

RIETI

Highlight

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Special
Edition

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President & CRO, RIETI

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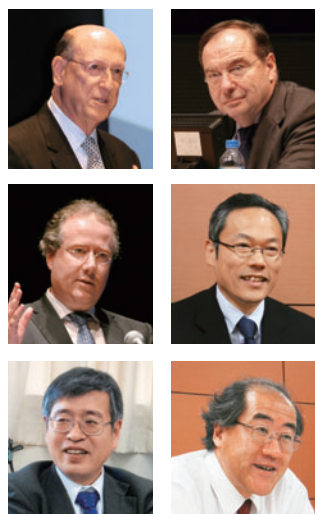
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What is RIETI Highlight

RIETI's public relations magazine "Highlight" is published quarterly, featuring RIETI's most recent activities including symposiums and seminars, book reviews, and columns written by research fellows, with the objective of disseminating research outcomes to a wider audience. The English edition of "Highlight" is published annually in order to reach our international readers. In this issue, we present a special feature entitled "Industrial Policy and Economic Growth," into this theme RIETI has invested much time and effort, and introduce you major research findings.

ABOUT RIETI

The Research Institute of Economy, Trade and Industry (RIETI), an incorporated administrative agency, was founded in April 2001 as a government-affiliated policy research institute with a certain degree of independence from the administrative authorities. RIETI endeavors to analyze and research various policy issues from a medium- to long-term perspective, thereby accumulating the necessary knowledge to formulate and recommend policy options.

Research themes and fellows

RIETI has set up an overall framework of research themes to respond to the policymaking needs. Within this overall framework, research fellows undertake their own research in an unfettered atmosphere, building organic linkages with other current research. For the realization of a flexible and interdisciplinary research environment, fellows with diverse backgrounds are engaged in research at RIETI. In addition to fulltime fellows, RIETI also appoints part-time fellows consisting of faculty fellows who concurrently hold positions at universities, and consulting fellows who concurrently hold positions at government agencies and other organizations.

<Framework of research themes for FY 2006 to FY2010>

Major Policy Research Domains

- I. Maintaining Economic Dynamism under the Adverse Demographic Conditions of Low Fertility and Aging Population
- II. Promoting Innovation and Strengthening International Competitiveness
- III. Formulating Japan's Strategy in Response to Globalization and Deepening Economic Interdependence in Asia
- IV. Compilation of the History of Japan's Trade and Industry Policy

Adjacent Basic Research Areas

- A. Institutions Related to Financial and Labor Markets, and New Corporate Law and Governance
- B. Regulatory Reforms and Evaluation Frameworks for Deregulation
- C. Compilation of Micro Panel Data on Firm Activities, Trade, Energy, and the Elderly; Model Building and Operation

RIETI's mission and strength

RIETI seeks to provide an efficient and effective theoretical foundation and knowledge network to the policymaking authorities. Addressing a broad array of domestic and international issues as an institute where researchers can simultaneously pursue academic studies and policy research, RIETI is capitalizing on its strength of enabling studies based on valuable empirical data. Operating in this dynamic environment, RIETI aspires to become a platform for creating and exchanging wisdom.

"The Importance of Knowledge Diversity for Economic Growth"



This message focuses on policy implications based on the findings of Discussion Paper No. 10-E-24. For further details, please refer to the Discussion Paper.

Since the end of the last century, the world economy appears to have been shifting from an industrialized society based on mass production to a brain power society, or in other words, a knowledge-creation society powered by innovation and knowledge-creation activities. The key resources of this new society are capable individuals, specifically their ability to acquire diverse knowledge adding or creating knowledge by building on what was previously learned. In the broad sense, these resources are software and synergy is not generated from the same software alone. For an economic society as a whole, it is important to take advantage of synergies that arise from the interaction of knowledge diversity. How is synergy generated from knowledge diversity? The answer can be found in the old Japanese proverb, "San nin yoreba monju no chie," which is the equivalent of "Two heads are better than one." To simplify, let's consider two individuals, I and J, as illustrated in **Figure 1**. First, presume that I and J each have their own

respective knowledge set, but that they cannot communicate effectively unless I and J share some knowledge in common. However, cooperation is meaningless unless each possesses differential knowledge that the other doesn't. A good balance between shared and unshared knowledge is vital in the joint creation of knowledge. Close long-term collaboration produces an overweighting of shared knowledge that will reduce the synergy in knowledge creation. In an economic society comprising of large groups of R&D workers, it is important to ensure that collaborators are replaced at regular intervals to avert the excessive growth of shared knowledge.

Our study has generalized this notion into a dynamic mathematical model and integrated it with the endogenous growth model devised by Helpman and Romer. An economy consists of a manufacturing sector and an R&D sector. The former supplies consumers with a wide variety of goods that are horizontally differentiated, while the latter supplies blueprints of new goods to the former in the shape of patents. Businesses in the manufacturing sector purchase patented blueprints of goods from the latter and employ homogeneous (ordinary) workers to manufacture specific goods. In the R&D

Masahisa FUJITA

President & CRO, RIETI/Professor, Konan University

Professor Fujita's expertise includes urban and regional economics, regional development, spatial economics and international economics. He obtained his Ph.D. in regional science from the University of Pennsylvania in 1972. Prior to his current position, he was a professor at the Regional Science Department, University of Pennsylvania (1986–94) and a professor at the Department of Economics, University of Pennsylvania (1994–95). He is a member of the American Economic Association, the Japanese Economic Association, the Econometric Society, and the International Regional Science Association. Selected publications include *Economics of Agglomeration* (written with J. F. Thisse), Cambridge University Press, 2002, *The Spatial Economy* (written with P. Krugman and A. Venables), MIT Press, 1999, *Urban Economic Theory*, Cambridge University Press, 1989, and others.



sector, a number of R&D workers who constitute horizontally differentiated knowledge produce new blueprints of goods individually or in pairs (to simplify the model, the size of an R&D team is limited to two persons).

R&D workers obtain new knowledge through their own R&D activities or from published information on registered patents in accordance with the abilities of those workers to learn and expand their total knowledge.

As an initial condition, let's presume relatively limited diversity among all R&D workers. It follows that individual R&D workers will regularly team up with partners of the highest knowledge productivity. By repeatedly changing partners at a later date, self-organization in the R&D sector as a whole occurs in the long term, and there is a strong possibility of achieving an ideal state such that the knowledge rate on a social scale is at its highest.

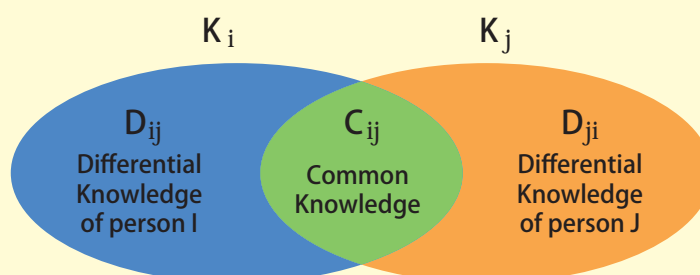
In this ideal state, the R&D workers are split into relatively small or appropriately sized groups at research institutions and universities. Close interaction occurs within each group, although there is only loose exchange among separate groups. Relatively small groups are appropriate for improvement-oriented R&D activities, emphasizing the importance of knowledge in common. On the other hand, much larger groups are preferred for pioneering R&D activities in such areas as biotechnology and software,

in which differential knowledge is particularly valued. If speed in the diffusion of patents and other published information increases by dint of progress in information or other technology, such groups must become larger to avoid an excessive proportion of knowledge in common within them. In reality, however, it is by no means easy for an R&D system in a near-optimal form to shift to a new manifestation of perfection in line with major technological changes, including those engendered by the IT revolution. Once such a system is formed, however, individual R&D groups accumulate their own knowledge in common inside the system, which causes a lock-in effect and effectively discourages R&D workers from moving between organizations, thereby causing the entire R&D system to calcify.

This negative lock-in effect of the R&D system is considered to be an impediment to the transition of Japan's

R&D system, from its traditional focus on improvement-oriented activities to pioneering-oriented activities. It is this latter orientation that is desirable given current circumstances favoring the prospects of the IT revolution and rapid globalization. In fact, Walsh and Nagaoka (2009) surveyed Japanese and U.S. patent inventors to learn that inter-organizational mobility (among companies and universities) for inventors is much poorer in Japan than it is in the United States. In addition, nearly 30% of inventors based in the United States are foreign-born, whereas almost none of their counterparts in Japan come from outside Japan. This suggests that in order for Japan to shift to an exploratory innovation system that is best equipped to succeed in the 21st century, Japan needs to reconstruct a socioeconomic system with greater diversity and mobility, in which differential knowledge is given much higher priority than in the past.

Figure 1: Cooperative process of knowledge creation



Industrial Policy and Economic Growth

In the 1980s, numerous economic analyses were conducted on industrial policy, but the enthusiasm of economists toward the subject waned during the 1990s as the Japanese economy entered its "lost decade." Practical industrial policy also began to abandon its traditional focus on specific industries. However, with the global economic crisis that arose from the Lehman Shock in autumn 2008, major countries have actively engaged in industrial policy that supports or promotes predominantly green growth industries and companies, such as those manufacturing solar batteries and electric automobiles. In 2010, the EU Commission put forward "Europe 2020," a new strategy for growth, and in Japan, Ministry of Economy, Trade and Industry (METI) published "The Industrial Structure Vision 2010," with the Government subsequently announcing its "New Growth Strategy" this June (see page 6).

RIETI has conducted various research related to economic growth policy, such as innovation, productivity, and globalization of enterprises, and the results have contributed to planning a growth strategy. In late 2009, RIETI invited influential figures from the U.S. and Europe to participate in "Industry-Related Government Policy and the Global Economic Crisis," a symposium to discuss the positive roles and potential pitfalls of industrial policy in major economies.

The existence of "market failure" is evident in cutting-edge industries where development and diffusion of innovations are crucial or in environment-related industries where the focus is on dealing with external diseconomy. In such cases, well-designed industrial policies can contribute to industry development and economic growth. However, inappropriate policy measures may hinder natural market selection mechanisms and this may be detrimental to long-term economic growth. The recent experiences of major countries in the wake of the global economic crisis suggest the necessity of deepening theoretical and empirical studies on industrial policy. We introduce some of the recent research of RIETI related to the abovementioned issues.

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Industrial Structure Vision 2010 and New Growth Strategy

Industrial Structure Vision 2010

Reinforcement of five strategic areas

- Export of infrastructure as a packaged system (nuclear power, water, railways, etc.)
- Industries for business solutions pertaining to the environment and energy (smart community, next-generation vehicles, etc.)
- Creative industries (fashion, content, etc.)
- Medical, nursing, health, and child care services
- Frontier fields (robots, space, etc.)

Cross-cutting policies to support Japanese industry

1. Comprehensive strategy to make Japan Asia's industrial center

- Promote Japan as the Asian center
- Attract and nurture excellent international human resources
- Improve systems and reinforce infrastructure for transport and distribution (strong promotion of open-sky policy, etc.)
- Establish strategic centers

2. Reform the corporate tax system according to international standards

- Lower the effective corporate tax rate to meet international standards (e.g., 25%-30%)
(Lowering the corporate tax rate by about 5% as a prompt challenge)

3. Industrial restructuring to increase earning capacity, easing of restrictions for company establishment or dissolution

- Competition policy (ensure transparency of "Review of Business Combination," make it more medium- to long-term perspective-oriented and more global-market-oriented)
- Legislation for corporate organizations (simplify and/or diversify procedures for organizational restructuring such as M&A)

4. Development of international strategy that facilitates value-added acquisitions

- Strategic design for international standardization (identification of ten targeted fields)
- Trade policy (promote the integration of Japanese and Asian economies, expand network of EPAs, investment cooperation, etc.)

5. Reinforcement and maintenance of key industrial capabilities (support SMEs in the overseas markets)

6. Promotion of R&D to create new values

- Enhance government investments in R&D (targeted at 1% of GDP)
- Establish a new research scheme with collaboration among industries, academia, and government (Tsukuba Nanotech Innovation Arena scheme)

7. IT to facilitate the advancement of all industries

8. Development of human resources to meet changes in industrial framework

- Enhance both the development of human resources and employment diversity (strengthening support for job training, establish the Japanese version of National Vocational Qualifications [NVQs], etc.)

