Construction Economy Report

No. 42

The Japanese Economy and Public Investment

Steady Progress Toward Recovery and
The Changing Construction Industry

April 2004

Research Institute of Construction and Economy

(RICE)

Tokyo, JAPAN

This is an English translation of a summarized report in Japanese, announced in March 2004

CONTENTS

For further information please contact:
Hajime Suzuki (Executive Director)
Atsushi Suzuki (Research Director)
Eiji Aoki (Senior Researcher)
e-mail: info@rice.or jp

Chapter 1 Macroeconomics and Construction Investment

1.1 The Japanese Economy on Track to Recovery

- Although not yet in full stride, the recovery of the Japanese economy is progressing, triggered by private corporate investment in facilities and exports. A complete recovery, however, is expected in the near future, based on the examination of: a) the deflation of the 90s, b) fiscal and financial policies, c) land and stock prices, d) trends in employment, and e) the government's "Economic Watchers Survey."
- Three familiar examples of market/business expansion are: a) digital electronics, b) consulting and other anxiety-relieving services, and c) the senior citizens' market.
- The results of the government structural reforms are beginning to emerge; the health of the nation's economy seems to have strengthened. To encourage this trend the government should promote policies including: a) needs-driven and effective government spending, b) a continual easing of the money supply, c) effective use of land to increase its profitability, d) the creation of an environment to attract individual investors to the stock market, and e) greater employment opportunities for youth.

1. The deflation of the 1990s

The deflationary trend of the Japanese economy during the 1990s seems to have bottomed out, judging by recent trends in consumer price indices. It was feared in 1998 that the economy would fall into a deflationary spiral, but that danger seems to have been avoided either in FY2002 or FY2003.

2. Fiscal and financial policies

The financial policies of the 90s propped up the economy to an extent, but did not bring about a full-scale recovery. The government in this decade (from 2000) should focus on prioritized and effective public investment to lay down the infrastructure for economic growth. In the field of fiscal policy, a further easing of the money supply is needed. Public money was used to prop up the Risona Bank in anticipation of future relief measures from four major Japanese banks. This helped alleviate the fear of financial instability.

3. Land and stock prices

Land prices are more likely to be based on real demand. Individual investors are becoming more influential in the stock market. To stabilize stock price fluctuations, more of these individual investors should be brought to the market.

4. Employment

The youth unemployment rate is rising annually. The jobs-to-applicants ratio has exceeded 1.0 over the past three months. Employment opportunities for young people should be expanded.

5. Economic Watchers Survey

Respondents to the "Economic Watchers Survey" conducted by the Cabinet Office think that economic conditions have improved since autumn 2002, suggesting higher business confidence among companies and consumers.

1.2 Trends in Construction Investment

- Construction investment in FY2003 in nominal terms is expected to decrease by 4.2% over FY2002 to 54.1700 trillion yen. A decrease of 9.5% for government construction investment (a decrease for five consecutive years), an increase of 1.2% for private residential construction investment (an increase for the first time in four years), and a decrease of 1.5% for private non-residential construction investment (a decrease for three consecutive years) are expected. Nominal construction investment in FY2004 is expected to reach 52.0800 trillion yen, which is a decrease of 3.9% (a decrease for eight consecutive years since FY1996).

Trends in construction investment (FY)

Actual ←|→ Forecast

FY	1990	1995	1999	2000	2001	2002	2003	2004
Nominal CI	81,440	79,017	68,504	66,142	60,830	56,520	54,170	52,080
(Increase rate)	11.4%	0.3%	-4.1%	-3.4%	-8.0%	-7.1%	-4.2%	-3.9%
Nominal government CI	25,748	35,199	31,938	29,963	27,790	24,950	22,590	20,570
(Increase rate)	6.0%	5.8%	-6.0%	-6.2%	-7.3%	-10.2%	-9.5%	-8.9%
(Contribution rate)	2.0	2.5	-2.9	-2.9	-3.3	-4.7	-4.2	-3.7
Nominal private CI	25,722	24,313	20,724	20,276	18,580	17,930	18,150	17,960
(Increase rate)	9.3%	-5.2%	4.9%	-2.2%	-8.4%	-3.5%	-1.2%	-1.0%
(Contribution rate)	3.0	-1.7	1.3	-0.7	-2.6	-1.1	0.4	-0.4
Nominal private NH CI	29,970	19,505	15,842	15,903	14,470	13,640	13,430	13,550
(Increase rate)	18.4%	-1.8%	-10.4%	0.4%	-9.0%	-5.7%	-1.5%	0.9%
(Contribution rate)	6.3	-0.4	-2.6	0.1	-2.2	-1.4	-0.4	0.2
Real CI	85,442	79,020	69,874	67,314	62,540	58,500	56,330	54,600
(Increase rate)	7.7%	0.2%	-3.1%	-3.7%	-7.1%	-6.5%	-3.7%	-3.1%

(Units: billion yen. Real figures are based on 1995 prices.)

Notes:

1. CI: construction investment NH: non-housing
2. Private NH CI = private non-housing construction investment + private civil engineering investment.

1.3 Outcome-oriented Management and Public Investment

- New Public Management (NPM) is a new management technique based on the introduction of market mechanisms to various public-sector services. Transfer of authority and performance measurement are the core concepts of this technique. The measurement of public policies is based on the management cycle of “plan-do-see” instead of the traditional “plan-do” cycle, to evaluate achievement. Under this approach, public investment is considered to a way to offer services.
- Mie Prefecture has pioneered the introduction of a unique policy evaluation system, ahead of the national government. Many other prefectures are following suite.
- The national government introduced policy evaluation as a part of government reform. The Ministry of Land, Infrastructure and Transport has adopted a new policy evaluation system based more on the principles of NPM.
- “Policy evaluation” or “performance measurement” was originally a tool of NPM that focused mainly on efficiency and economy. In Japan the emphasis is on other aspects.

- A new paradigm for public management, called “New Public Management” (NPM), has emerged since the 1980s in the public sectors of several Anglo-Saxon countries. NPM defines public administration in terms of citizens being the clients of public service. While granting more discretionary powers to the service providers (e.g. local governments) they are controlled by x their performance and outcomes measured.

