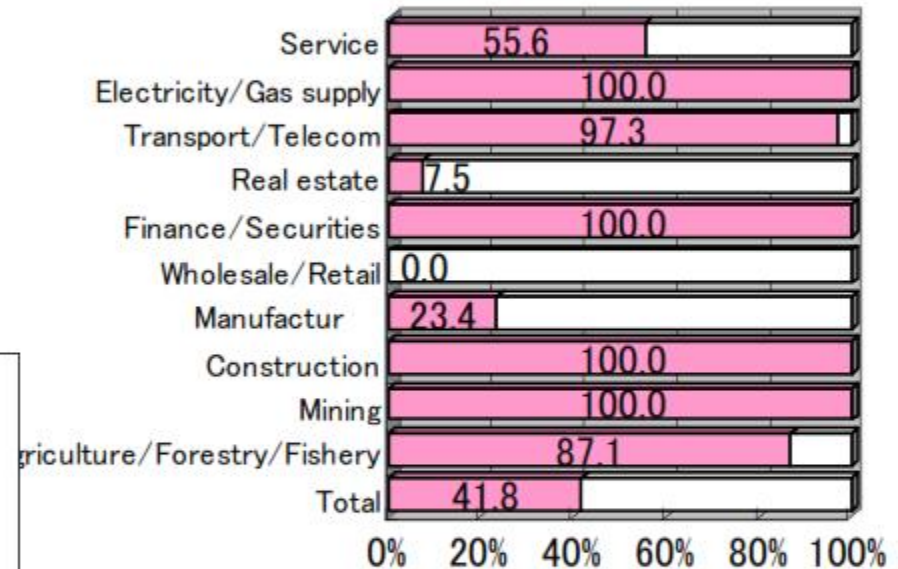
Excessive regulation

Weakening of the sense of risk
Reduced business opportunities
Inadequate business adjustments

Number of regulations



Percentage of industries under government regulation in 1990



USA

1977 17%
1988 6.6%

JAPAN

1965 47.8%
1990 41.8%

Economic White Paper 1995

(2) Costs Associated with Regulation

High-cost structure

Price differential
Consumer price level
NY 100 vs. Tokyo 141 (1998)

Slow adjustment to
Changes in environment

High-cost pressure on
tradable industries

Lack of innovation and
new business opportunity

Manufacturing: Developed
various new products
Non-manufacturing: almost
no new services developed

Price Gaps between Home and Abroad =

Price Gaps between (unregulated) Tradable and (regulated) Non-Tradable Sectors

+ Price Gaps in Tradables Created by Border Protections (tariffs, etc.)

(3) Economic effects of the 1990s' regulatory reform

(Annual average)

Demand expansion

Sector	Period	Effect
Telecom	96-97	6.86
Cable TV	96-97	0.30
Satellite TV	96-97	0.24
Retail	96-97	3.12
Farmland	96-97	0.68
Electricity	96-97	0.32
Temporary personnel svcs.	96-97	0.03
Airline	96-97	0.17
Total	11.85 tril. yen	

Consumer surplus expansion

Sector	Period	Effect
Telecom	96-97	7.10
Share brokerag	96-97	0.26
Car exam	96-97	0.49
Airline	96-97	0.24
CBond	96-97	0.08
Oil products	96-97	1.78
Electricity	96-97	1.07
Gas supply	96-97	0.05
Total	11.33 tril. yen	

Economic Planning Agency (1999)

“Total” includes items other than those listed

(4) History of Japan's regulatory reform up to the 1990s

1980s

- **Late 1970s -- aimed at lowering paperwork costs**
- **1981 -- Administrative Reform Committee, proposed privatization of NTTPC and JNR**
- **The first half of 1980s -- US-Japan financial sector consultation, start of financial liberalization**
- **1989 -- US-Japan Structural Impediment Initiative, discussed regulatory reform, business practices, etc.**

1990s

- **1993 -- "Hiraiwa Report" proposed liberalization as a rule**
- **1995 -- Regulatory Reform 3-Year Plan**
- **1998 -- Economic Strategy Committee**

(5) Characteristics of regulatory reform process in Japan up to the 1990s as compared to that in the US and UK