New Growth Strategy

Green innovation

- Introducing smart community, next-generation vehicles, etc.
- "Eco-future city" initiative

Life innovation

- Grow the health-related service industry (quality standardization, clarification of gray zone in medical practice)
- Develop innovative Japanese medicinal products, healthcare robots, and accept foreign patients (creating temporary stay visa for medical treatment)

Co-prosperity with Asia

- Export infrastructure as a packaged system
- Lower the effective corporate tax rate to a level on a par with other major nations
- Promote Japan as the Asian center
- Foster global talents and increase acceptance of highly skilled personnel from abroad (provide preferential treatment for immigration control based on a "point system" and accept a broad range of personnel)
- Promoting full open skies, intensive investment in port infrastructure to handle larger container ships
- Strategic design for international standardization (identification of targeted fields)
- Export "Cool Japan"
- Free Trade Area of Asia-Pacific (FTAAP) and EPAs/FTAs

Tourism-oriented nation and local revitalization

- Introduce a "comprehensive special zone system"
- Introduce a package for SMEs to support their overseas market cultivation

Science-and-technology-oriented nation

- Strengthen international competitiveness of science and technology by creating leading graduate schools and other schemes
- Establish a new research scheme with collaboration among industries, academia, and government (Tsukuba Nanotech Innovation Arena scheme)
- Promote investments in R&D (government-private collaboration targeted at 4% of GDP)
- Promote a comprehensive cloud computing infrastructure

Employment and human resources

- Integrate kindergartens and nursery schools
- Introduce the "career grading system" (establish the Japanese version of National Vocational Qualifications [NVQs])

Financial Strategy

- Revisit "Review of Business Combination" and carry out necessary revisions
- Study measures to simplify and/or diversify procedures for organizational restructuring such as M&A

RIETI Policy Symposium

Industry-Related Government Policy and the Global Economic Crisis

December 16, 2009

Amid the current financial and economic crisis, many governments have implemented a variety of policies to assist industry and businesses. These policies include firstly, temporary assistance for businesses in financial difficulties resulting from considerable exogenous shock and secondly, forward-looking assistance for future growth areas such as low-carbon and health industries.

Under these circumstances, it is necessary to understand exactly how each of the major countries around the world have implemented industrial policies as well as deepening discussions on what industrial policies should be during and after a crisis.

With this goal in mind, RIETI held a symposium in collaboration with METI and had invited three specialists from the U.S., France, and Germany to share their experiences of how each of their countries approached policies aimed at assisting industry and businesses during the current crisis. The significance, issues, and future of such industrial-assistance policies were debated in a panel discussion.

Session 1

Industrial and Business Support Initiatives being Undertaken by Each Country around the World

Report 1



"Real Economy Support by the United States in Response to the Economic Crisis"

Richard A. GITLIN
(Chairman,
Gitlin and Company, LLC)

Four elements of an industrial strategy

Governments should implement industrial strategies for three reasons. First, there is currently more capacity than demand. Second, we will not solve unemployment without wisely positioning existing industries and supporting industries of the future. Third, other countries are implementing industrial strategies.

There are four elements of an industrial strategy: policy, decisions, execution, and the stage in which investments are managed and then exited. First, policy means that you should be able to explain the reason for executing the strategy to society in an understandable fashion. Second, once a policy is established, decisions must be made by the right people. Third, by execution I am referring to how decisions are carried out, and this is extremely important. Fourth, industrial strategy must be managed properly to consider any necessary adjustments, including how to exit.

Looking at the auto industry and battery industry as examples, we can see these four elements of the U.S. government's response to the current crisis.

Actual cases in the U.S.—auto industry and battery industry

For the auto industry, the policy was confusing. At best guess, it seemed to be decided that automobile manufacturing was critical to the U.S. manufacturing industry as a whole, and as a result, Chrysler and GM should be bailed out. But should Chrysler have been saved? Would the automobile industry be stronger

without Chrysler? The execution was brilliant, with top professionals brought into the government to efficiently restructure firms and make real changes. Exiting from these investments will be challenging as many of the experts brought into the government have since left, with the exception of Ron Bloom.

The other example is the battery industry. Batteries are an integral part of hybrid and electric cars. The battery market is projected to grow from \$7 billion currently to \$170 billion in the next 10 years. The U.S. has the capability to become a leader in R&D and manufacturing of high-tech batteries in the future. In order for this to happen, the U.S. government must put significant resources behind this industry.

Two companies, among many others, received money from the U.S. government to develop and produce batteries. The first, A123 Systems, was started by people from MIT and has good technology. It will likely receive almost \$500 million dollars in grants and loans to continue its work, even though the company had next to no earnings to show for itself. The second company, Ener1, was \$80 million in debt four years ago. With the help of angel investors, venture capital and public capital, the company was able to continue. This company, with a track record of losing money, was given over \$100 million dollars in grants through the government's stimulus program because of its excellent technology and its future promise. I think these examples say a lot about the U.S. approach to investing money. The U.S. does not put money into privileged or established companies, it looks for the companies with the best people; it invests for the future growth of society.

Let me finish with a few observations about what is necessary for the execution of successful industrial strategy. First, successful execution requires collaboration between the government, industry, and the academic community. Second, it requires a commitment at the highest level. Third, it requires oversight—there must be someone or some organization making sure that the

government does not chase after bad investments. Last, and this is the most important point I think, a successful industrial strategy is one in which the government enters to help the economy and then stops intervening once a recovery has been achieved to preserve competition in the economy.

Example of US support of a growth industry of the future —electric vehicles

Three key provisions of the American Recovery and Reinvestment Act of 2009 ("ARRA")

1 Battery development

- ◆ Two billion dollars of grants
- ◆ Ion batteries, hybrid electric systems, component manufactures and software designers

2 30% tax credit for manufacturing facilities for electric/hybrid batteries

3 Tax credit for vehicle purchase

- ◆ Hybrid plug in
Range from \$2,500 to \$7,500
First 200,000 vehicles
- ◆ Slow electric vehicles, 2 and 3 wheel electric vehicles
10% up to \$2,500

Report 2



"Governmental Assistance for Industries and Businesses: The French Response"

Jacques HENROT
(Partner and Head of the Restructuring and Dispute Resolution teams, De Pardieu Brocas Maffei)

State's intervention is being resuscitated in France

In the past, France was often criticized for the excessive part taken by the State in the economy. Major banks or industries were either in part or even fully under the control of the State. France was for instance the last post-war economy to have until recently a completely state-

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Industry-Related Government Policy and the Global Economic Crisis

owned major car manufacturer, Renault; the employees of which could not go on strike without creating an immediate problem for the government, which did not help at improving its productivity at the time. Despite the criticism that this level of State intervention generated in the past, in the face of the current crisis, some of France's ancient support/intervention techniques are being resuscitated to help France weather the storm.

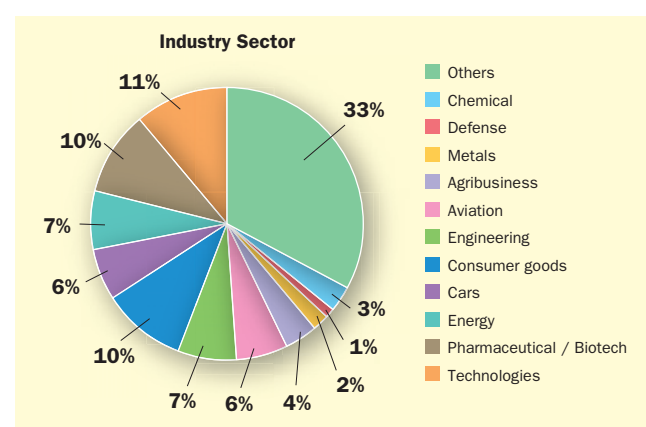
Let's focus on three of these techniques: (1) increased funding through the European Investment Bank (EIB); (2) the stimulus package, which the government put together in 2008 and 2009; and (3) the Fonds Strategique d'Investissement (FSI).

The EIB, of which the EU member states are automatically shareholders, is an institution set up in 1958 essentially to fund, through long term loans, projects in Europe. Before the crisis, the EIB was already providing around 60 billion euros/year of financing to SMEs' infrastructure and other projects, R&D ventures, green industries, etc.... When the crisis hit, channels were in place to offer otherwise unavailable funding to a larger number of beneficiaries. For 2009 and 2010, the EIB should increase its total lending capacity by some 30% (EUR 15bn. or JPY 1,963 bn.). Additional global investment value expected should reach around EUR 72 bn. or JPY 9,420 bn. Lending to SMEs should rise by 50% compared to 2008.

On the domestic side, of the two-year 26.5 bn. euro stimulus package announced in 2008, 75% was injected in the system in 2009. One of the techniques used was to accelerate refunds of provisional corporate tax installments and VAT credits. A so-called 1,000 new projects program was launched—a New Deal type program in which the government funded 1,000 essentially public works projects. Within the list of more day-to-day measures, standard terms of payment of invoices were shortened by decree to 60 days. The government moved to support insurers and increased its grant to OSEO (an existing state agency financing SMEs directly or through guarantees) by 5 bn. euros.

The FSI was established in December 2008 to act as an equity funding tool for the French State. Even though 100% controlled by the State directly, and through Caisse des Depots (a public institution that past governments also used for missions similar to that of the FSI), it is incorporated and set up to function as an ordinary commercial company. The FSI takes a minority stake in strategic businesses when their share capital structure needs to be reinforced. It has a budget of 20 bn. euros. So far it has invested in a wide variety of companies such as Accord and EuroTel Group, and in smaller companies facing difficulties, especially car parts manufacturers (through FSI's sub-fund FMEA).

The Strategic Investment Fund (FSI)



Effects and lessons of French policy responses

Did these policies work? It is probably too early to say; but, apparently they were not too bad if you look at credit ratings of European countries, since only France and Germany still have a triple A rating, and statistics show a growing number of new micro start-ups.

One of the main lessons to draw from the various responses to the crisis is that stimulus measures have to be transparent, temporary, and of an assessable cost. They must be evaluated in a reasonably short time, otherwise taxpayers will sooner or later refuse the efforts requested from them to fund such measures.

Report 3



"Germany's Response to the Financial Crisis—Governmental Assistance for Industries in Germany"

Josef BROICH
(Partner, Broich Bezenberger)

Germany's concern about policy responses

Germany in 2007/2008 was in a relatively good position to deal with the financial crisis. When it hit, Germany's answer was not as strong as those seen in France or the U.S.; it was reluctant. The German government did not want to engage in equity investments. The reason for this was that Germany had privatized many of its state-owned companies a few years earlier, and people were reluctant about possibly moving back to a time when there was too much state control.

In the end, there were two main features in Germany's response. First, Germany created Sonderfonds Finanzmarktstabilisierung (SoFFin), which is a special fund designed to prevent insolvencies in the financial sector. Second, Germany implemented two stimulus packages. Actually, the stimulus packages were implemented mainly by SoFFin and KfW Bankengruppe, a banking group. Both

packages were implemented with the strong belief that Germany wanted to maintain and strengthen its industrial backbone.

Achievements of stimulus measures—debt ceiling and employment maintenance

Package one offered 50 bn. euros for investments and orders and an additional 20 bn. euros to help maintain the financial resources and liquidity of enterprises.

Package two offered 14 bn. euros for infrastructure improvements and education, and then put 36 bn. euros into the financing program. Two important results of package two were the "debt brake" and the effect on unemployment.

The so-called "debt brake" is a policy that will come into effect in two years. It limits the ability of the government to take on more debt. German people want the government to do something, but not at the expense of greater future debt.

Package two was also implemented to minimize unemployment. Germany offered money to companies through the package in order to implement short hour work programs, in which employees work less hours per week, thereby allowing companies to avoid layoffs. It is estimated that Germany avoided approximately 600,000 cases of unemployment this way. Whether the package has prevented a rise in unemployment in a way that is sustainable in the long term or not is yet unclear.

SoFFin—Special Fund Financial Market Stabilization

SoFFin

- ▶ SoFFin was created on October 17, 2008 in connection with the financial crisis by the German Parliament and enacted on October 20, 2008.
- ▶ It is established as an agency at the German Federal Bank (Deutsche Bundesbank) and is supervised by the Federal Ministry of Finance.
- ▶ SoFFin is limited in time until December 31, 2010.

Tasks

- ▶ Guarantees: Guarantee newly issued debt securities and (founded) other liabilities of financial sector enterprises. All liabilities may have a maximum term of 60 months.
- ▶ Recapitalization: Investing in equity (recapitalization) of financial institutions in the amount of up to EUR 10bn. This may be achieved by the issuance of shares, silent participations or the acquisition of other elements of the financial institution's own funds.
- ▶ Assumption of risk positions: The Fund may assume risk positions (e.g. receivables, securities) in the amount of up to EUR 5bn from financial sector enterprises that were acquired by financial sector enterprises prior to October 13, 2008.

Financing

- ▶ The Fund may grant guarantees in an amount up to 400 bn. Euros. In the case a guarantee is enforced, the Federal Ministry of Finance can take out credits in an amount up to 20 bn. Euros as coverage.
- ▶ The Federal Ministry of Finance can take out credits in an amount of up to 70 bn. Euros to provide recapitalization measures and to assume risk positions. With consent of the budget committee of the German Parliament, this credit amount can be extended by up to another 10 bn. Euros.

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Industry-Related Government Policy and the Global Economic Crisis

Two scenarios Germany would like to avoid

SoFFin is a special fund designed to prevent insolvencies in systematically relevant companies in the financial sector. The most prominent applicant to it has been Commerzbank, which received close to 20 bn. euros.