- Policies are often evaluated though “performance measurement” and “program/project evaluation.” “Value for money (VFM)” in public management is evaluated in terms of economy, efficiency and effectiveness. “Economy” refers to lower costs or fewer inputs (e.g., budgets), “efficiency” refers to the maximization output with minimum input, and “effectiveness” refers to the improvement of the outcome of the input. NPM has developed out of the idea of VFM. It originally emphasized “economy,” but “efficiency” and “effectiveness” have received greater emphasis in recent years.

- Japan started to introduce policy evaluation and other NPM tools when the other advanced nations entered the second stage of NPM application.

- Some pioneer examples of local governments in Japan are: a) Mie Prefecture (linking policies with projects and programs evaluation systems), b) Shizuoka Prefecture (linking the two programs of “New Comprehensive Program," a strategic plan which establishes quantitative goals, and the "Working Program," which uses a "work inventory table" with the evaluations of policies); and c) Iwate Prefecture (granting budgeting authority to each department and agency).

- The policy evaluation system, introduced by the national government as a part of governmental reform, is more or less a means of traditional administrative management. The Ministry of Land, Infrastructure and Transport, on the other hand, distinguishes between NPM methods and traditional method of project-based evaluation systems.

- NPM faces two challenges in Japan. Unlike in the U.K. and in other countries, less emphasis has been placed on “economy” in NPM in Japan, and has not been an incentive to streamline the government. There has been little delegation of power, another important tool together with policy evaluation.

Chapter 2 Trends in Construction Bidding and Contracting Systems

2.1 New Bidding and Contracting Systems for the Bulk Management of Plural Construction Projects and Works

- Contracts for public works, in principle, are made on an annual basis for each project or each unit. Private-sector companies have introduced a new bulk contract system whereby contracts are made on plural projects including design and planning.
- The plural-project and plural-year system has already been used for some public works in North America and Europe (in the U.K. for a regional project).
- This system has several advantages for the procurer: reduced costs, faster delivery of services, increased efficiency, reduced work period, and greater achievement of the required performance. Contractors, on the other hand, can strengthen their relationship with the procurer (client), can ensure long-term and stable contracts, can increase work efficiency through the accumulation of know-how, and can increase their opportunities for making proposals to the client.
- Three categories (see Item 3. below) of the new contracting method can be introduced to Japan. PM/CM at risk, and other types in Category 3-2 need to be examined in terms of: a) legal framework (a law to ensure the contracting of public works to smaller companies), b) influence on the industry, c) capping of the scheduled price, d) ways to ensure objective and transparent contracting, and e) compatibility with the conventional single-year budgeting system.

1. Survey on the private-sector companies on the introduction of bulk contracting system

- Ten major companies out of 60 (16.7%) have placed orders, and nine out of 36 companies (25.0%) have contracted works under this system.

Purpose of placing order under this system (multiple answers)

	No. of companies
Cost reduction	9
Speeding up work (esp. maintenance and repair)	6
Increased efficiency of work/reduced work period by using procurer (client) know-how	5
Reduced paperwork	4
Greater achievement of required performance	3

Advantages felt by the contractor (multiple answers)

	No. of companies
Stronger ties with the client	8
Ensures a long-term and stable contract	7
Increased work efficiency through knowledge accumulation	7
Easier to make proposals to the client	3

2. Methods used in Europe and North America

a) Framework Agreement (draft revision of the EU Public Procurement Directive) and Framework Contract (U.K. Highway Agency): Plural design and work projects to be conducted in the same region are combined and contracted over several years.
b) Price Contracting (U.K. Ministry of Defence): The U.K. territory is divided into five regions and contracts are made with the prime contractor in each region. The contract covers all projects, from new construction to maintenance and repair, for all forces (army, navy and air force).
c) Program Management (one form of PM/CM style: U.S.)

3. Three styles adaptable to Japan

a) Management and construction/engineering work carried out by separate companies: Program management
b) Management and construction/engineering works carried out by the same company: PM/CM at risk, Prime Contracting and Framework Agreement
c) Private Finance Initiative (PFI)

2.2 A Surety Bond System to Ensure the Successful Completion of Construction Projects

- A defect liability period has been included in public works projects in Japan. However, under the present system, if the contractor goes bankrupt, the procurer may not be able to request the contractor to carry out further maintenance and repairs. Defect liability insurance, to negate this risk, should be established, especially when the construction business is sluggish. This downturn has led to intense price competition. Some projects have been contracted at extremely low prices that imply a high risk of poor-quality work and worsening business conditions for the contractors.
- Because of the nature of the construction works, complete maintenance and repair of defects is almost impossible at any stage of construction. Bid bonds are effective in excluding under-qualified contractors from the bidding process.
- Interruption of construction due to the tight cash flows of the contractor and dumping frequently occur among medium- and small-scale construction projects. The introduction of a bid bond system to smaller projects (utilizing financial institutions and advance payment bond issued by surety companies) may provide a solution to alleviate these risks.

- Types of bonds issued by a construction mutual benefit society in Korea (FY2002)

Korea requires the submission of defect-liability and other bonds for public works. (See the list below for an international comparison). Bonds are classified as follows:

	No. issued	Amount guaranteed
Bid bond	17,581	11, 773
Performance bond	53,812	38,849
Defect liability bond	55,971	14,212
Advance payment bond	9,852	32,661
Subcontract payment bond	4,591	7,180
Other	7,054	9,729
Total	148,861	114,406

Notes:

1. Compiled by RICE based on material from a Korean construction mutual benefit society.
2. The units are in 100 million won. 1 won is ¥0.1 (US$1 is about 1,150 won).
3. The figures include bonds issued for private-sector construction projects.