- **Japan has tended to avoid “trial and error” process**
 - **Even in the US, the airline case was exceptional**
 - **Privatization in UK lacked competition scheme**
 - **Price cap system in UK**
- **“Bottom-up” in the US, “top-down” in Japan/UK**
- **Japan’s regulatory body was also an administrator of industrial policies**
 - **US, UK: independent regulatory commission**
 - **Checks and balances with industrial policy administration, competition offices and local government**
- **Empirical analyses had not been utilized**

EPA team conducted CGE-model-based analyses in late 1990s

6-6 PM Koizumi's economic reform measures (2001 – 2006)



Change in policy formation style

- Strengthening the role of Cabinet for policy formation
- Weakening the influence of the MOF
- Weakening the voice of the Liberal Democratic Party

Settlement of the “Bubble” economy aftermath

- Banking reform, esp. disposal of NPLs
- Budget consolidation, esp. reduction in public works

Measures to cope with depopulation and aging

- Reform of social security, health and disability insurance

Delegation of authority from public sector to private sector

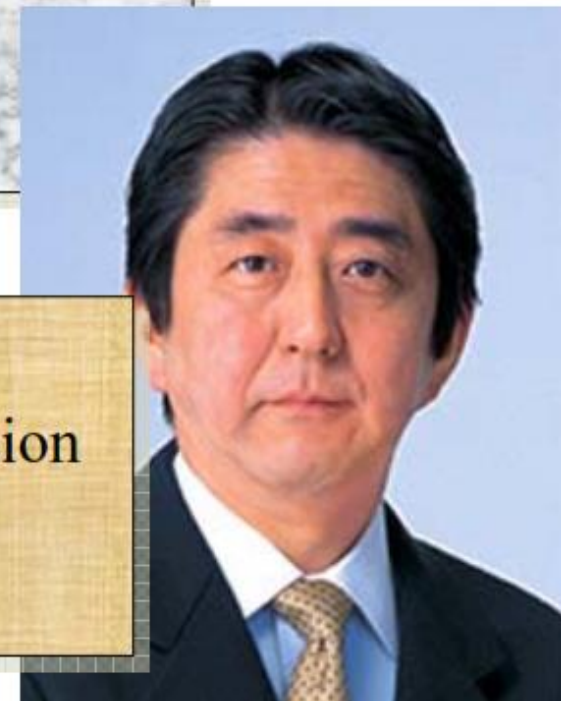
- Privatization of the postal service/postal savings
- Reform of state-owned financial institutions
- Privatization of public highway corporations
- “Marketization test” of public businesses
- Regulatory reform, esp. creation of special zones

Delegation of authority from central to local government

- ‘Trinity reform’ of function, revenue,
and intra-gov’t transfers
- Promotion of merger of municipalities