SoFFin is interesting in the context of the German discussion on the financial crisis. Most Germans regard the crisis as the fault of a highly distorted financial market in which risk, excessive leverage, and dubious risk management theories combined with greed for power and money to create toxic assets and bubbles. So there is not much support for programs perceived to only be helping the German equivalent of Wall Street. Germany wants to avoid two scenarios: (1) going back to having huge nationalized companies, and (2) having financial institutions so large that they cannot be allowed to fail

and having an organization like SoFFin come in and bail them out. These have led to two developments.

First, Germans are now discussing a proposal which provides for the dissolution of banks or companies considered to be getting too large to fail.

Second, Germany's Finance Minister is now working on a new roadmap for industrial policy. This roadmap seems to focus especially on new technologies, green industries, and industries which are open to international investors.

To conclude, it is not yet clear whether Germany's policies have been successful or not. Over the next year we will have to come to a conclusion as to whether we have solved our problems or just papered over them. However, no matter what happens, the government will probably stick to its principles, avoiding overexposure and restricting public debt.

Stimulus policies for industries and companies in each country after the global economic crisis

	Policies	Targets (examples)
United States	Assistance for next-generation electric vehicles based on the American Recovery and Reinvestment Act	Lithium-ion batteries, Hybrid electric systems, Electric motors
	Cash for clunkers	Fuel-efficient cars
France	Investment from the Strategic Investment Fund (FSI)	Automotive components, Energy, LED illumination, Drugs and medicines
Germany	Loan and credit guarantee from Special Fund Financial Market Stabilization (SoFFin)	Marine Transportation, Automobiles, Electric appliances
	Subsidies for new-car buyers	Automobiles
England	The Strategic Investment Fund (SIF)	Space aeronautics, Wind-power generation on the ocean
	The UK Innovation Investment Fund (IIF)	Biological science, IT technology, Low carbon manufacturing sector

Q&A

Q

For Dr. Richard GITLIN, what is the valid reason to support, for example, the battery industry rather than other industries?

● **Dr. Gitlin:**

You have to select which industries you believe in. President Obama made a statement that he wanted one million electric cars on the road by 2015. So, in effect, the examples I gave are part of comprehensive programs to make that happen. I emphasized the battery industry because I found the nature of the companies being supported interesting, but in fact, there is a comprehensive program for electric vehicles.

Q

For Mr. Jacques HENROT, are there any lessons on what kind of policy may be suitable for certain solutions? I would be interested in any merits or demerits of the various policies or the coordination among those policies.

● **Mr. Henrot:**

The good thing about the stimulus packages is that they are so big that people have realized that money has to go where it is supposed to go or the taxpayer will not vote for a third or fourth stimulus package. There was a total lack of coordination in the past. Now priorities are set. The FSI as well is saying to the government and companies, "Restructure first, restore the confidence of your bankers, and if you do, we will see."

Q

To Mr. Joseph BROICH, I would like to know what the asset strategy is for Germany. Also, in this kind of crisis, do you not follow the Maastricht criteria temporarily?

● **Mr. Broich:**

Regarding your first question, for the time being, I tend to believe that we will not see huge growth initiatives. We may see another stimulus package that will focus on environmental technology, but I think there will be a lot of resistance within the government to engage in new industrial policies. Germany recently introduced a bad bank act, enabling commercial banks, and in particular state banks, to get rid of toxic assets.

It is almost certain that Germany will not meet the Maastricht criteria next year. Will this lead to the abolishment of the criteria? Probably not. The German approach is "Let us stick to the Maastricht criteria. Once the worst is behind us, let us reduce debt again and go back to the principles of sound financial circumstances."

Panel Discussion

Significance, Issues, and Future of Industrial Policies

Presentation 1

"There can be No Future without Growth"

*Naohiro NISHIGUCHI
(Executive Managing Director, Innovation Network
Corporation of Japan)*

Japanese corporations possess a high market share in the material and electronic component fields. While Japan is superior in terms of component technology and parts, architecting across corporations by combining these into

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products or services is something Japan has trouble with. The Innovation Network Corporation of Japan aims to achieve high level growth and productivity in Japan by taking individual pieces of domestic technology and combining and transforming them through innovative projects. In other words, the Innovation Network Corporation of Japan forwards open innovation by joining up technology and projects from different industries in new ways. The organization acts as a hub for information/ industrial capital and management development and helps businesses by providing risk money.

In relation to the development of human resources, people often bring up the issues of the falling birth rate and aging society, but actually personnel strength is a multiple of the number of people you have times the quality of people you have. If your personnel numbers are falling, you can still sustain or grow your personnel strength by increasing the quality of the personnel you have. Additionally, an aging society means that the number of highly proficient adults in society is increasing, and this sort of personnel especially ought to be good at management and be able to come up with new business enterprises. Accordingly, it is extremely important to raise the quality of management in Japan in light of the aging society and falling birth rate. Proficiency at global personnel management is vital for prevailing over global competitors.

It is said that the only resources Japan has are people and technology, but actually the coming together of people and technology is extremely important for the creation of further innovation. Innovation occurs when tacit and formalized knowledge come together. Tacit knowledge can only be spread through communication between people. The vertical innovation structure creates barriers to communication inside and outside of organizations, and blocks innovation from happening.

Even if you have superior products and development processes, if they are not accepted by clients, if they do not sell, it is not innovation. It is important that the start of innovation is based on an understanding of what is

important to clients. It is not necessary to think only from the perspective of the Japanese way—innovation based on knowledge of the world at large will support growth in Japan in the future.

In order to climb out of the current structure in which Japan continues to win the component technology battle but lose the overall concept and innovation war, Japan must improve its ability to come up with new business enterprises and there must be public-private cooperation on the grand design of the Japanese economy and business itself.

Presentation 2

"Perspectives on Industrial Policy"

Noriyuki YANAGAWA
(Associate Professor, Graduate School of Economics,
the University of Tokyo)

The necessity of government intervention is a major point of contention when talking about industrial policy. In Japan, opinion tends to be split between leaving things to the market and leaving things to the government, but what is really needed is an appropriate level of government intervention. If appropriate criteria for government intervention can be established we may arrive at a new perspective on industrial policy.

Government intervention is required when the market fails. Concretely, this is when there is:

- (1) a coordination failure among stakeholders;
- (2) a temporary breakdown of the market;
- (3) a need for the implementation of macro-policies;
- (4) a need for some sort of external strategy.

Private sector mechanisms, even informal ones, should be utilized to the maximum extent possible for industrial policy. Policies regarding coordination failure between the public and private sector are likely to become more and more important in the future. In relation to external strategy, support for the creation of standards and format competition is going to become an important point.

Another important point for industrial policy is going to be how it handles coordination failure among government agencies.

The role of the government is to come out with ideas on how to prevent coordination failures—the provision of funding is only a secondary role. Private sector funding should be encouraged as much as possible. In order to do this, there must be a reduction in the amount of political risks faced by the government on this issue.

There are three important points we need to stick to when considering industrial policy. First, financial support should not be given out lightly. Second, the decision to give financial support should not be made by a civil servant but by someone who can be held accountable for the outcome of the support. Finally, Japanese people have become quite comfortable with government intervention. We need to examine the limits of intervention.

Presentation 3

"The World after the Lehman Shock"

Yoichi TAKITA
(Deputy Chief Editorial Writer, Nikkei Inc.)

The economic downturn that has occurred following the immense financial crisis will have an unexpectedly long-term effect on the world. This is the first large-scale financial crisis since the Japanese economy entered into a long-term slump in 1997. The GDP of Japan has fallen from 520 trillion yen before the Lehman Shock to 480 trillion yen afterward.

One reason that we have not seen a recovery in GDP is because of the strengthening of the Japanese economy's export-oriented nature during the process of economic recovery under the Koizumi reforms. It is due to these reforms that the electronics and automobile industries are such a large part of Japanese industry.

At the start of this week the Bank of Japan announced in the Tankan that business confidence in major

manufacturing industries seemed to be improving. That said, equipment investment is down approximately 30% on what it was at this time last year. And within that figure, in the electronics and automobile industries, equipment investments are down more than 40% of what they were last year.

In light of all of this, what does the future hold? First, we can expect demand in Asia to grow. The IMF's World Economic Outlook predicts that the GDP of BRIC countries will be US\$10 trillion in 2011. Given that the United State's GDP is US\$15 trillion and the Euro area's GDP is US\$13 trillion, one can see that the balance of the global economy is shifting toward emerging economies.

How to support business activity in the midst of this change in the world economy is going to be a topic of conversation in the coming years. How the policies of the Democratic Party of Japan are implemented will be very important for the stimulation of domestic demand. Particular attention should be paid to what sort of concrete industry image is drawn up by the government in the fields of the environment, primary education, and elderly care.

The size of individual financial assets in Japan is said to be 1.4 quadrillion yen, and much of that is tied up in savings. This is because households and individual investors do not have faith that the Japanese economy will grow. With this being the case, the growth rate of Japan will not increase, and neither will we see the creation of growth industries. The importance of strategies which connect financial institutions with new growth industries is increasing.

Presentation 4

"Financial Crisis and Policy Intervention"

Keiichiro KOBAYASHI
(Senior Fellow, RIETI)

If we look at the phenomena that have occurred in the market since the Lehman Shock from the perspective

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of market failure, we can see that the incredible chaos caused was due to there being a market for lemons. The manifestation of a market for lemons is thought to bring about great structural changes, not only in financial markets but in other markets as well.

The financial crisis has led to a global mismatch between supply and demand. The acceleration of structural change in the economy means that we can expect an increase in informational asymmetry regarding the future direction of corporations.

If that is the case, a market for lemons will occur in many industries, and informational asymmetry will cause markets to break down and stagnation to occur. This is why we need government intervention.

There is public will to resolve informational asymmetry when carrying out the restructuring of corporations with uncertain futures. In light of this, the activities of organizations such as the Innovation Network Corporation of Japan are as significant as public policy. The investment of government funds into such organizations can be looked at economically as being public policy.

Infrastructure needs to be created for the development of new industries, such as the environmental industry, and new products, such as electric vehicles. However, this infrastructure is difficult to realize under normal competitive market conditions given the externalities present in the market and Increasing-Returns-to-Scale. Accordingly, I believe that the government must play a certain role in creating infrastructures for new industries and products at the development stage.

Discussion

— Prof. Yoshino

In the discussion so far, nine topics have emerged:

- (1) the creation of fair standards in each country;
- (2) the effective utilization of the retired;

- (3) supply-side development;
- (4) human resource development/education;
- (5) the strengthening of fields such as the agriculture; services, and financial industries, which are weak in Japan;
- (6) the creation of effective exchange policy;
- (7) the way government support should be;
- (8) initiatives for growth in Asia; and
- (9) support for eco-technology from the government.

— Dr. Gitlin

I have three things to say. One, the new party in power is now fighting with the bureaucracy in the belief that they have to change things, and maybe that is right, but it is absolutely the wrong time for the elected government and the bureaucracy not to be cooperating on what the right policy should be. Two, the U.S. will be restored because we are entrepreneurial and accept failure. In these transition times, people must be encouraged to take risks, not the opposite. Third, financial distress is an opportunity to reform companies.

— Mr. Takita

There exist industries which need government intervention. The government, the administration, and businesses need to tell each other what they each need. We also need to think about how to follow-up on entrepreneurs who fail or make a mistake. I think that industrial policy will be put to good use when we start thinking of pinches like the financial crisis as opportunities for change.

— Mr. Nishiguchi

The creation of new business enterprises and the mental state of entrepreneurs are two sides of the same coin. However, Japan is decidedly lacking in its ability to create new business enterprises. Rather than killing things before they begin, we need a social environment and structure and government policies that can foster new enterprises.



— Prof. Yanagawa

The government should exercise greater leadership on industrial policy. The government and administration need to present a direction for the country as a whole. We need a framework through which the unemployed, those who have failed at business and those looking to change jobs can look for new work with peace of mind. We are in an era in which there is competition to become the international standard. Industrial policy should work to encourage Japanese businesses to aggressively enter into potential markets in Asia and set product standards.

— Dr. Kobayashi

Wouldn't things be better if the entire government was responsible for industrial structure rather than it just being under the jurisdiction of individual agencies? Japanese financial techniques lag far behind the rest of the world, but there is still time to work to catch up. The walls between manufacturing and finance, and scientific and academic industries, create barriers to entry for superior human resources into high-added-value fields. Lenders need to create more friendly bankruptcy laws. We need to create an adequate safety net for those whose businesses fail.

— Dr. Gitlin

When you maintain a nonviable company with government support, directly or indirectly, there are two

consequences. One, it makes it more difficult for a viable company to compete because they must lower prices to survive. Two, you trap valuable assets in a company that cannot invest enough.

If you have an industrial policy that broadly allocates money on the theory that you are preserving employment, you are supporting an uneconomic situation, and you should be encouraging just the opposite, reducing it to an economic situation where, again, people can get to a point where they can invest in their future.