Measures taken by selected countries against the risk of defective public works

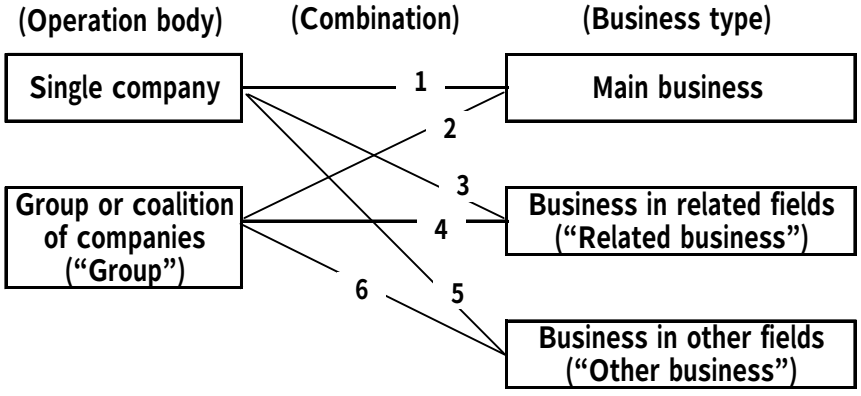
	Japan	Korea	US	UK	France
Defect liability period	1-2 yrs. by the type of project	1-2 yrs. by the type of project	1 yr in general	1 yr in general	1 yr in general
Method to cover the risk when the contractor cannot fix defects found during the defect liability period	None	Defect liability	Performance bond	Retain 1.5% of the construction payment	Retain 5% of the construction payment (bank guarantee also possible)
Other risk management measures		The de facto requirement for construction companies is to invest over 20% of the minimum capital with a mutual benefit society	Use bid bond to exclude contractors having financial problem from bidding		

Chapter 3 Trends in the Construction Industry

3.1 Construction Industry Advancing into New Businesses

- Construction companies are facing hard times due to the decline in construction investment in recent years. The majority of these companies are SMEs (small and medium-sized enterprise) who cannot look forward to the kind of government financial support that is given to some major companies. They need to come up with survival plan, including advancement into new businesses.
- The recent trend is for a group or coalition of companies to start new businesses in construction-related fields.
- Advancing into new businesses is not easy, however, and for most of the new startups it is too early to determine the viability of their business.
- Various supports offered by local governments should be improved and be made more accessible.

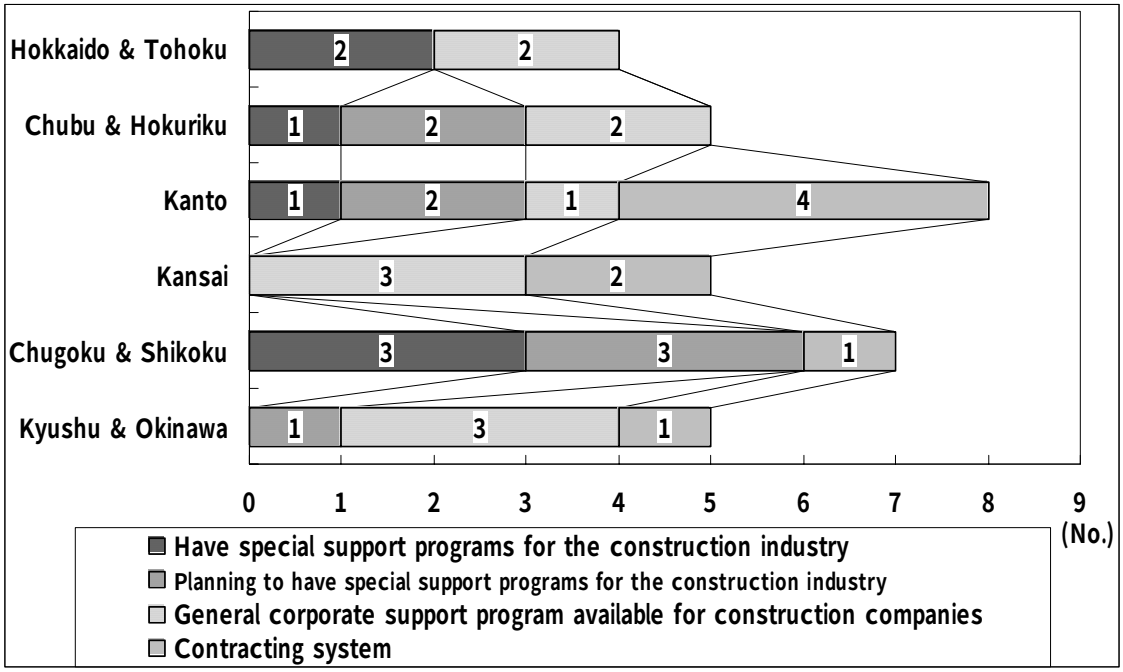
- The following chart and table shows the combination construction company busienss in terms of operation body and business type. The most common combination is that of a group-based business in a construction-related field.



Business pattern	No. of companies	Ratio (%)
1. Single company – Main business	28	13.7
2. Group – Main business	36	17.6
3. Single company – Related business	24	11.8
4. Group – Related business	54	26.5
5. Single company – Other business	31	15.2
6. Group – Other business	31	15.2
Total	204	100.0

Note: Compiled from the results of a questionnaire survey on construction companies advancing into new businesses, conducted by the Fund for Construction Industry Promotion.

• Construction company support measures by local governments (by region)



Note: Compiled from the results of a questionnaire survey on construction companies advancing into new businesses, conducted by the Fund for Construction Industry Promotion.

3.2 On-site Organization and Communication

- Insufficient communication and collaboration among workers and organizations on site often result in construction defects and failures.
- Thorough coordination among all parties before the start of construction, and feedback such as work progress, management conditions and performance, should be emphasized.
- To increase the efficiency of construction production, roles and responsibilities of the parties concerned and the type of information needed should be made clear, the means of communication should be established, and the project management should be systematized.

Construction production and communication

- Construction is a collaborative operation involving the procurer (client), general contractors, subcontractors and other parties. Work coordination and integration are facilitated in principle by communication between these parties. Necessary information should be conveyed accurately to the right person/group so that all players can fulfill their roles.
- Players should share background information before beginning construction projects to enable smooth on-site communication and coordination. Unfortunately this is often difficult as construction is often carried out by ad-hoc or project-based groups, and the players do not necessarily know each other.
- Lack of information sharing among the client, contractors and subcontractors makes coordination difficult and thus leads to defects and construction failure.

Level of pre-construction coordination with the client	Ratio of problems during the construction stage (%)			
	No	Rarely	Sometimes	Often
Did thoroughly	71.2	26.9	1.9	0.0
Did to some extent	7.3	74.4	17.1	1.2
Didn't do much	3.1	34.4	62.5	0.0
Did almost nothing	0.0	9.0	36.4	54.6

Source: Survey conducted by RICE in February 2003.

Construction production process and communication

- The process should be divided into the following two stages.

  Pre-construction: Share awareness and background information. Carry out a thorough coordination among parties concerned, to ensure smooth construction work.

  During construction: Periodic feedback to update information held by parties concerned.