Private sector reform

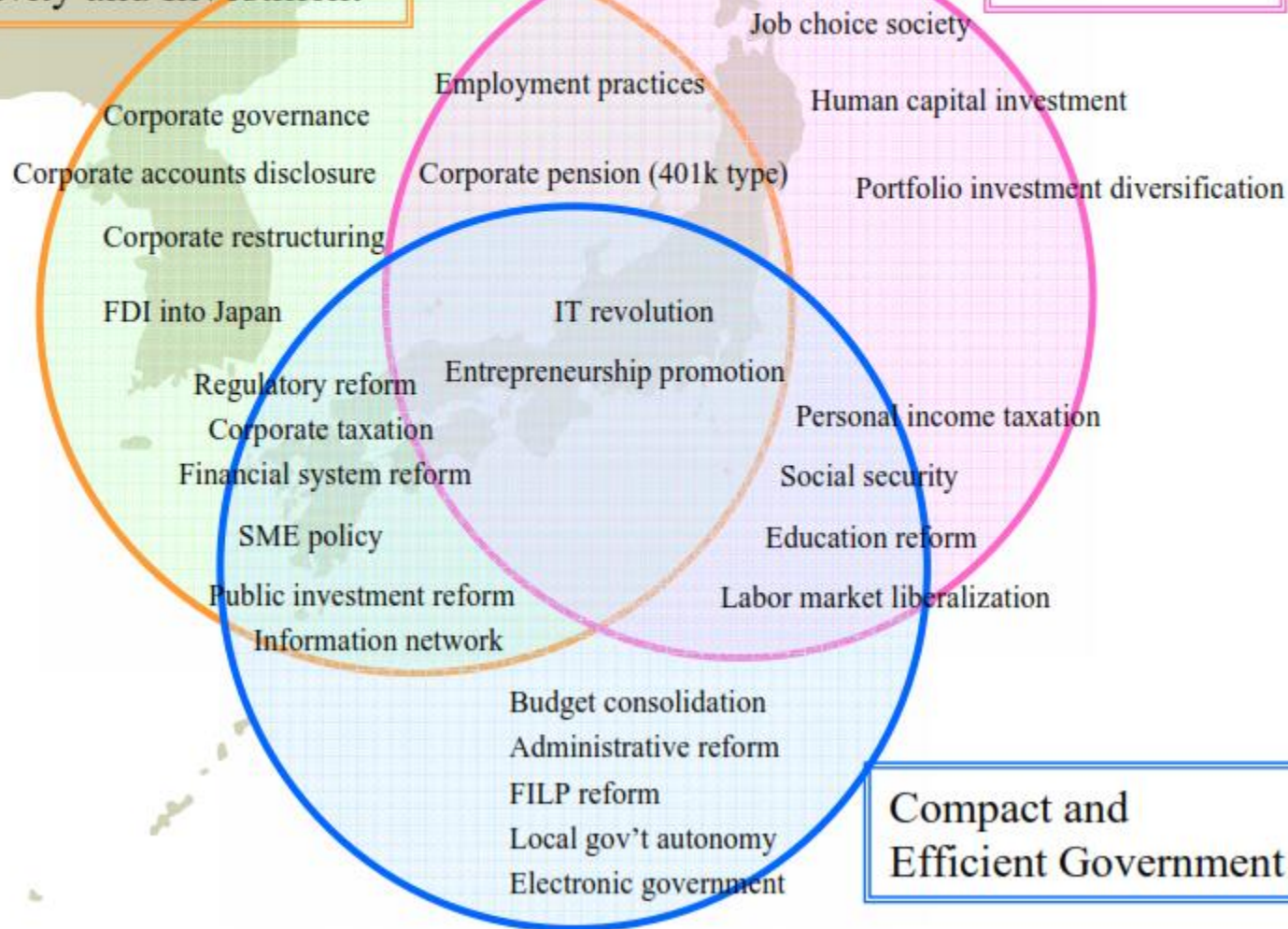
- Strengthening of the Fair Trade Law to bar collusion
- Regulatory reform, esp. creation of special zones
- Corporate governance reform, facilitating M&A