— Mr. Henrot

If you are too debtor-friendly in your legislation, you will have problems as we have. It is a bad choice in the long run to say that banks can wait to be repaid and that companies should be bailed out. The companies who have benefited from these protections very often fall sick again. It is fine to support debtors to a certain limit, but after that you are going to have a credit crunch.

— Mr. Broich

In the years to come, while economies like Japan and Germany will have to learn to adopt the culture of failure from the United States, the United States on the other hand will have to learn a different approach in which policymakers talk to industry and bankers and work in a more coordinated way to bring the economy forward.

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"Industrial Policies" at a Turning Point



Hiroshi OHASHI

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PERSONAL DATA

Professor Ohashi's expertise includes industrial organization, international trade, applied econometrics, and applied microeconomics. He obtained his B.A. in Economics from the University of Tokyo in 1993 and Ph. D. in Economics from Northwestern University in 2000. Prior to his current position, he served as an assistant professor at faculty of commerce and business administration in the University of British Columbia. Major works: "Did U.S. Safeguards Resuscitate Harley-Davidson in the 1980s?" (with T. Kitano), *Journal of International Economics* (2009), and others.

Governments around the world reacted to the global financial crisis by implementing a variety of measures designed to support industry and business and renewing interest in industrial policies, according to RIETI Faculty Fellow, Hiroshi OHASHI. Prof. Ohashi looks at how Japan's industrial policies were used in the past, why interest in them waned in the 1990s, and how future industrial policies can address the needs of industry and business in the wake of the global financial crisis.

In the course of the global economic crisis, many countries, including Japan, have introduced massive fiscal stimulus packages to support industries and businesses. The United States implemented business support measures and industrial policies designed to promote a low-carbon society, while Germany and France provided

extensive support to industries and businesses through credit guarantees and other programs. The introduction of these measures seems to have revived interest in industrial policies, which has been subdued over the past ten or more years. In what follows, I would like to sort out past arguments on industrial policies from an economics viewpoint and discuss the types of industrial policies that need to be implemented as the crisis is over.

"Industrial policies" in the past

It was probably in the 1980s that industrial policies attracted a great deal of attention for the first time. In a little more than 20 years following the end of World War II, Japan achieved remarkable economic development unparalleled in the world at that time, and in the years that followed, Japan significantly increased its presence in the world economy through trade and investments. Against this background, the view became widespread that Japan's success was attributable to the government's

intervention by means of industrial policies. Curiously, debates on industrial policies went on without clearly defining the term and, some people even said that the lack of a clear definition is the very reason why industrial policies gained extensive support. Hereinafter in this article, an industrial policy is defined as a policy that facilitates a shift in inter- or intra-resource allocations from old to new sectors.

From an economics viewpoint, industrial policies have been discussed as a policy tool for correcting a market failure. There are various possible forms of industry and market situations in which the market mechanism, as assumed in classical mathematical economics, does not work efficiently due to such factors as information asymmetry and externalities. Where there exists a market failure that cannot be addressed by the private sector alone, government intervention in the form of industrial policies and the like is justifiable. Against the backdrop of this theoretical logic, vigorous theoretical research efforts were made both in Japan and abroad to analyze oligopolistic markets with a game theory model, and intense policy debate based on this sort of theory continued for some time.

In the 1990s, however, interest in industrial policies subsided, resulting in significant stagnation in industrial policy research. Of various possible reasons for the waning of interest in industrial policies, the most critical was a major shift in government policies in the U.S., the United Kingdom, and some other countries in Europe, to put greater emphasis on the market mechanism. The neo-classical idea that competition among private-sector entities leads to an increase in social welfare gave a big boost to the promotion of deregulation and privatization. In an ironic turn of events, this trend called neo-liberalism obtained support from empirical findings on industrial policies made on the side of economics. That is, ex-post evaluations of past industrial policies found that the empirical evidence of the effectiveness of those policies was less clear-cut than generally expected.

These quantitative research findings on the effectiveness of industrial policies also gave rise to the question of whether governments are capable of properly addressing

a market failure. Just as markets can fail, governments can fail and the social costs resulting from a government failure can be non-negligible. In hindsight, the absence of a compelling counter-argument to the criticism that questioned government discerning ability to identify specific industrial sectors to promote with the support of government policies might have been one contributing factor to the accelerated spread of pessimism about the effectiveness of industrial policies. Given the current quality of empirical research on industrial organization, it is difficult to index the degree of market failure in a highly accurate manner. Thus, the suspicion persists that some industrial sectors might have been selected as subject to government support and promotion for reasons other than a market failure (political intervention, rent seeking by bureaucrats, etc.). As a result, the pessimism about the effectiveness of industrial policies globally prevailed.

New industrial policies in the post economic crisis

Just around the same time as interest in industrial policies began to fade in Japan and elsewhere in the world, we began hearing news reports about Japanese companies being outstripped by overseas competitors in areas where Japan was the world's leader or so we all believed. In such areas as semiconductors, mobile phones and televisions, Japanese companies used to be perceived as excelling in technologies but today they are being left far behind overseas rivals. Likewise, in the field of environment-related technologies such as light-emitting diodes (LEDs) and storage battery technology, it is becoming increasingly uncertain whether Japan will be able to maintain its lead in the coming years as some countries, including the U.S., are now making nationwide efforts to invest in the development of these technologies.

In contrast to remarkable strides made by global companies—particularly those in emerging economies—with government support, Japan's footsteps in its recovery path seem feeble and paralyzed. What is now needed for the Japanese economy is to facilitate a rapid shift in the allocation of resources from old-fashioned industries to new and innovative industries so as to stimulate the currently stagnated Japanese economy. It is imperative

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to bolster demand by improving the metabolism on the supply side of the economy in a way leading to the creation of new goods and services.

In improving the metabolism of the Japanese economy as a whole, it is important to focus on: (1) the creation and nurturing of new industries and businesses and (2) the restoration and revitalization of existing businesses. In the course of the latest economic crisis, it became apparent that these two issues cannot be fully addressed by the market mechanism, leaving significant voids that need to be filled by government policies. Regarding (1), it has been empirically verified that new industries and businesses can serve as a driving force for economic growth and innovation, but it generally takes a long time and long-term efforts before they become full-fledged (Josh Lerner, "Boulevard of Broken Dreams," Princeton University Press 2009). Now that the ability of private-sector venture capital (VC) funds to serve as a funds provider has been called into question, it is indispensable for the Japanese government to implement supplementary measures to increase the number of business start-ups, in which Japan lags behind many comparable countries. The government needs to play a leading role in: (1) creating an environment that facilitates the nurturing of entrepreneurs and new industries, (2) generating demand for VC, and (3) expanding the supply of venture capital. Political attention tends to focus on the third point, namely, how much government money should be made available. However, it has been said that the most important in promoting business start-ups and new industries is to create an amiable environment that facilitates business start-ups. Taking lessons from successful examples, various ideas—including a matching-funds program and a greater use of overseas human resources—have been suggested. As far as I know, however, no systematic analysis has yet to take place and it is hoped that theoretical and quantitative research will be conducted in this field.

In view of the fact that the facilitation of business start-ups and the fostering of new industries are a long-term process, existing policies for corporate rehabilitation and revitalization are viable instruments to produce immediate effects. As mentioned at the outset, the latest economic crisis made us realize the effectiveness of government

policies in preventing the occurrence of negative externalities in the form of chain-reaction bankruptcies. At the same time, however, it is also an undeniable fact that the somewhat opaque policymaking process, which resulted in the public bailout of specific companies, has aroused a sense of unfairness. At the very least, it must be ensured that such public assistance will not cause any distortion to competition in the domestic market. And to this end, it is essential to evaluate assistance schemes both ex-ante and ex-post from the viewpoint of competition policy and establish a mechanism to minimize the risk of government failure. It is also hoped that the government will actively promote mergers and acquisitions (M&As) to enable more Japanese companies—including those primarily reliant on domestic demand—to undertake business operations with their eyes on emerging and developing economies, and as a way to prompt companies to improve their operating efficiency and restructure their business portfolios. In this regard, laws and regulations that inhibit the consolidation and integration of industries should be reviewed and changed.

There is no one-size-fits-all prescription to invigorate economic activities. Whether in promoting the start-up of new businesses or facilitating the rehabilitation of existing ones, the government needs to implement sensible policies by paying due consideration to the market environment and the structure of the industry in which specific companies operate. While incorporating the perspective of competition policy to ensure transparency and fairness, how should the government implement support measures in such a way as to take advantage of the discipline of market competition and what approach should be taken in carrying out an ex-post evaluation of such measures? These new viewpoints, which have not been addressed in past industrial policies, are indispensable today. In designing and implementing new industrial policies in the post economic crisis, we have to pursue research to flesh out these viewpoints both theoretically and empirically.

Toward a Full-fledged Recovery in Private-sector Capital Formations



Tsutomu MIYAGAWA

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PERSONAL DATA

Professor Miyagawa's expertise includes macroeconomics, Japanese economics and Asian economic trends. He obtained his B.A. in Economics from the University of Tokyo in 1978 and Ph.D. in Economics from Hitotsubashi University in 2006. Prior to his current position started from 2009, he served as a professor in the faculty of economics at Gakushuin University, a director of the Nagoya Branch at the Development Bank of Japan (formerly Japan Development Bank [JDB]), an associate professor of the Economic Research Institute at Hitotsubashi University, and so on.

Major works: *Economic Analysis of Long-term Slumps: Structural change and globalization*, the University of Tokyo Press, 2005, *Productivity and Japan's Economic Growth: Industry-level and firm-level studies based on the JIP database* (co-editor: K. Fukao), the University of Tokyo Press, 2008, and others.

Changes in capital formation structures

Over a year and half has passed since the collapse of Lehman Brothers, which sent the global economy into a recession. However, Japanese people remain gripped by a persistent sense of gloom over the course of the economy and the nation's employment situation shows no sign of improvement with the unemployment rate hovering around 5%. Amid this difficult economic environment, the government adopted a New Growth Strategy (Basic Policies) at the end of 2009. The strategy set out a path toward a balanced recovery driven not only by external demand but also by domestic demand, reflecting lessons from the recovery in the first half of the 2000s that was overly reliant on external demand. Domestic demand consists of private final consumption expenditure, private-sector capital formation, and public-sector capital formation. Of these, public investment is difficult to increase in an agile manner due to the massive fiscal deficit and snowballing government debt. This leaves us to look for an increase in the remaining two components—private final consumption expenditure and private-sector capital formation—as a recovery driver.

With respect to private final consumption expenditure, it is hoped that new government policies—such as a child allowance program called "kodomo teate" and high school tuition subsidies that would virtually make high school education free—will help raise the overall consumption level. However, it will inevitably take some time before the effect of these policies begins to show because, if the government is to change the trend of private consumption in any significant way, it needs to convince the general public about the prospect of a sustainable improvement in the income level.

Private capital formation has long been the key driving force behind the business cycle in Japan. As shown in **Table 1**, increased private-sector capital formation served as a growth engine for the Japanese economy in past recovery periods. However, in the latest recovery period that began in the early 2000s, private-sector capital formation relinquished its place to external demand, posting the smallest percentage increase in the past 30 years for growth observed during recovery periods.

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Table 1: Business Cycle in Japan

	GDP growth	Change in household consumption	Change in private-sector capital formation	Change in public-sector capital formation	Change in net exports
1980:1-1983:1	2.46	2.84	0.21	-0.53	15.66
1983:1-1985:2	3.61	3.07	8.48	-4.96	17.10
1985:2-1986:4	3.44	3.12	8.47	3.65	-17.18
1986:4-1991:1	5.36	4.42	11.99	3.05	-8.05
1991:1-1993:4	0.32	2.40	-10.38	11.75	4.49
1993:4-1997:1	2.93	2.81	6.24	-1.74	-5.14
1997:1-1999:2	-0.55	-1.02	-2.35	4.02	13.54
1999:2-2000:4	2.81	1.12	12.64	-12.60	13.73
2000:4-2002:1	-2.45	0.71	-10.83	0.03	-5.25
2002:1-2007:4	1.94	1.21	4.01	-7.82	32.51
2007:4-2009:3	-3.71	-0.63	-12.98	-0.57	-24.52

Source: "System of National Accounts of Japan," Economic and Social Research Institute (ESRI), Cabinet Office

Notes: 1) All figures are expressed as annualized percentage changes.

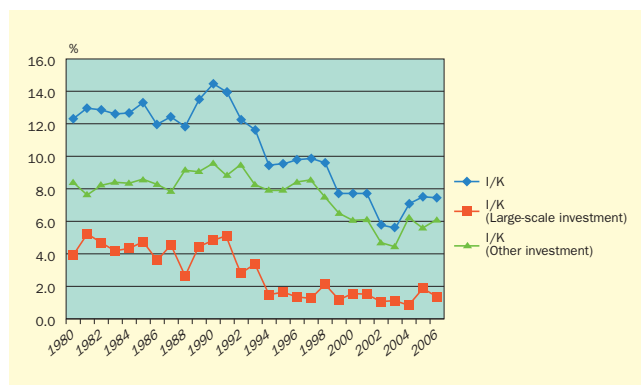
2) Rows in light blue represent economic downturns and those in dark blue represent recoveries.