Ways to improve communication

- Construction processes, arrangements, and the roles and responsibilities of each player should be made clear.
- The means and styles of communication should be unified and standardized and improved as the construction project progresses. Sufficient pre-construction coordination, clarification of construction conditions, preparedness for potential problems are the prerequisites.
- The construction management process as a whole should be systematized to make these prerequisites effective.

3.3 IT for Information-sharing and Collaboration in Construction Production

- The rapid diffusion of broadband Internet in recent years is drastically changing the ways information is shared and collaboration is fostered through the extranet and other tools.
- E-mail is still the main means of communication and information sharing among parties in construction production. Except for some innovative major companies, construction companies as a whole are not yet utilizing the extranet.
- A roadmap to the extranet should first be developed. SMEs, if not too computer-savvy, should first introduce a simple, user-friendly system. Information management plans should be compiled at the pre-construction stage.

Diffusion of the Internet and collaboration in construction production

- The rapid diffusion of broadband Internet service and the extranet based on high-speed information infrastructure is greatly contributing to information sharing and collaboration among various parties involved in construction production. The Application Service Provider (ASP) is a promising business model for the construction industry.

  [Note: The number of broadband users has grown from 1.8 million in September 2001 to 6.13 million in September 2002, and to 12.26 million as of September 2003.]
- Construction projects in advanced Internet countries in Europe and North America are utilizing the extranet and other collaboration tools.

Collaboration in construction production in Japan

- The Ministry of Land, Infrastructure and Transport and local governments are beginning to establish an information sharing system as a part of CALS/EC (Continuous Acquisition and Life-cycle Support / Electronic Commerce). The client and contractors of a construction project can exchange and share information on a server.
- Major general contractors have developed information infrastructure step by step, starting with the intranet, and are now able to make full-scale use of the extranet. Most construction companies, however, still use e-mail to exchange and share information.
- Factors hampering the full-scale operation of the extranet include: the limited scope of implementation, security concerns and lack of involvement of subcontractors and specialized material providers.

Introduction and development of the extranet and other tools of collaboration

- A clear final goal, a roadmap to reach the goal, and step-by-step progress is needed for the development of information infrastructure. SMEs should initially focus on easy and user-friendly systems.
- An “information management plan,” describing how to coordinate and build consensus among the parties involved and how to review the work processes of the project, should be compiled at the pre-construction stage.

3.4 PFI from the Perspective of Public-sector Procurer

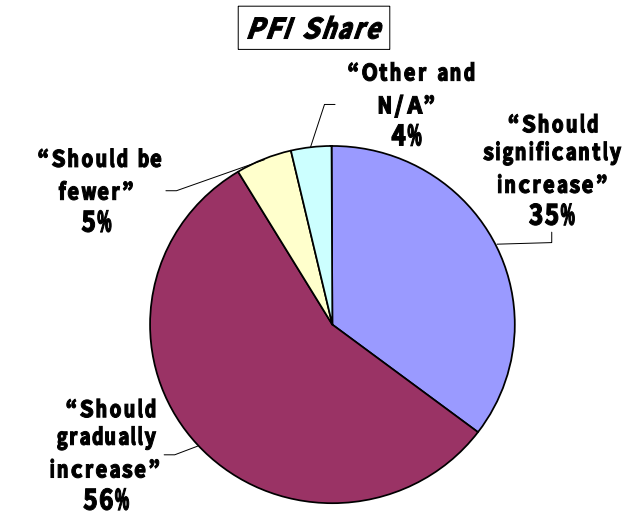
- Japan's public sector has great expectations for PFI, and its scale and scope are expanding. PFI should be fostered as an effective tool of public-private partnerships by addressing the issues, including lowering costs born by applicants and adequate risk-sharing among the parties concerned.
- Projects focusing on management should be increased, to utilize private-sector expertise. Private-sector contractors should boost their risk-taking capacity by forming consortiums.
- To enter the PFI market, construction companies, especially smaller companies and subcontractors, should form consortiums to capitalize on their strengths.

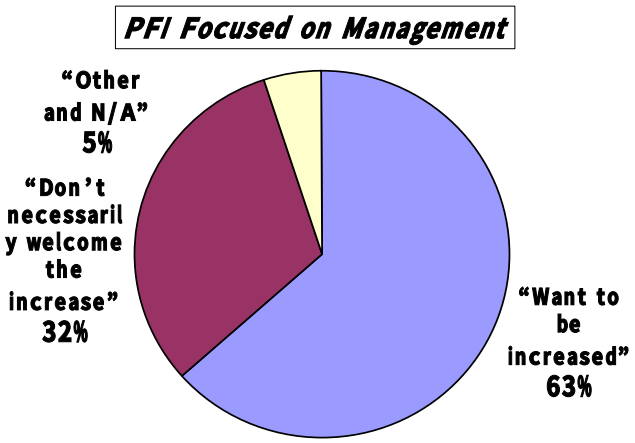
1. A questionnaire survey conducted by RICE indicates that about 90% of responding companies want a bigger PFI market ("should significantly increase" and "should gradually increase" are combined).

2. Two-thirds of respondents said they wanted "PFI projects focused on management" to be increased for various reasons, including: "can benefit from private-sector expertise" and "can utilize plans and proposals from the private-sector." The remaining one-third replied that they "don't necessarily welcome the increase" because of a concern over risk-sharing.

3. The role in the PFI market may differ according to company size

- Large companies: Commit to PFI market development as a pioneer. Aim to be a representative SPC (Special-purpose company), foster consortium-building capacity, accumulate know-how on risk hedging, and utilize the private-sector proposal system.
- Medium-sized companies: Act as SPC member companies focusing on their expertise (i.e. construction-only or maintenance-and-repair-only). Carefully choose the target project and take a focused approach to maximize their limited management resources and be competitive.
- Local companies: Focus on small projects ordered by local governments. Aim to be a representative or a member company of SPC by making proposals based on their local business expertise and knowledge of local culture and environment.