6-7 Structural Reform: Agenda for Sustainable Growth

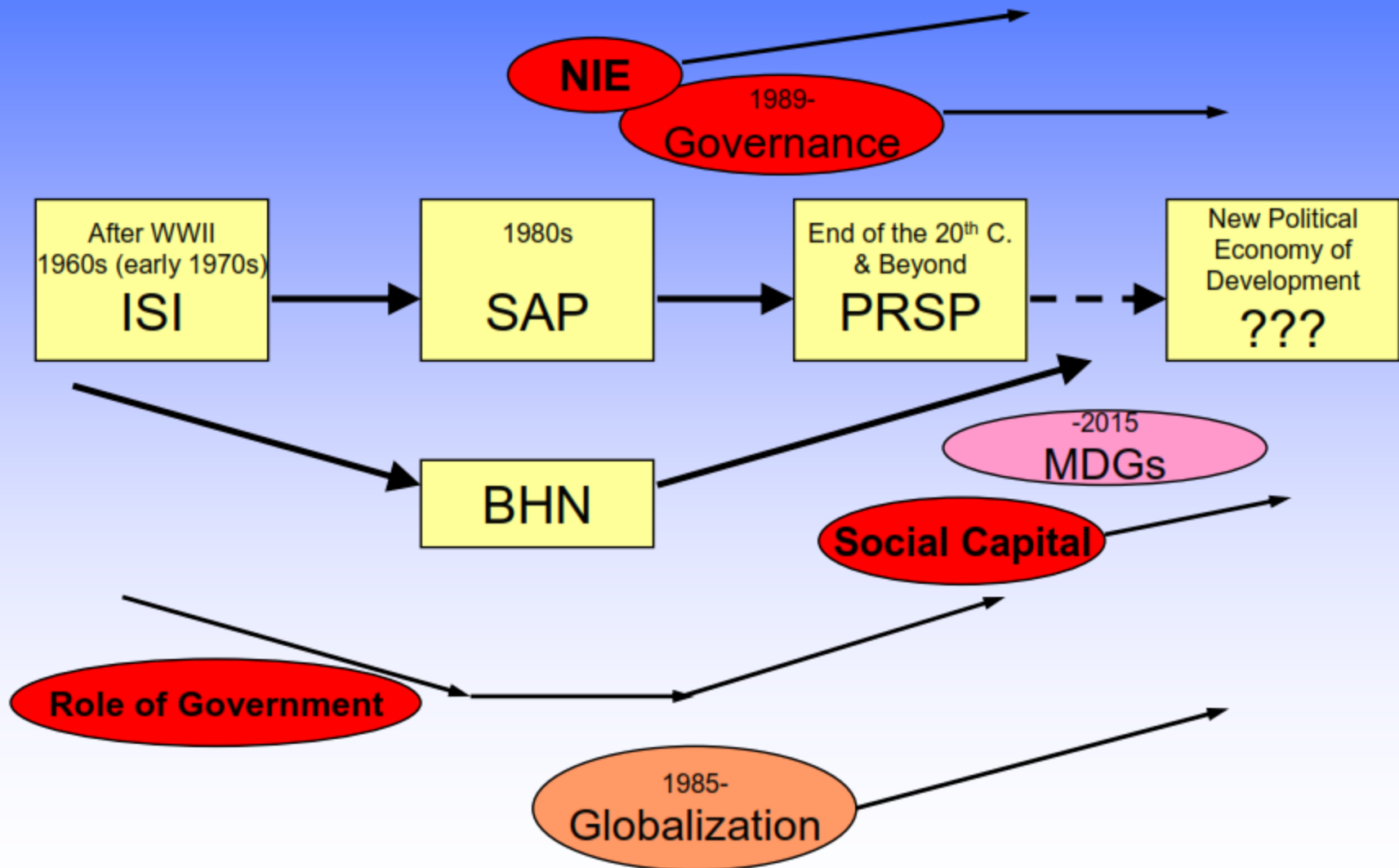
Expansion of Corporate Activity and Investment