In the RIETI Discussion Paper (DP No.09-J-032) co-authored by Kenji Tanaka of the Development Bank of Japan (DBJ) and myself, we focused on recent trends in firm-level large-scale investments and explored factors behind changes in private-sector capital formation structures. For the purpose of this research, a company's capital formation is defined as a "large-scale investment" when the investment amount represents more than 20% of the company's capital stock, i.e. the cumulative total of past capital formations. Using data from the DBJ financial databank, we identified large-scale investments for each of the listed companies excluding financial and insurance institutions. Then, we divided the sum of those large-scale investments by the total amount of all capital formations made by the sampled companies to calculate the ratio of large-scale investment to total investment for each year. Our calculation results show that large-scale investments have accounted for an average of 25% of total investment in terms of monetary amount since the 1980s. Meanwhile, the ratio of companies that made large-scale investments to the total number of sampled companies sharply declined over the years, from 37% in fiscal 1990 (April 1990 through March 1991) to 10% in fiscal 2006.

We also calculated the ratios of total investment, large-scale investment, and other investment to capital stock for each year. Changes in the respective ratios are shown in **Figure 1**, from which we can see that the total investment and the large-scale investment, both as a ratio to capital stock, generally moved in tandem until around the end

of 1990s. This means that large-scale investments set the capital formation cycle during that period. After 2000, however, large-scale investment has remained stagnant while other investment has taken over as the trendsetter. Now, the behavior of the large-scale investment can be decomposed into two factors: (1) changes in the scale of large-scale investments made by individual companies and (2) changes in the number of companies that made large-scale investments. The stagnation after 2000 is attributable to the second factor, i.e. a decrease in the number of companies that made large-scale investments, rather than a decrease in the scale of individual large-scale investments.

Figure 1: Changes in the investment-to-capital stock ratios



Factors that have caused a decrease in the number of large-scale investments

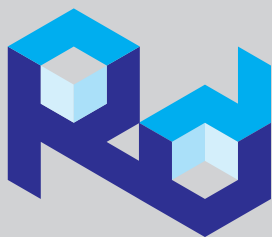
Then, why did the number of large-scale investments decrease in recent years? First, the proportion of companies that made large-scale investments has been persistently low in the non-manufacturing sector. In the early 1990s, the proportion of companies that made large-scale investments turned downward both in the manufacturing and non-manufacturing sectors. However, in the last economic recovery, the investment trend picked up in the manufacturing sector while the nonmanufacturing sector continued on the downward trend. It is inferred that this is because manufacturers—many of them competing in the global market—made significant investments to expand production capacity particularly for products with competitive advantage, whereas non-manufacturers—which are mostly, if not entirely, reliant on domestic demand—found no incentive to expand facilities. This shows that the expansion of outbound foreign direct investments driven by globalization was not the primary cause of a decrease in large-scale investments.

Another factor behind the decrease in the number of large-scale investments is changes in the nature of capital formations. A comparison of companies that made large-scale investments in and after 1990 and those that did not reveals marked improvements in productivity and profitability for the first group of companies relative to those in the second. In the past, Japanese companies tended to behave in a lock-step fashion, making large-scale investments for the sake of keeping pace with others. As a result, many companies ended up having excess production capacity, which in turn resulted in a low return on investment. However, such lock-step behavior, which had been particularly conspicuous in the 1980s, became less and less observable among companies that made large-scale investments in the 1990s and thereafter. It is believed that in making investment decisions, Japanese companies became more focused on the potential impact of a specific investment on productivity and profitability. Such a shift in companies' attitude toward capital formations, focusing less on quantity and more on quality, is a desirable change in itself. But this also means less competition in capital formations, which in turn translates into greater difficulty to stimulate domestic demand. Then, what can and should be done to boost large-scale capital formations while maintaining the quality of investments, rather than returning to the lock-step investment behavior?

Revive motivation to develop new products

It is believed that large-scale capital formations are driven by the development of new products and the creation of new markets. In Japan, changes in product portfolio by existing companies, rather than the development of new start-up businesses, have traditionally served as the primary driver of capital formations. Utilizing their technologies, companies that had firmly established their position in a certain business developed new products and, in some cases, moved into new fields beyond industry boundaries to blaze new paths for growth, enhancing productivity in the process. For instance, Toyota Motor Corporation, which has grown into the world's leading automaker, started as an automatic loom manufacturer. Meanwhile, Nikon Corporation has utilized its technologies for camera products to develop semiconductor production equipment, for which the company holds the world's largest market share today. As demonstrated by those examples, the activation of changes in the product portfolios of individual companies

could lead to an increase in large-scale capital and hence deliver improved productivity in the nation's economy as a whole. In the research currently undertaken by my research assistant, Atsushi Kawakami, and myself using data from the Census of Manufacturers, we have found that companies having changed their product portfolios tend to achieve an increase in sales and productivity in the subsequent years, but that the dynamism of such product portfolio restructuring has been in gradual decline since 2000. One factor behind this is the effect of the so-called "select-and-focus" strategy. The strategy, pursued by many Japanese companies after the nation's financial crisis in the late 1990s, typically called for restructuring business to focus management resources on selected areas with high profitability. However, when companies keep to an overly defensive strategy, their capital formations tend to be confined to those for a mere renewal of existing facilities. In order to increase capital formations, which constitute one of the main pillars of domestic demand, we must, first and foremost, revive Japanese companies' unflagging enthusiasm to develop new products such as the one that used to be observed in the past. The development of new products involves the development of human resources and the investment of significant financial resources. Only on the firm foundation of "people" and "money" can large-scale capital formations be realized as "goods." In today's Japan, however, spending on the development of human resources is slowing down, while at the same time, banks remain cautious in lending to finance processes leading to capital formations due partly to the lack of experience. In addition to the machinery industry, an area of its traditional strength, Japan has a series of potential growth areas including environment-related industries that are attracting global attention and service industries, the productivity of which remains relatively low. It is hoped that through large-scale investments, such potential will be turned into a driving force for delivering new products onto the market, and that such products will be broadly recognized by consumers, thereby generating new demand to create a virtuous growth cycle. In order to enable this to happen, the government needs to implement measures to support and facilitate processes leading to large-scale capital formations. It is strongly hoped that government initiatives for the development of human resources and the enhancement of technological competence, highlighted in the New Growth Strategy, will be fleshed out and give a boost to large-scale private-sector capital formations.



Researchdigest

Research Digest is a clear and concise summary of main points and issues with policy implications that have been raised in RIETI discussion papers.



The Structural Causes of Japan's "Two Lost Decades"

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Kyoji FUKAO

▶▶▶ Personal Data

Professor Fukao's expertise includes international economics, macroeconomics, international trade and direct investment in Asia, innovation and total factor productivity. He obtained an M.A. in Economics from the Graduate School of Economics, the University of Tokyo. Prior to his current position from 1999, he served as an associate professor at the Institute of Economic Research, Hitotsubashi University and a lecturer for the Department of Economics, Seikei University. He concurrently serves as a chief research fellow of the Asian Study Division, Japan Center of Economic Research (JCER) and a member of the Statistics Commission, Cabinet Office (Deputy Commission Chair).

Major works: *Productivity and Japan's Economic Growth: Industry-Level and Firm-Level Studies Based on the JIP Database* (co-editor: T. Miyagawa), University of Tokyo Press, 2008.

The "lost decade" is a term popularly used to describe the Japanese economy of the 1990s, the period following the bursting of the country's economic bubble. Yet even after the problems of nonperforming bank loans and damaged balance sheets were corrected in the early 2000s, growth has not been able to return to the level of the pre-bubble era. This has prompted Faculty Fellow Kyoji Fukao and his colleagues to call the period since the bursting of the bubble the "two lost decades," analyzing Japan's structural problems from a long-term perspective.

The U.S. economy enjoyed steady growth during the 1990s and 2000s, with sharply increased labor productivity through information and communications technology (ICT) innovations. In contrast, ICT investment in Japan has been surprisingly limited. Leading companies have been increasing total factor productivity (TFP) through aggressive R&D and internationalization since the mid-1990s. Prof. Fukao points out that to exit its long period of economic stagnation, Japan needs to make changes that would allow productive companies to expand their market share, and small and medium enterprises (SMEs) to increase productivity.

Analyzing demand-side problems

— What motivated you to analyze the structural causes of the two lost decades?

The 1990s, which followed the collapse of the economic bubble, were often called the "lost decade." But even since 2000, economic growth in Japan has underperformed the 1970s and 1980s. Although problems that came to light after the bubble collapsed, including nonperforming loans at banks and damaged balance sheets, were basically resolved, the economic growth has not recovered to the levels before the bursting of the bubble. I think there have been structural problems in addition to bad-debt problems and damaged balance sheets, and I believe that a numerical assessment of the structural problems from a macroeconomic point of view is vital.

In discussions about getting growth back on track, some argue that if the Japanese economy pulls itself out of deflation, demand will recover, and the economy will return to growth. However, we need to check again whether investments really have been too small in the 20 years since the bubble burst and consider why labor productivity growth has been sluggish.

In order to do this, data gathered over a long period of time is necessary. As this data is now on hand, we are able to conduct our analyses.

Since 2007, I have been participating in a research project run by the Cabinet Office entitled, "The Japanese Economy and Economic Policies in the Bubble and Deflationary Periods." I have chaired the "Macroeconomics and Industrial Structure" team. Upcoming economists conducted some very clear analyses, but unfortunately we did not discuss how

individual macroeconomic problems, including bad loans and deflation, affected economic stagnation and how demand will recover if the problems are solved.

We have sought to analyze problems on the demand side and to include empirical analyses at industry and corporate levels, taking a longer view.

Gathering data for international comparison

— What kinds of data did you use in your analyses?

We used the Japan Industrial Productivity Database (JIP) and EU KLEMS database in addition to firm-level micro data of the Ministry of Economy, Trade and Industry (METI), because labor productivity, which plays an important role in economic growth, differs across industries and also varies in the same industry in different countries.

JIP is a database that RIETI manages jointly with the Global COE Program of Hitotsubashi University. It classifies all industries into 108 categories and shows the growth of the Japanese economy on the supply side in terms of productivity, industrial structure, oligopolies, among other factors by category. Since the preparation of data from 1970 to 2006 is complete, we can analyze the data over the long term. EU KLEMS is a database mainly about European economies financed by the European Union. The database was created a few years after the creation of JIP. KLEMS is an acronym referring to capital (K), labor (L), energy (E), materials (M), and services (S). The database measures investments required for production and thereby shows productivity by industry. EU KLEMS uses JIP data relating to the Japanese economy, after adjusting JIP data so that international comparisons can be made.

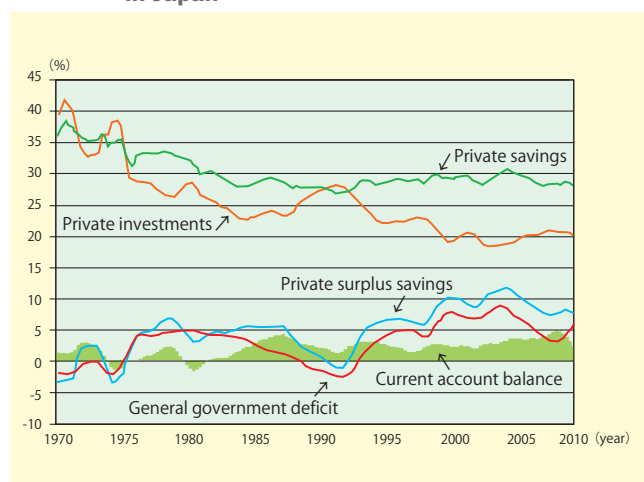
EU KLEMS also provides data from Harvard University and the KIP database of South Korea, enabling users to compare data for different countries. Although the EU KLEMS project itself ended after three years, several projects are in progress to carry on the work.

Surplus savings created bubble

— What are the causes of the long period of weak demand in Japan?

Weak demand in Japan has been caused by continued surplus savings since the mid-1970s. Economists have been explaining that there is a demographic reason for the high private savings rate in Japan: the baby boomers were saving for retirement. Even after the baby boomers retired, however, the savings rate did not decline. Looking at the relationship between savings and investments, investments began to fall in the mid-1970s to become surplus savings.

Figure 1: Changes in the savings-investment balance in Japan



Source: Data created by Mr. Ryutaro Kono at BNP Paribas Securities (Japan); original data are extracted from the National Accounts of the Cabinet Office.

"What's wrong with surplus savings?" This question arises from a standpoint of international economics, because surplus savings are invested overseas, and as a result, current-account surpluses balance the goods markets. However, this mechanism did not work in Japan.