PFI Share
"Other and N/A" 4%
"Should significantly increase" 35%
"Should be fewer" 5%
"Should gradually increase" 56%


PFI Focused on Management
"Other and N/A" 5%
"Don't necessarily welcome the increase" 32%
"Want to be increased" 63%

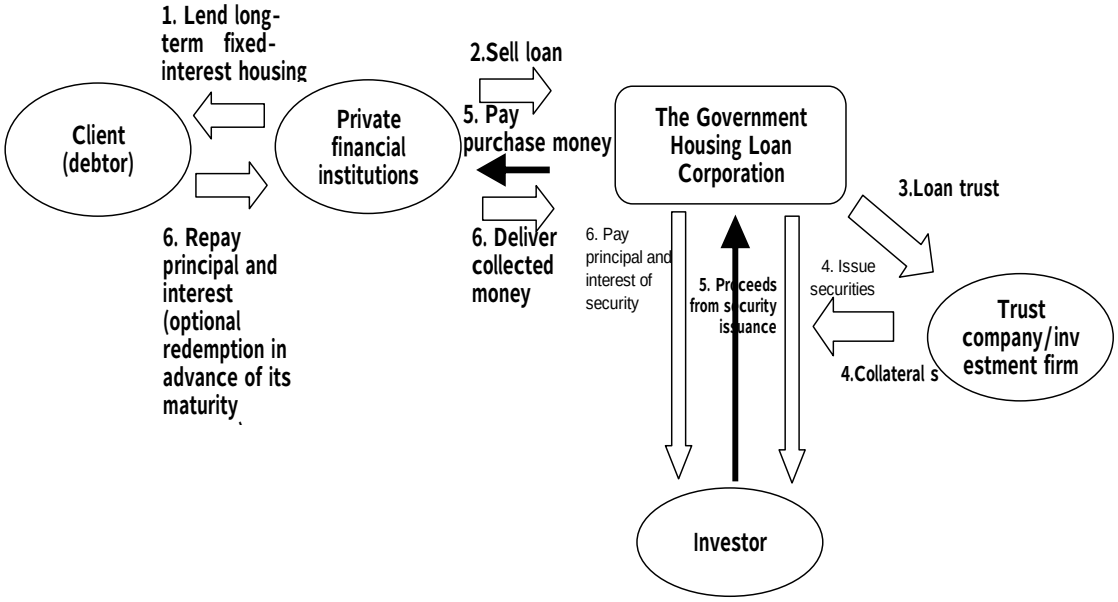
Chapter 4 City and Housing

4.1 Housing Finance and Securitization

- The Government Housing Loan Corporation started a securitization support service for private-sector housing loan bonds (purchase) in October 2003.
- Under this scheme, private financial institutions can offer long-term fixed-interest housing loans having a strong consumer demand. The number of financial institutions participating in this scheme is increasing.
- The U.S. pioneered the securitization of housing loans. Various products, developed for investors and special institutions supporting consumers, have helped the market grow. Japan should aim to develop a consumer-oriented securities market by inviting financial institutions and by enhancing intermediary functions of housing companies.

• The securitization support service

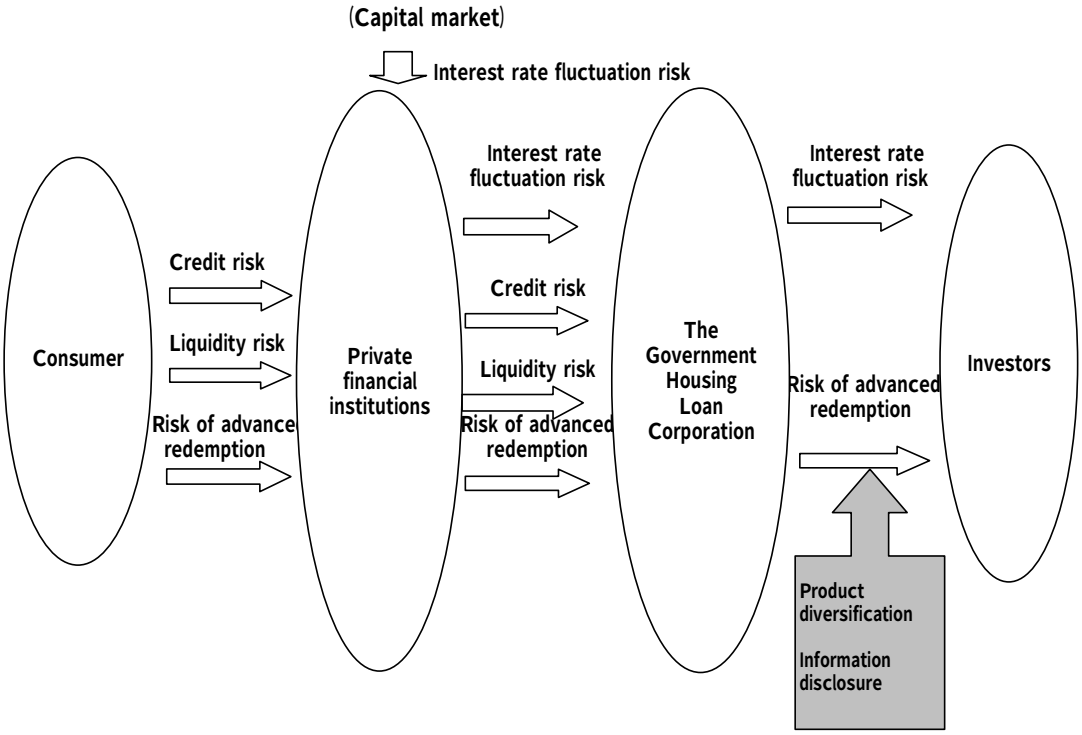
The Government Housing Loan Corporation securitization support service has two types of bonds: "purchase" and "guarantee." The "purchase" bond was launched in October 2003. Its scheme is as follows:



•

• Securitization support service and risk sharing

With the entry of new players, the conventional housing finance market (consisting of only consumers and financial institutions) will enter a new stage. With the establishment of a new scheme, various players mutually sharing risk will be able to supply low-interest housing loans. The next challenge is to set the conditions to attract more investors.