Self-reliance of Individuals



Compact and Efficient Government

The Evolution of a Development Paradigm: A Simplified Review



Part VII:
Aging Japan, Aging Asia

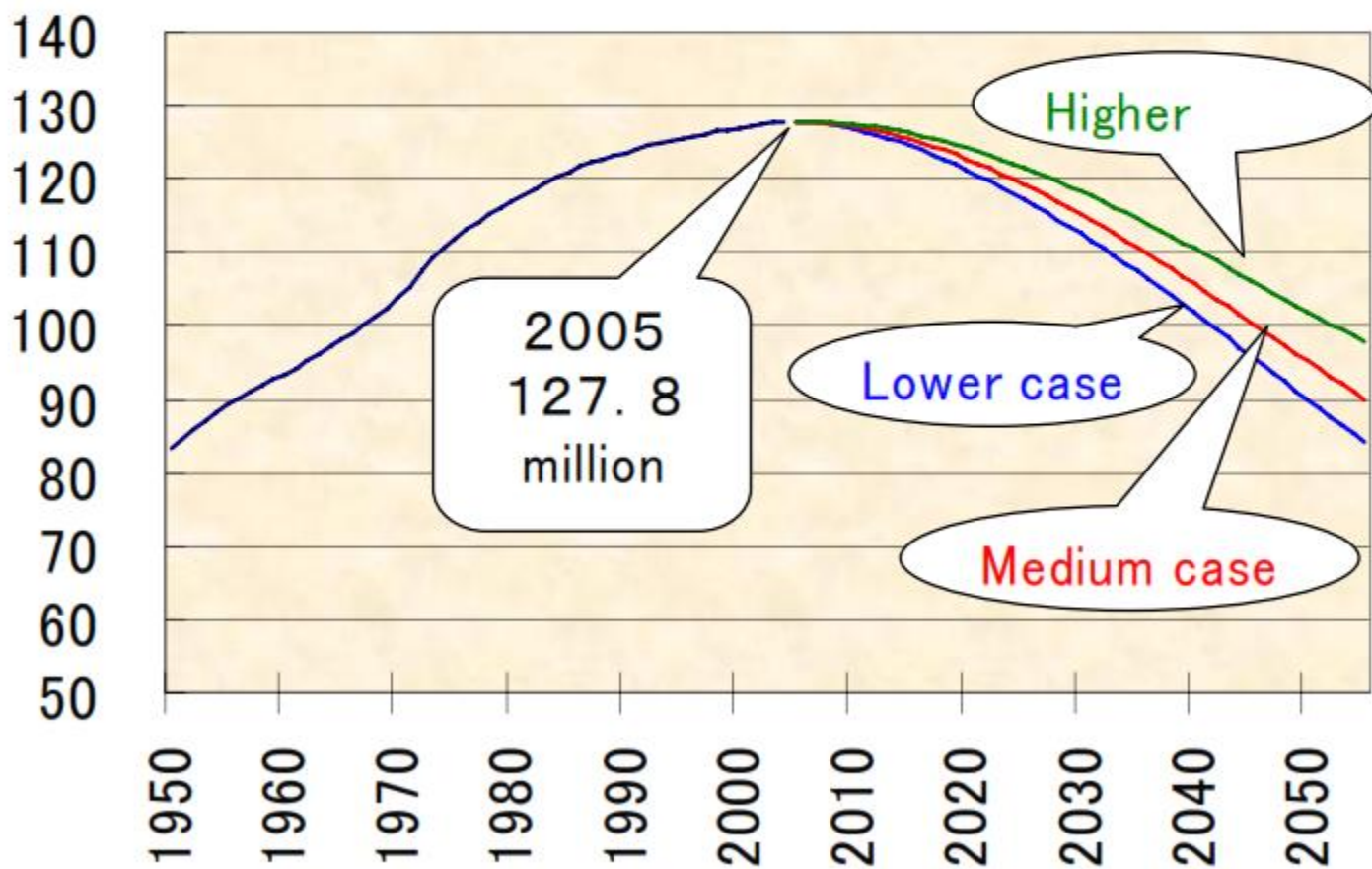
7-1 Aging Japan

Unavoidable depopulation and aging



Population in Japan

million



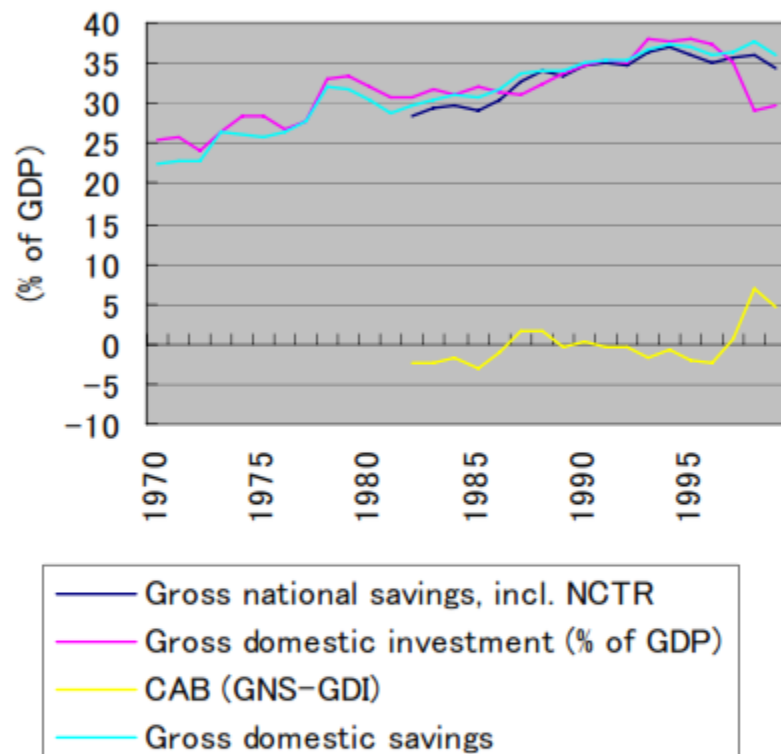
(Source) National Institute of Population and Social Security Research estimate (Dec.2006)

Cases of economic development under depopulation

Nation	Western Europe	Japan	Ireland	Hungary
Time	Late 14 th c.	1730~1800	Late 19 th c.	1980~
Decline	70~80 mil. → 40~50 mil	32 mil. → 30 mil.	2 mil. In 10 years	0.3% decline annually
Reason	Black death	Famine Late marriage Less birth	Famine Immigration	Lower birth rate
GDP	-0.3%	0.2%	0.7%	0.6%
GDP Per capita	0.4%	0.3%	1.6%	0.9%
Impact	Labor scarcity	Agricultural technology	Change to livestock farming	Marketization Investment