In the mid-1970s, when world economies sought to overcome the global economic downturn in the wake of the first oil crisis, the "locomotive theory" was put forward, namely, that Japan and Germany should become the locomotives of the world economy. With intensifying trade friction between Japan and the United States accompanying this theory, the yen appreciated, and the focus of Japanese policies shifted to domestic demand expansion, as symbolized by the Maekawa Report in 1986. Surplus savings were not fully used for investment abroad.

The bubble economy also resulted from surplus savings. Keynesian theory says that there are only three policies for using surplus savings: (1) to compensate for budget deficits; (2) to invest abroad; or (3) to promote private investment by lowering interest rates. If none succeed, the theory says surplus savings will cause an economic downturn. The Japanese government chose to promote private investment by lowering interest rates to counter the appreciation of the yen, and this resulted in the bubble economy.

Surprisingly limited ICT spending

— Were there any problems on the supply side, including capital and labor?

The capital-labor ratio has been rising during the two lost decades. This makes it unlikely that a lack of

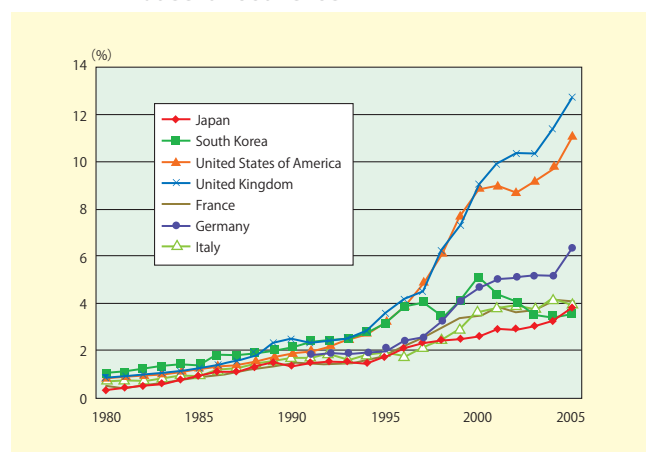
The Structural Causes of Japan's "Two Lost Decades" Kyoji FUKAO

investment was the culprit for the weak growth.

In the United States, ICT investments in the distribution and service industries since the mid-1990s have accelerated increases in productivity.

In contrast, using the EU KLEMS database to compare Japan with the United States and Europe, it is revealed that there is active non-ICT investment in Japan and surprisingly little spending on ICT compared with levels in Europe and the United States. We believe that this low ICT investment was one of the causes of sluggish growth in Japan.

Figure 2: Ratio of ICT investments in GDP in major industrial countries



Source: Fukao, Miyagawa, Pyo and Rhee (2009), original data are extracted from EU KLEMS Database March 2008, JIP Database 2008, KIP Database

Another factor is declining working hours per capita. There has been little discussion about this factor as a cause of relative declines in Japan, but working hours fell sharply compared with the United States. The main reason for declines up to the mid-1990s was the effect of the revision of the Labor Standards Act in 1987. Other reasons could include reductions in working hours in association with increases in the number of part-time workers and insufficient use of

older employees by businesses that were not able to respond to the aging of the population. Reductions in working hours could also reflect choices by workers themselves.

Large companies losing only five years

— What was behind sluggish TFP growth in Japan in the 1990s and thereafter?

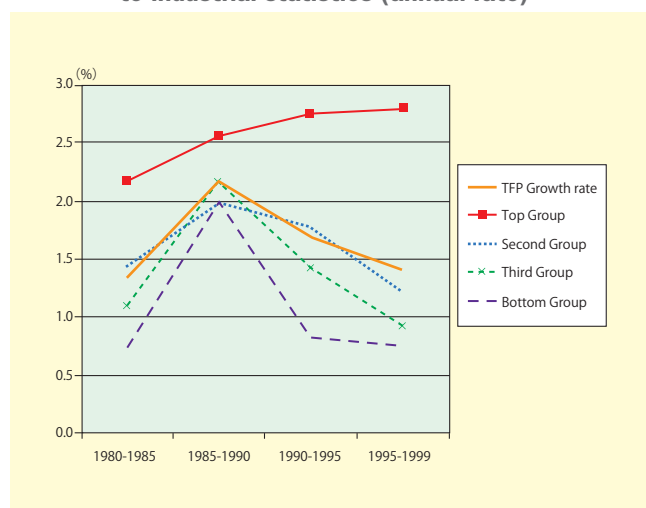
In the non-manufacturing sector, TFP growth was sluggish even before the bubble. The only exception was during the bubble economy itself. In the manufacturing sector, by contrast, many companies have set up systems emphasizing frontline workers and enhancing productivity—systems unique to Japan. The equivalent systems have not been established in non-manufacturing industries. That is considered to be a cause of weak TFP in the non-manufacturing industries.

The manufacturing industry can be separated into large companies and SMEs, and at large manufacturers, TFP growth from the mid-1990s actually outpaced any increases in the 1980s, a reflection of active R&D and internationalization. In other words, TFP growth returned to large companies in the manufacturing sector after an interval of only about five "lost" years. So for these companies, there was no lost decade, let alone two.

Overall, however, TFP growth was sluggish in Japan, since productive large companies did not expand their market share. Job security has priority in Japan, and as a result, the costs of opening and closing business establishments are high. The data suggest, however, that large companies actually made surprising

reductions to their workforces, while their subsidiaries added workers. Since average labor costs were lower at subsidiaries than at the parent companies, parent companies often transferred their employees to subsidiaries in order to cut labor costs. Meanwhile, productivity is generally lower at subsidiaries than at parent companies, and overall productivity consequently did not rise when employees and work were transferred from parent companies to subsidiaries.

Figure 3: TFP growth rate by size of business according to industrial statistics (annual rate)



Another factor was that production did not expand in Japan, because large companies readily transferred production to foreign countries.

Productivity did not rise at SMEs, since R&D was concentrated at large companies, with little undertaken at SMEs. One reason might be that large companies reviewed their vertical affiliations and reorganized transactions with SMEs during the difficult economic times in the wake of the bubble, and technology transfers from large companies to SMEs stalled. However, this is only speculation. We need to

obtain data on business relationships over the long term to verify the hypothesis.

— What are the policy implications of your research?

Many problems are related to labor issues. First, let me explain about ICT spending. The levels of ICT investment in Japan are lower than in Europe and the United States and could be linked to insufficient returns on investments.

Japanese companies invest more in customized software that only they can use, instead of highly versatile package software. Many companies can use low-priced package software in the United States because their organizations are flexible and can be reorganized. U.S. companies can change their organizations to suit the software.

In contrast, Japanese companies are comparatively inflexible, and it is difficult for them to modify their organizations in response to the requirements of software. Consequently, Japanese companies use primarily customized software, enabling them to keep their organizations as they are. Since customized software is expensive and is not competitive, Japanese companies do not often make major ICT investments. U.S. companies often outsource part of their operations to other companies that can do the job more efficiently. In Japan, large companies outsource operations to subsidiaries, which also receive workers from the parent companies. Since these companies are not shifting operations to companies that can handle them more efficiently, productivity does not improve. Naturally, we understand the motive that companies have to protect jobs. However, the current system at Japanese companies will not improve efficiency. A similar problem is apparently arising in Germany as well.

The Structural Causes of Japan's "Two Lost Decades" Kyoji FUKAO

If companies depend on part-time workers to reduce personnel costs, they do not accumulate human capital, because part-timers do not have the chance to improve their skills through in-house training. Japanese companies secure jobs for regular employees, even if they transfer them to subsidiaries, while hiring part-time workers. Is this segregation of employees appropriate? We believe companies should look for intermediate employment patterns.

Making the most of elderly people could be another option. At present, the only pattern seems to be re-employment after retirement for uniformly low salaries. However, there should be systems that enable working hours and salaries to be determined more flexibly.

The high costs of closing business establishments form one reason why industry does not change. If companies can close unprofitable establishments and expand profitable operations more easily, overall productivity will rise. Relaxing entry regulations is important to promote innovation in industry.

Sluggish TFP growth in SMEs also needs to be addressed. As opportunities for technical transfers from large companies are declining in association with reviews of vertical affiliations, policies to promote the internationalization of SMEs and their own R&D efforts, instead of policies to protect SMEs uniformly, are necessary.

In policymaking, it is also important to look at demand. With generation surplus savings there is a large supply-demand gap as a result of declines in foreign demand during the global economic downturn that took place after the fall of 2008. In other words, Japan has large surplus production capacity. In such circumstances, the Japanese government needs to take steps to stimulate demand in earnest, as the U.S. government has done.

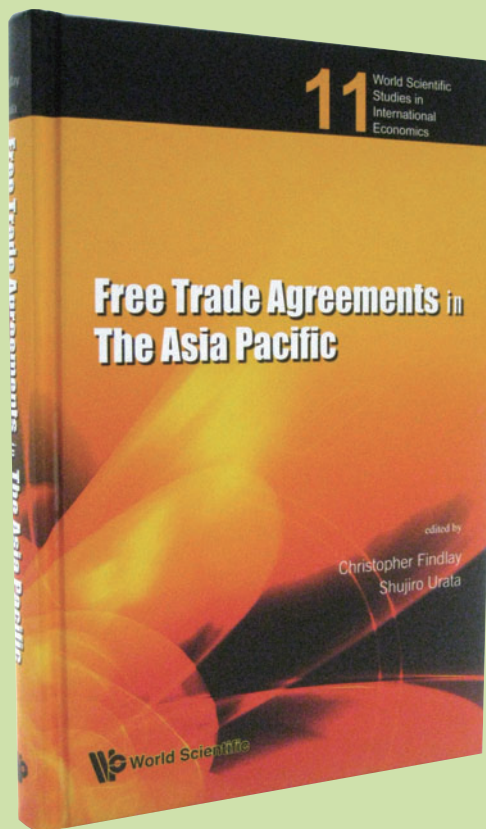
Because Japan has been chronically generating surplus savings, the focus should be on how to address the current-account surpluses and how to achieve an external balance. I have heard that China, which is clashing with the United States over currency control, is seriously studying Japan's experiences in the 1980s. Demand being weak across the world, Japan alone cannot keep current-account surpluses. Whatever the case, the government should consider putting a control tower in place that will give directions on exchange rates and the way in which surplus savings in Japan should flow back to foreign countries. Future subjects include financial crises and TFP.

— What issues do you plan to look at it in the future?

I need to thoroughly analyze why industrial innovation is not progressing.

I would like to analyze the connection between financial crises and long-term sluggish TFP growth. The financial crises include the Great Depression that began in 1929, the currency crises in East Asia in 1997 and 1998, and the financial crises of Latin America. I am considering international comparisons based on Japan's experiences.

Another subject is corporate networks and technical transfers. How should we understand technological issues? TFP at large Japanese companies did not fall because they have been aggressive investors in R&D. The problem lies in SMEs, where TFP declined due to a lack of R&D. I would like to verify whether the root cause was the review of vertical affiliations in large companies.



Free Trade Agreements in The Asia Pacific

edited by Christopher FINDLAY and Shujiro URATA
(Singapore, World Scientific, 2009)

reviewed by Robert SCOLLAY, University of Auckland

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Professor Urata's research interests include international economics, development economics, and industrial organization. He earned his M.A. and Ph.D. in economics from Stanford University. Prior to his current position, he served as a research associate at The Brookings Institution, an economist at The World Bank, and a director general at the Research Institute of People's Finance Corporation.

Major works: *Measuring the Costs of Protection in Japan* (with Hiroki KAWAI and Yoko SAZANAMI), Institute for International Economics, 1995, *Asia & Europe: Beyond Competing Regionalism* (co-authoring), Sussex Academic Press, 1998, and others.

This welcome addition to the growing literature on Asia Pacific free trade agreements (FTAs) contains eight chapters on different aspects of a sample of the FTAs in the region, each by internationally recognized experts on the issues being covered. The chapters divide nicely into two parts, and the initial overview chapter by Findlay and Urata provides a neat summary of the findings.

The first four chapters focus on the much-discussed issue of the quality of FTAs in the region, specifically in relation to provisions dealing with the potentially problematic issues of rules of origin, agricultural trade liberalization, services, investment, and bilateral safeguards. The authors of each chapter develop frameworks for analyzing the extent to which the provisions in question facilitate or restrict trade or investment, with a view to assessing their contribution to the quality of the FTAs in which they appear. This assessment turns out to be a difficult exercise, as it quickly becomes apparent that restrictiveness and liberalizing impact are multi-faceted concepts that tend to defy easy classification. The frameworks themselves are a helpful contribution to organizing our thinking about the contribution of FTAs to trade liberalization. By setting out detailed comparative information on the content of the provisions being analyzed in each of the FTAs in their sample, these chapters also make a most useful contribution to filling one of the gaps in the literature.

The remaining four chapters adopt a variety of approaches toward assessing the economic impact of FTAs in the region. As the authors of these chapters are all Japanese, there is an understandable emphasis on implications for Japan, although implications for other economies in the region are also addressed. Some of the

implications for Japan that are highlighted in these chapters may be of particular interest in the light of current debates over the future of Japan's policy toward FTAs.