4.2 City Planning Focused on the "Compact City"

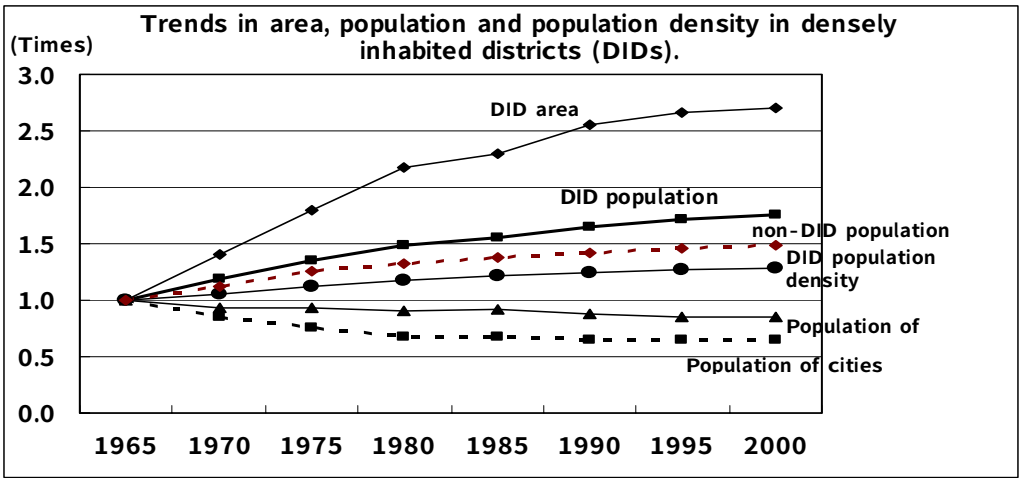
- The urban sprawl progressed in postwar Japan due to the concentration of population, industry, and motorization. Cities now face problems such as: a) the decline of city centers, b) longer commuting times and traffic congestion, c) car-dependent urban structures not friendly to senior citizens, and d) high costs of urban management.
- The "Compact City" is a promising concept that may alleviate these problems. It requires the following measures:
  a) Citizens, businesses and governments should share the image of the city and collaborate in city planning;
  b) The control of urban sprawl;
  c) Measures to revitalize city centers (e.g., entice people to return); and
  d) Shift to more sustainable lifestyles.

Trends in city planning in Japan

- Many city planning efforts, both at national and local levels, feature the Compact City these days. The current issue of the Construction Economy Report introduces the cases of two cities: Aomori and Sendai.
- Although the backgrounds and the reasons of introducing the concept differ from city to city, they share the following Compact City idea and philosophy:
  a) Stop further sprawl outside the city and harmonize with nature, and
  b) Concentrate urban functions within the city and focus on revitalizing city centers.

Postwar urban sprawl in Japan

- The urban sprawl progressed in postwar Japan due to the concentration of population, industry and motorization (see graph below). Cities now face problems including: a) decline of city centers, b) longer commuting times and traffic congestion, c) car-dependent urban structure not friendly to senior citizens and d) high costs of urban management.



Local "compact" cities

- The "Compact City" is a promising concept that may alleviate these problems. It requires the following measures:

  a) Citizens, businesses and governments should share the image of the city and collaborate in city planning;

  b) The control of urban sprawl;

  c) Measures to revitalize city centers (e.g., entice people to return); and

  d) Shift to more sustainable lifestyles.

Chapter 5 Overseas Trends

5.1 Trends in Overseas Construction Markets

- Compared with construction investment in Japan (= 100), the figures in overseas markets are: 185 for the United States, 110 for Western Europe, 6 for Eastern Europe, and 107 for Asia.
- The proportion of construction investment out of total GDP is 11.3% for Japan and 14.9% for Asia. This figure was lower in the United States (8.0%), Western Europe (5.5%) and Eastern Europe (8.3%).
- Countries and territories surrounding rapidly growing China are trying harder to boost their economies. Hong Kong has concluded the CEPA contract; Singapore is investing its resources on knowledge intensive economy; and Thailand has adopted a dual-track strategy.

Construction Markets by Country and by Region
(Nominal value, converted to trillions of yen)

	Japan[1] FY2002	United States 2002	Western Europe[2] 2002	Eastern Europe[3] 2002	Asia[4] 2002
GDP	499.0 (100)	1,309.8 (262.5)	1117.5 (224.0)	40.8 (8.2)	407.8 (81.7)
Construction Market	68.1 (100)	—	110.8 (162.7)	4.7 (6.9)	—
Proportion to GDP (%)	13.6	—	9.9	11.5	—
Construction Investment	56.5 (100)	104.7 (185.3)	61.9 (109.6)	3.4 (6.0)	60.6 (107.3)
Proportion to GDP (%)	11.3	8.0	5.5	8.3	14.9

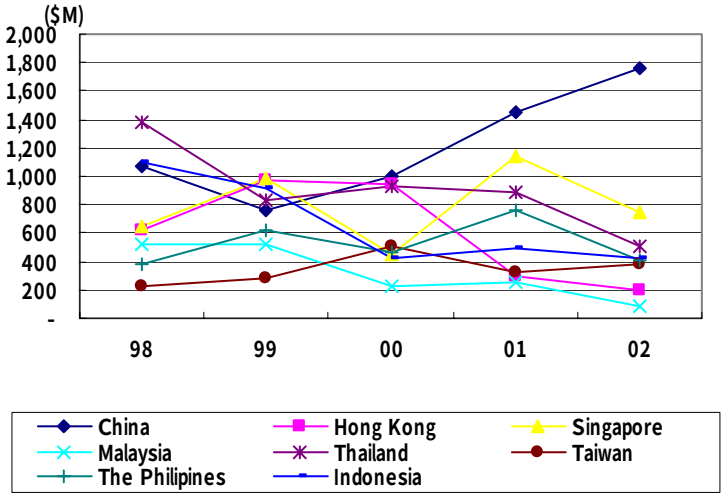
(Japan = 100)

Notes

1. Data for Japan is fiscal year (FY)-based. GDP is a forecast figure (by RICE), and the amount of construction investment is an outlook (by the Ministry of Land, Infrastructure and Transport).
2. "Western Europe" consists of 15 countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Italy, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and UK.
3. "Eastern Europe" consists of 4 countries: Czech Republic, Hungary, Poland and Slovakia.
4. "Asia" includes 12 countries and territories: China, Hong Kong, Taiwan, India, Indonesia, Korea, Malaysia, The Philippines, Singapore, Sri Lanka, Vietnam and Thailand. Construction investment data for The Philippines, Taiwan and Thailand is as of 2000, for China is as of 1999 and for Indonesia and Vietnam are as of 1998. The amount of orders received for construction work is used instead of construction investment amount for Malaysia.

- China: China's economy is rapidly expanding and the country has become the world's largest recipient of overseas direct investment. China, with a huge potential consumer market, abundant human resources and inexpensive labor costs, has changed the map of Asia's production base. As overseas direct investment has shifted to China, the economies of its surrounding countries have grown sluggish. These countries are taking new recovery measures, as outlined above.