Source: Economic planning Agency (2000)

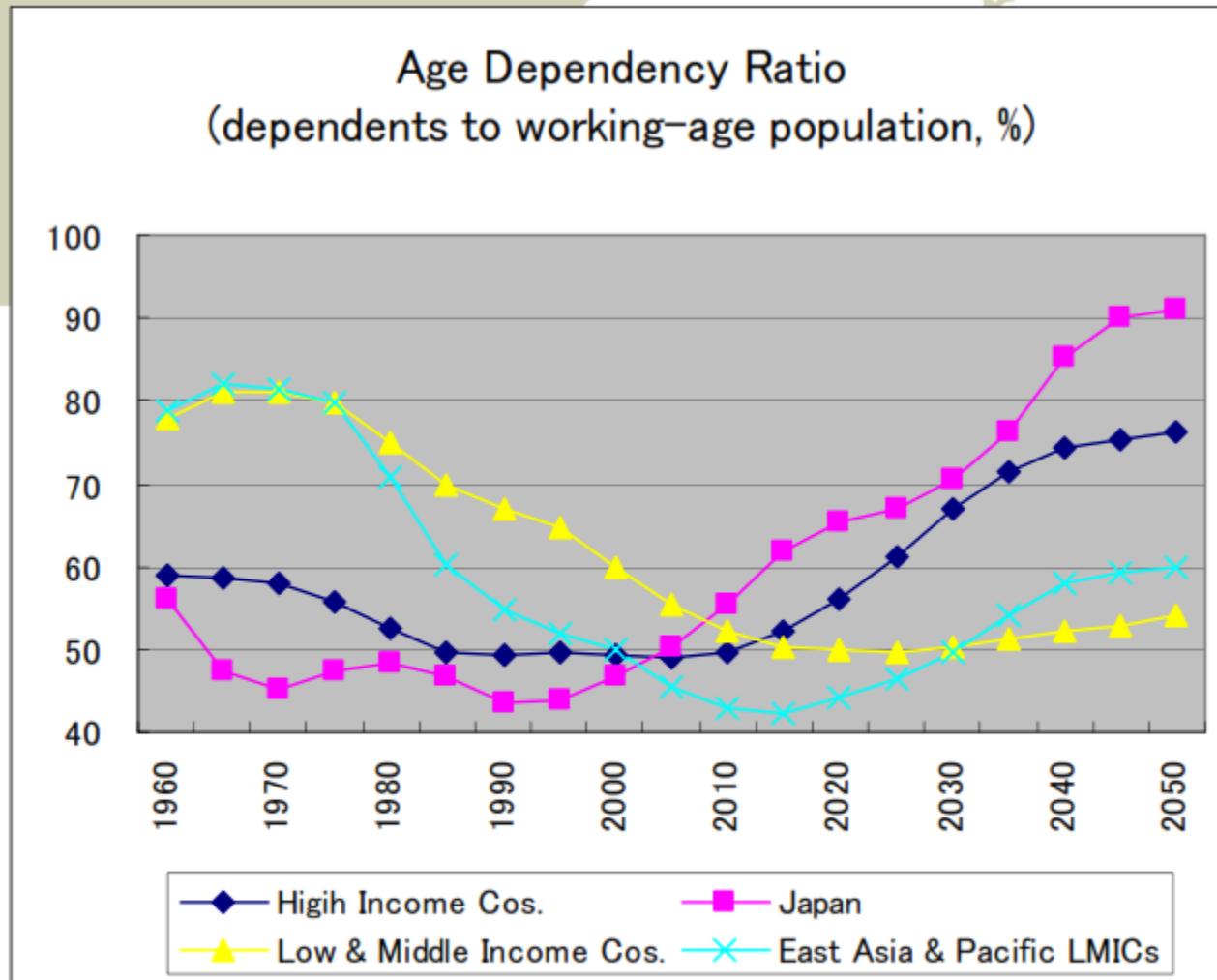
East Asia's Saving, Investment, and CAB



East Asia's saving ratio (GDS) increased from 22% to 32% in the 1970s, and reached 37% before the AFC, facilitating a healthy increase in the investment ratio...

The CA deficit also expanded in the 1990s until the AFC came about. And then ?

Is Doomsday Imminent ?