Trade in goods: Rules of origin, agricultural trade and bilateral safeguards

The chapter by Cheong and Cho provides a most useful survey of the use of rules of origin in the FTAs being sampled, and the extent to which they restrict trade. The usefulness of the discussion could have been further enhanced by a slightly more detailed explanation of the concepts being used, for example the "build down" and "build up" approaches to calculating regional value content. By documenting the diversity of rules of origin in the region's FTAs, the chapter also highlights a potentially important obstacle to establishment of a region-wide FTA. The same chapter also provides detailed information on the degree of agricultural trade liberalization in the FTAs being sampled, in the process substantiating the commonly held perception that FTAs involving East Asian countries tend to display lower levels of agricultural trade liberalization.

It is apparent from the discussion by Cheong and Cho that the degree of restrictiveness in provisions such as rules of origin and agricultural trade cannot be simply explained on the basis of linear trends or country-specific interests and sensitivities. Complex negotiating dynamics also come into play. Thus, Japan made more concessions on agriculture to Mexico than to Singapore, partly because it also sought greater concessions from Mexico, but the FTA

with Mexico also exhibits more restrictive rules of origin. Among the FTAs in the sample, the United States generally provides relatively unrestricted access to the agricultural exports of its partners, though it applies a much more restrictive approach in its FTA with Australia, a major competitive threat to its own agricultural interests. Reciprocity also clearly plays a part in determining the degree of liberalization that can be agreed.

Services

The chapter on services by Ochiai, Dee and Findlay powerfully demonstrates the complexity involved in assessing the liberalizing impact of services trade agreements.

The authors provide an enormous amount of detail, and as they themselves comment, "the devil" is indeed "in the detail". For example, the apparently stronger liberalizing thrust of the negative-list approach can be undermined by extensive sector-specific reservations, and impressively broad sector coverage may appear less impressive when the depth and breadth of horizontal limitations is taken into account. The overriding impression is that, regardless of the approach used, countries have been quite successful in finding ways to limit the extent of genuine liberalization embodied in the services commitments in their FTAs. While FTAs generally achieve an increase in the degree of liberalization displayed in the partners' GATS commitments, as would be expected, even this observation is not universally true. The authors also point out that the wide diversity in structure and content of the services trade provisions of FTAs in the region is likely to be a significant obstacle to extending benefits to non-members or amalgamating existing FTAs into larger region-wide agreements.

Investment

The chapter by Urata and Susaya on investment in FTAs also contains an impressive amount of detail, highlighting the degree of liberalization or restrictiveness in terms of six different indicators. The authors see a link to the FDI (foreign direct investment) policies of the individual partner countries, and cite international comparative studies indicating that the FDI policies of most of the partner countries in the FTAs in the sample, all of whom are APEC members, are toward the restrictive end of the spectrum, at least by OECD standards. This is a sobering observation in the light of the emphasis that has been given in APEC's agenda over many years to investment liberalization.

Bilateral safeguards

The chapter by Kotera and Kitamura provides a welcome analysis of an aspect of FTAs that has received too little attention. After a careful analysis of the potential restrictiveness of the bilateral safeguards in their FTA sample, the authors come to perhaps their most interesting insight, which concerns the purpose of the bilateral safeguard provisions. While they may be ostensibly restrictive, these provisions may in fact be included as a way of "buying off" domestic opposition to FTAs, with little or no intention that they may be widely invoked in practice. An FTA that includes these bilateral safeguard provisions may be more comprehensive and liberalizing

in its coverage of goods trade than might have been the case if the bilateral safeguards had not been included. Information on the extent to which the bilateral safeguards are actually used would be needed to confirm whether this interpretation is in fact valid.

Economic impact of FTAs

The chapters by Abe and by Urata and Okabe use the now standard methodologies of, respectively, computable general equilibrium simulations and gravity modeling to provide assessments of the economic impact of FTAs in the region. The results of Abe's CGE analysis are unsurprising, and broadly in line with results produced by other researchers, but also instructive in relation to Japan.

Urata and Okabe perform their gravity modeling analysis first on aggregate trade data and then on trade data disaggregated by products. For most, but not all, of the FTAs in their sample, their results with aggregate trade data are broadly consistent with a growing body of gravity model results which typically although by no means uniformly indicate that trade creation effects predominate over trade diversion effects in most FTAs. When the trade data is disaggregated by product categories, however, their results are much more ambiguous, with trade diversion showing through in a number of cases.

The chapter by Takahashi and Urata contributes to the burgeoning literature on utilization of FTAs. Low utilization to date of FTAs by Japanese firms appears to be related both to the relatively minor roles in Japan's export trade of the partner countries in Japan's existing FTAs and to relatively low margins of preference. On the other hand, utilization is much greater by large firms than by small firms, suggesting that small firms may be disproportionately handicapped by the administrative requirements of FTAs.

There are often demands from policy makers for assessments of the impact of FTAs in the years immediately after their entry into force. CGE and gravity model analysis are not well suited to meeting this demand. The chapter by Ando, focuses on the impact of the Japan-Mexico FTA, provides an instructive example of how such analysis might be done, utilizing detailed knowledge of the relevant trade flows to differentiate between trade increases that might be attributed to the FTA and those that are clearly unrelated to it, and highlighting specific implementation steps that have demonstrably contributed to the facilitation of trade and investment.

Implications for Japan

Some of the findings by Abe and by Takahashi and Urata may be of particular interest in the context of current debates over the future of Japan's FTA policy. For example Abe finds that expanding the range of Japan's FTA partners can deliver significant welfare gains to Japan, and these gains are significantly further enhanced when agriculture is fully incorporated into the proposed FTAs. Accelerating the expansion of Japan's FTAs both improves the welfare outcome for Japan and reduces the potential negative trade diversion effects on other countries. Takahashi and Urata find that although Japanese firms were relatively uninterested in Japan's first three FTAs, they are likely to have been well pleased by Japan's more recent FTAs, and also have a very strong interest in FTAs with China and the United States, as well as being eager to see an FTA concluded with Korea.

The WTO: Present Challenges and Perspectives

September 28, 2010

Speaker: **Alejandro JARA**

Deputy Director General
World Trade Organization (WTO)



At our recent RIETI BBL seminar, Alejandro Jara, Deputy Director General of WTO, discussed the state of trade and trade policy responses to the current crisis. Although many countries continue to conclude free trade agreements (FTAs), measures that restrict trade have also been applied. Also, despite rumors to the contrary, Mr. Jara says that the Doha Round is still active and moving forward, although slowly, as negotiating a multilateral trade agreement is fundamentally different from a bilateral trade agreement. Mr. Jara offers some proposals for concluding the Doha Development Agenda (DDA), as doing so is essential for enhancing competitiveness, innovation, and facilitating job creation.

The state of trade and trade policy responses to the current crisis

Trade last year fell by 12% in volume, which is huge, and in a synchronized manner around the world, which shows the integration of economies and the production chains.

Economists will, in the future, look at the facts and the sequencing that determined the impact of this crisis and the

drop in trade. For now, we know that the drop was caused by the contraction of economic activity around the world, thus leading to less demand and less trade. Trade financing dried up very quickly, as did most of the credit around the world. Banks, in their preoccupation to not be seen as exposed in terms of liability, were forced to cut back on trade financing, even though letters of credit are virtually risk free.

In spite of the crisis, many countries have in fact liberalized their trade, for example Malaysia, Mexico and Canada. Many countries are also continuing to conclude FTAs, thus opening more of the markets to trade. But, measures that restrict trade have also been applied, though not at the level of past crises, like the depression of the 1930s.

The WTO began issuing quarterly reports on trade measures at the beginning of the crisis, mainly drawing on information from the press. Although governments were not happy to be exposed, they soon saw the value of having nearly complete and up-to-date information of trade measures around the world. Other sources include the OECD, UNCTAD and the Global Trade Alert (globaltradealert.com).

There are reasons to be concerned with the trade measures applied in this crisis. Most of the measures applied are foreseen in the agreements of the WTO. These include anti-dumping, countervailing duties, subsidies, safeguards, sanitary/phytosanitary regulations, standards, etc. The

circumstances in which certain measures can be applied are defined and are, for the most part, transitory. They can be challenged in the dispute settlement mechanism, as indeed and some have been, successfully.

The size of some of these measures may be a problem because of the impact in markets. For example, measures such as the bailouts of the automobile and banking industries. Also of concern is whether these measures will be permanent. And if not, how and when they will be rolled back. Other measures are subject to little or no WTO disciplines at all, for example, measures on investment or export duties. When rules are weak, insufficient or non-existent, protectionism slips through.

Overall, there is greater awareness than in the 1930s that in the context of a world with more flexible exchange rates, it does not make much sense to adjust via restrictions on trade. This would only make things worse. At the same time, because a multilateral trading system plus bilateral free trade agreements are in place, governments know that restricting trade will lead to retaliatory measures, which will then bring about a drop in their exports. Finally, in many countries, though not all, international obligations are incorporated into domestic legislation as international treaties. It thus makes it very difficult for a government to breach its own laws by breaking the terms of a trade agreement.

Furthermore, in certain countries, some measures are on "auto-pilot." For example, the law concerning anti-dumping duties in the United States; if an investigation finds dumping, injury and the causal link between the two, then the duty must be imposed, leaving the Executive with no choice or political control, even if a duty is ostensibly against the public interest.

Much research will be done in the future to shed light on the weaknesses of WTO rules, and/or what new rules are required as perhaps is the case of investment.

The Doha Round of trade negotiations

In spite of rumors to the contrary, the Doha Round is still active and moving forward, although slowly. Negotiating a multilateral trade agreement is fundamentally different from a bilateral trade agreement. At the center of Doha Round lies, for the first time, an attempt to effectively liberalize trade in agriculture, including eliminating export subsidies and reducing trade distorting domestic support. This implies

important changes to agricultural policies—a multilateral disarmament—that cannot be dealt with in bilateral or plurilateral trade accords. The political economy of these changes is such that a huge amount of political energy and capital must be spent to achieve limited success in this objective. The problem is not the number of WTO Members—there are 153. That we have not been able to conclude the negotiations is an issue of a few Members in whose hands lies the solutions.

Similarly, we face a dramatic situation surrounding fisheries, where 80% of the fish stocks in the world are in a critical condition. In order to deal with this, certain subsidies granted by some countries must be eliminated and this will reduce the number of vessels chasing a dwindling stock of fish.

In order to make such changes in agriculture and fisheries politically palatable, ambitious results must be reached in other fields, like services and non-agricultural market access. This, in turn, presents sensitivities to others. For example, some fear that reducing tariffs on industrial goods will open their markets to a flood of Chinese manufactures.

Some governments and business have mistakenly made an issue of the insufficiency of the concessions of many emerging markets. Since 1990 until 2005, figures of the World Bank indicate that developing countries have greatly liberalized their trade—65% of it unilaterally, 25% multilaterally (Uruguay Round or accessions) and 10% bilaterally. It is a mistake not to give value to the fact that these countries are willing to lock-in the liberalization they have undertaken. In other words, many developing countries autonomously opened their markets, without asking for anything in return, as if they had anticipated the results of this Round.

Another problem lies in the organization of the negotiations. It was agreed that a first step would be to achieve modalities in agriculture and non-agricultural market access. Modalities mean the level of ambition both in terms of tariff and subsidy reduction or elimination. The next step is for countries to reflect the modalities in their individual schedules. Since the modalities have flexibilities, how these will be used will only be known after the schedules are submitted, long after modalities have been agreed. To ask governments to agree to something like modalities without knowing the full impact makes an agreement much more difficult.

After a failed attempt to devise a package in agriculture and non-agriculture in July 2008, political momentum to ensure a high probability of success has not been found.

In the light of the context of the crisis, there is increased awareness that to agree to the Doha round would create an effective stimulus package for the world economy, and would probably be the cheapest possible stimulus. In addition, more and deeper international cooperation is required in many areas such as financial regulation, nuclear proliferation, organized crime, climate change, among others.

It is difficult to envisage that countries agree to move forward on all fronts except trade. The G20 has shown political leadership. Their meeting in Toronto was the first time a discussion on trade and Doha has been held by world leaders. They mandated their officials to work on the trade dossier and agreed to revisit this issue at the next meeting in Seoul.

The role of the U.S. is vital to generate leadership and engagement. Their internal politics is not always favorable to liberalization, but there is no doubt that to enhance competitiveness and innovation and to create more and better jobs, the conclusion of the DDA is essential, to the U.S. and to other countries as well.

Future challenges

Regarding the future, it is evident that hard questions need to be asked. Are the rules and disciplines currently in place enough? Do they make economic sense? What rules and disciplines are being elaborated in FTAs that need to be brought into the multilateral system such as investment? Overall, more rule making is necessary.

Methods of liberalizing services through trade negotiations must be generated. There has been little or no liberalization of services based on trade agreements thus far, with the exception of WTO accessions. Regulators need to engage in trade negotiations, since they are the only ones with the knowledge and expertise in the public policies of their respective fields. The negotiations must be organized by sector.