Trends in Japan's overseas direct investment



The US: At the beginning of 2003 the amount of construction investment in educational facilities (accounting for over 25% of public investment) and that in roads and highways (nearly 30% of public investment) recorded negative growth. Public investment and private-sector housing investment could not offset the drastic decline in private-sector non-housing investment, to sustain the overall growth of construction investment. Compared with the same month of the previous year, however, the investment in roads and highways grew by 11.5%, although investment in educational facilities fell by 1.3%. Kenneth D. Simonson, chief economist for the Associated General Contractors of America, commented that the effect of the growing state budget deficits has not yet surfaced.

	1997	1998	1999r	2000r	2001r	2002r	2003p	Composition ratio
New investment total	653,429	705,685	766,062	828,768	852,553	860,923	934,515	100.0
	6.1	8.0	8.6	8.2	2.9	1.0	8.5	
Public-sector works	502,734	551,383	596,331	642,633	652,496	650,495	710,816	76.1
	5.5	9.7	8.2	7.8	1.5	-0.3	9.3	
Housing	289,014	314,607	350,562	374,457	388,324	421,521	495,745	53.0
	2.8	8.9	11.4	6.8	3.7	8.5	17.6	
Non-housing, etc.	213,720	236,776	245,769	268,176	264,172	228,974	215,071	23.0
	9.3	10.8	3.8	9.1	-1.5	-13.3	-6.1	
Public works	150,695	154,302	169,732	186,135	200,057	210,428	223,699	23.9
	8.2	2.4	10.0	9.7	7.5	5.2	6.3	
Construction	N/A	N/A	N/A	N/A	N/A	124,651	130,464	14.0
	N/A	N/A	N/A	N/A	N/A	N/A	4.7	
Civil engineering, et	N/A	N/A	N/A	N/A	N/A	85,777	93,235	10.0
	N/A	N/A	N/A	N/A	N/A	N/A	8.7	

Notes:

1. Compiles from the data announced by the Department of Commerce

2. The figures for 2003 are figures as of November, seasonally adjusted and converted to annual rates (Price =1996).

3. r = revised, p = preliminary

5.2 The Financial State of US Construction Companies

- Comparing the ratios of ordinary profit to total assets of construction companies, those of US companies have been rising since 1996 while those of Japanese companies have been on the decline. Both the operating profit ratio of revenue from completed works, and the ordinary profit ratio of revenue from completed works were higher in Japan until 1996. Those of two business categories of the US (“civil engineering” and “construction-related subcontractors”) have exceeded those of four Japanese business categories since 1997.
- When revenue from completed works (indicator of business performance) is divided by various types of assets, to indicate the level of business activity, all ratios are higher for the US companies than the Japanese ones. Total asset turnover and current asset turnover were both more than twice as large for the U.S. companies compared with the Japanese ones; the turnover ratio of inventory was nearly four times larger; and the tangible fixed asset turnover was over seven times greater.
- The length of days receivable (collection period) and days payable (time a company takes to pay vendors) are similar when Japan’s “civil engineering and construction,” “civil engineering” and “construction,” and “construction” of the US are compared. Days receivable by “subcontractors” of both countries, on the other hand, are longer than days payable, indicating that subcontractors are having a hard time collecting money.

Trends in the three indicators of profit rate: ordinary profit to total assets, operating profit ratios of revenue from completed works, and ordinary profit ratios of revenue from completed works.

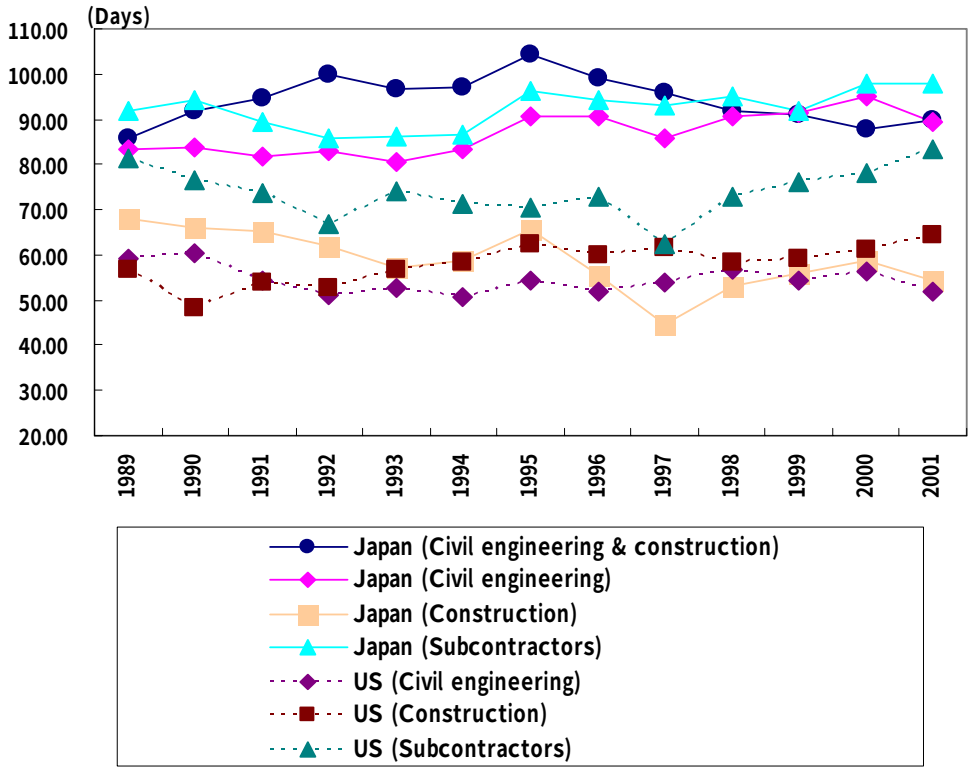
Ordinary profit to total assets (%)						
	1996	1997	1998	1999	2000	2001
Japan (Civil engineering & construction)	1.70%	1.51%	1.06%	2.18%	1.95%	1.59%
Japan (Civil engineering)	3.70%	2.66%	2.70%	3.19%	3.22%	2.53%
Japan (Construction)	2.97%	2.93%	2.25%	2.60%	3.17%	2.73%
Japan (Subcontractors)	3.34%	2.46%	1.91%	2.67%	2.71%	2.33%
US (Civil engineering)	6.06%	7.84%	5.86%	8.84%	9.15%	7.94%
US (Construction)	4.27%	5.11%	5.23%	5.69%	5.44%	4.75%
US (Subcontractors)	7.06%	10.35%	10.88%	11.67%	9.93%	10.68%