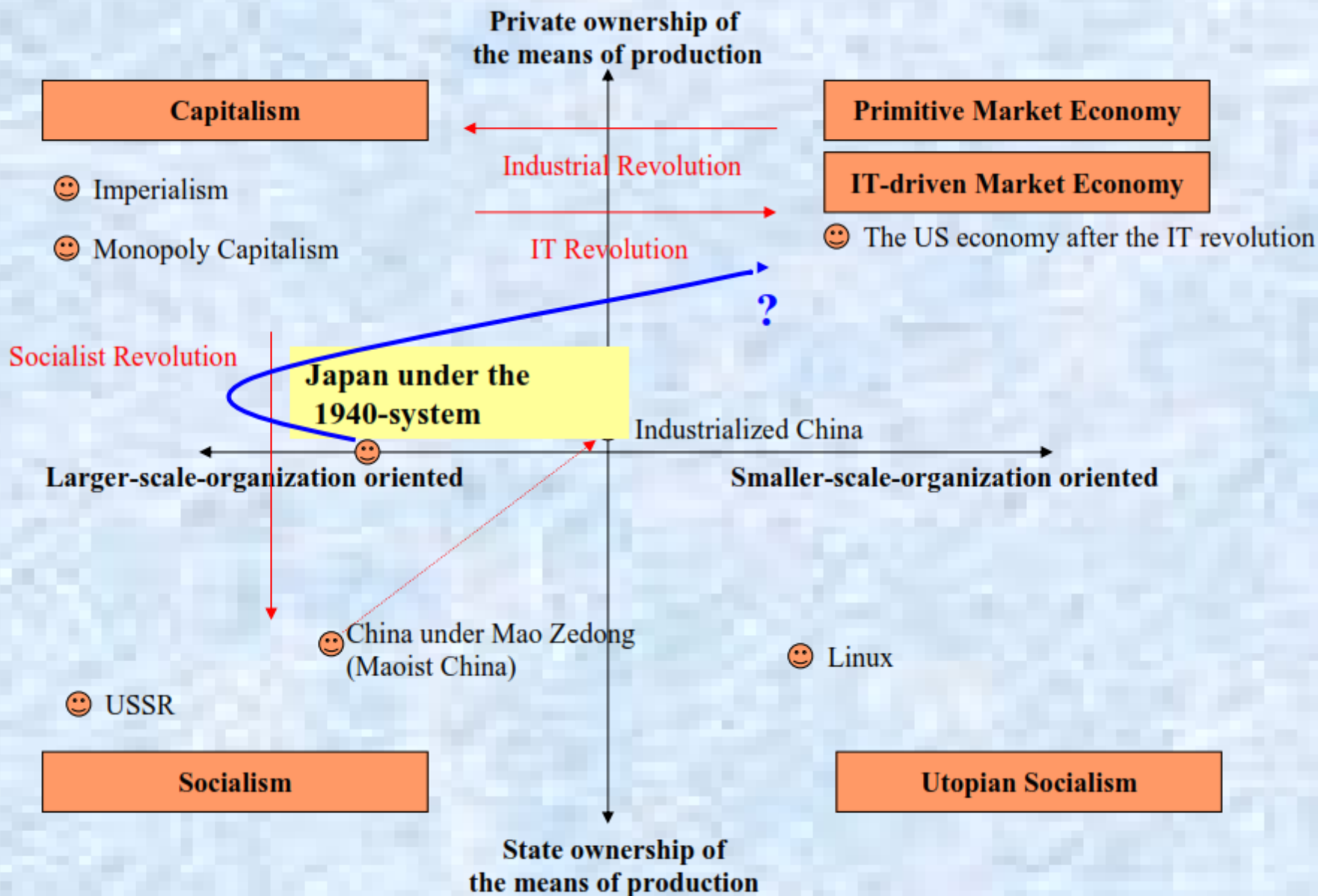
Determinants of the private saving ratio:

Income (level), rates of return, uncertainty, domestic/foreign borrowing constraints, financial depth, fiscal policy, pension system, income/wealth distribution, and **demographics** ...

Part VIII:
Revolutions and the Evolution
of Economic Systems

Revolutions and the Evolution of Economic Systems

(based on Yukio Noguchi, "IT makes small-scale-organization economy advantageous" Nikkei, April 5, 2002)





... Japan's Development Experience

Thank You !