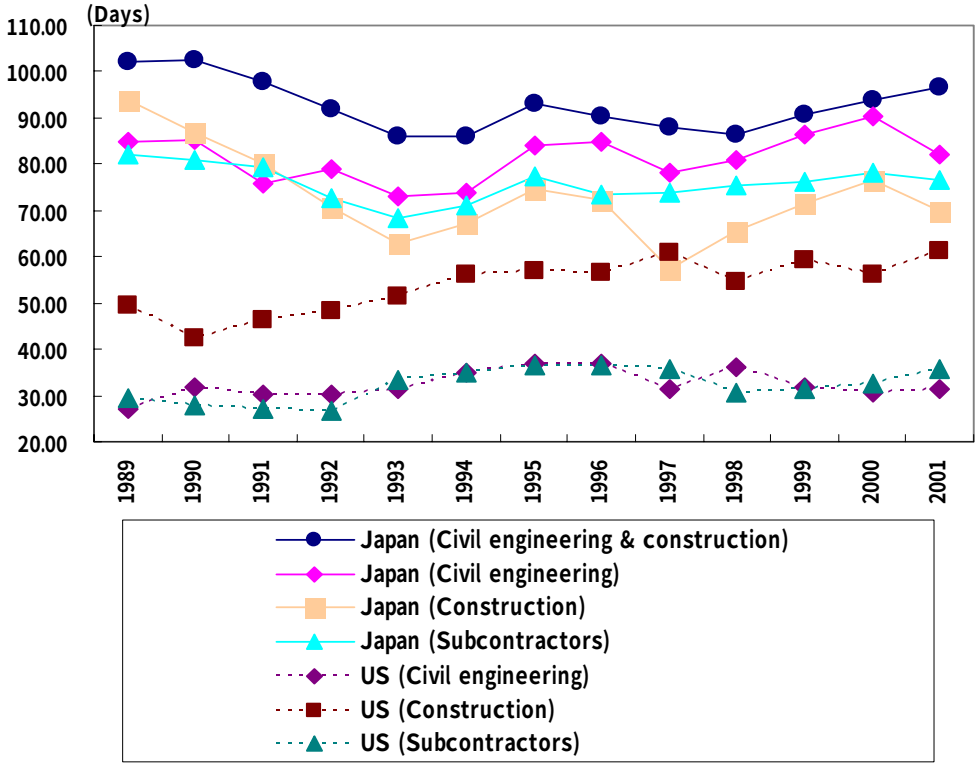
Operating profit ratios of revenue from completed works (%)						
	1996	1997	1998	1999	2000	2001
Japan (Civil engineering & construction)	2.72%	2.32%	2.43%	3.20%	3.04%	2.26%
Japan (Civil engineering)	3.01%	2.19%	2.29%	2.75%	2.76%	2.25%
Japan (Construction)	3.07%	2.36%	2.26%	3.11%	3.30%	2.54%
Japan (Subcontractors)	3.21%	2.36%	2.03%	2.90%	2.79%	2.31%
US (Civil engineering)	2.92%	4.21%	2.79%	4.39%	4.43%	3.74%
US (Construction)	1.28%	1.72%	1.37%	1.47%	1.40%	1.08%
US (Subcontractors)	2.86%	3.67%	3.90%	4.64%	4.61%	4.82%

Ordinary profit ratios of revenue from completed works (%)						
	1996	1997	1998	1999	2000	2001
Japan (Civil engineering & construction)	2.03%	1.72%	1.28%	2.75%	2.30%	1.85%
Japan (Civil engineering)	2.87%	2.04%	2.20%	2.66%	2.69%	2.14%
Japan (Construction)	2.86%	2.30%	2.15%	2.93%	3.21%	2.53%
Japan (Subcontractors)	3.16%	2.36%	2.03%	2.92%	2.83%	2.46%
US (Civil engineering)	2.70%	3.98%	2.61%	4.04%	4.04%	3.48%
US (Construction)	1.37%	1.88%	1.58%	1.69%	1.55%	1.42%
US (Subcontractors)	2.52%	3.48%	3.70%	4.44%	4.34%	4.63%

Data from the Construction Industry Information Center and the Construction Financial Management Association (CFMA).

Days receivable and days payable





Data from the Construction Industry Information Center and the Construction Financial Management Association (CFMA).

5.3 Debts and State Governments

- State and local governments of the US are more financially independent than their Japanese counterparts; they procure 80% of the money they spend locally, and rely less on federal aid. More discretionary powers involve more financial responsibility, and in the worst case, the governor may be removed from office, as was the case in the State of California. Based on a report on the conditions of US social infrastructure announced by the American Society of Civil Engineers every other year, the conditions of facilities have deteriorated over the past two years. It is feared that worsening local financial conditions may further accelerate the degradation of infrastructure in America.
- Since FY2001 the financial states of many US local governments have gone from black to red. The total deficit has blossomed to 78 billion dollars. These local governments are trying to cut spending, but education, welfare and other spending that cannot be reduced for political reasons accounts for a significant portion of overall outgoings. In addition, the budget of the State of California, which can be ranked as the "world's fifth largest country" in terms of the size of its GDP, is often influenced by the state's referendum system.

FY2001 US government revenue and spending Unit: US$b

	Expenditure		Revenue	
Federal government	1,540	44.8%	1,991	56.0%
State&local governments	1,899	55.2%	1,566	44.0%
Total	3,439	100.0%	3,557	100.0%

Compiled from the Statistical Abstract of the United States, 2001
（Federal government spending on state & local governments, and state & local government revenue from the federal government excluded）

FY200 Japanese government revenue and spending Units: US$b

	Expenditure		Revenue	
National government	572	39.6%	849	59.9%
Local governments	873	60.4%	568	40.1%
Total	1,445	100.0%	1,417	100.0%

Compiled from the data from the Ministry of Public Management, Home Affairs, Posts and Telecommunications and the Ministry of Finance (National government spending on local governments, and local government revenue from the national government excluded). Calculated at US$1 = 110 yen.