Another area that the WTO wants to develop is to measure trade in terms of its value added. For example, when a product assembled in one country reaches its destination country, the value is calculated as a whole, rather than

taking into account the value that was added by other countries in the production chain. The current calculation of value added gives a distorted picture of reality. Accurate calculation requires massive data collection and that poses huge logistical difficulties. Japan External Trade Organization (JETRO) has been very helpful in working with the WTO and academics to create a methodology to measure value added. I also think that more impact analysis of measures is needed. Governments should try to create independent institutions that analyze the impact of measures that they plan to apply so that consumers, unions, NGOs and politicians can act or react to different proposals with full knowledge of what the impact will be. This will lead to much better governance. The Productivity Commission in Australia is a good example of what I think is needed on a national and international basis. Finally, another challenge is what to do with the numerous FTAs being signed and implemented around the world. These agreements are very much a struggle against discrimination, but these agreements come at a cost. They are not as efficient as multilateral liberalization, but they do point in the right direction by putting into place rules and disciplines that are stricter than WTO standards. These rules must be constructed in a way that is compatible with the idea of their convergence and eventual absorption into a multilateral trading system.



Question and Answer Session

Q1 Some say that the package in the Doha round should be minimized so that everyone can agree to it more easily. What is your opinion on this approach? Secondly, please elaborate on your statement that future negotiations on services need to be organized by sector.

A Passing a "light" Doha package would not work because it would be politically difficult. There are basic things that need to be solved at this Round, and for many developing countries, there is a point below which a result does not work. Agriculture will continue to be an area in which developing countries are discriminated against because they do not have the financial resources to provide their farmers



with the kind of assistance available in the developed world. Mediocre results in agriculture will make it politically impossible to do more in services commitments, concessions in manufacture, etc.

Regarding the negotiations of services, negotiating tariffs is based on numbers, whereas negotiations on services are about words. Thus, in services, negotiations end up being more complicated and sensitive. For highly regulated sectors, public policies will also be up for negotiation and these policies are very often competition rules. Thus, tradeoffs between different service sectors are extremely difficult because they belong to different worlds and are not measurable. Therefore, the most efficient manner of organizing services negotiations is on a sectoral basis, and in this way, appropriate safety values can be tailor-made for each area.

Q2 How probable do you think a collapse of the Doha round is?

A Like any negotiation, an adjustment of expectations is required. You need high levels of ambition, but it is also true that countries will not get everything that they are asking for and they will have to pay more than they expected. I do believe that politically, below a certain level of ambition, this round will fail. Many countries, particularly the poorer, are waiting anxiously for the results of the Doha Round: they stand much to gain in terms of new investments and markets. It is a matter for the few to determine the outcome—not more than 10 or 15 countries, counting the EU as one, because they are the ones that have to do the tradeoffs.

Q3 Do you think it is a good idea to expand the agenda of the WTO into competition law, currency intervention or tax issues such as transfer pricing?

A The World Trade Report of the 60 years of the multilateral trading system, explained that there is no objective way to have a set of criteria spelling out whether something is trade-related or not and therefore whether it should be in the trade system or not. For example, some say that investment should have been in the system long before intellectual property. Thus, the expansion of the WTO agenda is dependent on political outcomes. It is

clear that more international cooperation is needed in the field of competition policy, be it through the WTO or other means. Currency is already under the jurisdiction of another international agency. The WTO looks at long-term issues and not short-term fluctuations or manipulations. In that case, because of the specialization of another international agency, it would not be a good idea to bring currency into the fold of the WTO. Plus, traditionally speaking, the people who work with monetary issues have a high disregard for trade negotiators.

Q4 How do you see the balance of the three pillars of the WTO—rule making, dispute settlement and monitoring—in the future?

A Regarding monitoring, countries provide as little information as possible, and if they feel uncomfortable, they will delay the notification as much as necessary. Countries dislike answering questions. Little by little, a system must be put in place where if a government does not provide the information in a timely manner, this information will be provided by the Secretariat, and it will be up to the government to correct and/or validate it. This would be one effective way to hold them accountable. It may sound a little far-fetched, but I think monitoring should evolve in this direction.

As to dispute settlement, this is working well. The process takes longer than necessary, but this is the fault of the Members. The quality is good and perhaps over time permanent panelists will be necessary. Also, the system needs to be changed at the point of implementation. Basically, the price of non-compliance must increase as time passes so as to generate incentives to derogate or amend a measure found in breach of WTO obligations.

Finally, regarding rule making, many in-house processes and procedures must be updated. The fact that different kinds of safeguards are being negotiated means that the current system of safeguards is not enough. Most of the time, if a problem persists for more than three or four years, it is not an emergency situation; it is a structural problem that should be addressed in another way, but not by restricting trade through a safeguard. In other words, bring back sound economies to our disciplines.

Deflation and Macroeconomic Policy: Japanese and European Perspectives

July 6, 2010



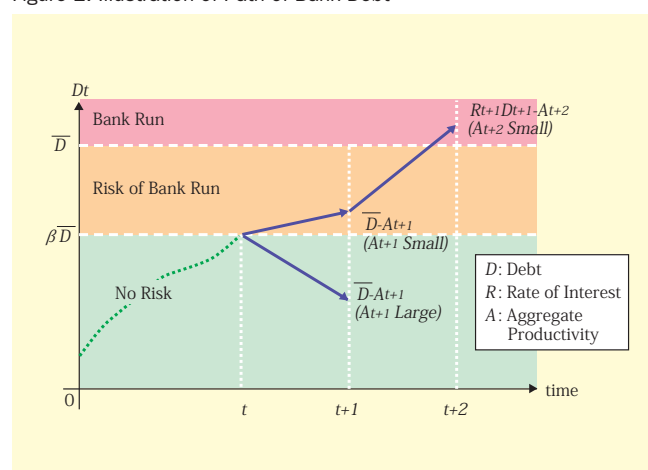
The global financial crisis of 2008–2009 and the subsequent economic and fiscal turmoil still raging in Europe have much in common with the long-term economic stagnation and deflation that Japan experienced after the bursting of the economic bubble. At a joint-workshop of the Center for Economic and Policy Research (CEPR) and RIETI held in London, researchers from the two institutes presented their research findings on the economic crises in Europe and Japan, examining three aspects, namely, the financial system, price fluctuations, and the labor market.

First Session

Dr. Keiichiro KOBAYASHI (Senior Fellow, RIETI)
"A Dynamic Model of Bank Runs"

Senior Fellow Keiichiro Kobayashi introduced a dynamic macroeconomic model in which the probability of a bank run is a variable. While most ordinary bank run models analyze the bankruptcy of banks in a one-period economy, Kobayashi's model is unique in that it is constructed as an infinite horizon model in which the banking system accumulates assets and liabilities over many years. In his model, when a bank has an excess of liabilities over assets, it does not collapse immediately—a situation that would automatically trigger a bank failure in a one-period model. It is also demonstrated that a bank run, which will eventually cause the bank to fail, occurs only after the bank's negative net worth exceeds a certain level. The model, which defines the probability of bank runs as an endogenous variable, is consistent with the mechanism of how a real-world financial crisis occurs (**Figure 1**).

Figure 1: Illustration of Path of Bank Debt



Prof. Morten RAVN (Professor of Economics, University College London)
"The Sources of the Crisis"

Professor Morten Ravn presented a model that explains the mechanism of how an economy falls into a liquidity trap. It is a multiple-equilibrium model in which an undesirable equilibrium—one that is different from and worse than the usual equilibrium—arises when the future outlook of the economy deteriorates beyond a threshold level. One characteristic of Ravn's model is that it assumes the existence of sunspot equilibria that fluctuates driven only by changes in expectations. There was some controversy over the relevance of this assumption in relation to a real-world crisis.

The models presented by Kobayashi and Ravn were examined for their respective characteristics and applicability to real-world cases, followed by in-depth discussion on ways of reviving the banking sector in Europe and measures to combat deflation under the current situation where real interest rates are almost zero. Discussion also took place on the relevance between Kobayashi's bank run model and an effective freezing of the financial asset market, a phenomenon typically observed in a real-world financial crisis, as seen in 2008.

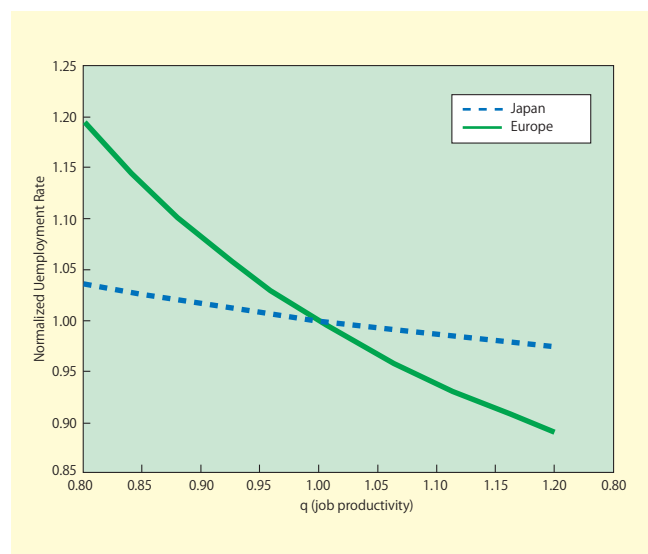
Second Session

Prof. Kenn ARIGA (Professor, IER, Kyoto University)
"Japano-Sclerosis?"

Professor Ariga presented an analysis using a competitive search model focusing on the unique characteristic of the Japanese labor market, which is virtually divided into two separate segments with new graduates systematically differentiated from other job seekers.

His analysis showed that permanent productivity change would have a larger impact on wages in countries where the labor market resembles that of Japan, and on the unemployment rate in an integrated job market where all job seekers—whether new graduates or not—compete on an equal footing (**Figure 2**). The so-called Eurosclerosis in Europe can be understood as a result of a significant long-term rise in the unemployment rate brought on by declining productivity, combined with the effect of a more generous unemployment insurance system in comparison to Japan and the United States. Therefore, even if the lower productivity were to continue into the long term, the rise in the unemployment rate experienced in Europe is unlikely to be seen in the labor market in Japan. However, if new graduates are differentiated from other job seekers and training is firm specific, the effect of a failure to find employment in the new graduate market will be greater in Japan than in Europe, as the labor market places more emphasis on worker quality than experience.

Figure 2: Impact of Permanent Productivity Change on Unemployment

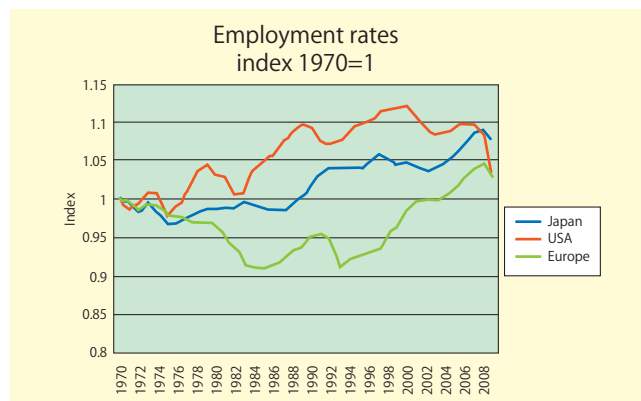


Prof. Torben ANDERSEN (Professor, School of Economics and Management at Aarhus University)

"European Perspective"

Professor Andersen explained about Sclerosis (particularly high unemployment among the youth) in Europe, the phenomenon behind the title of Professor Ariga's paper, and pointed out that the long-term trend of employment in Europe has not improved, in contrast to Japan and the United States (**Figure 3**). During the discussion, opinions were exchanged on appropriate responses, including flexibility of the labor market.

Figure 3: Employment rates



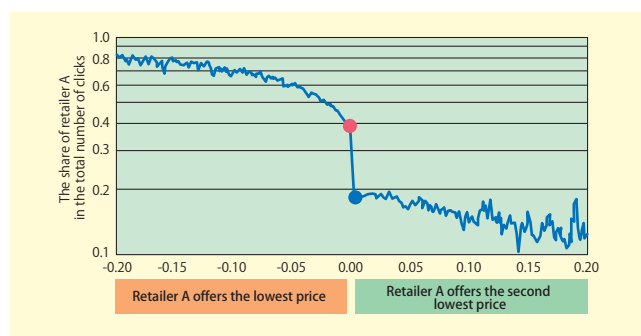
Third Session

Prof. Tsutomu WATANABE (Faculty Fellow, RIETI/ Professor, Institute of Economic Research, Hitotsubashi University)

"Closely Competing Firms and Price Adjustment: Some Findings from an Online Marketplace"

Faculty Fellow Tsutomu Watanabe presented findings from an analysis of price competition in Japan, using a set of price data obtained from a leading price comparison website. He properly demonstrated that the price lowering behavior by one actor (retailer) prompts others to lower their prices in the online marketplace. It was also shown that pricing behavior—typically triggered by external shocks such as improved productivity—is transmitted to the market after a considerable amount of time (**Figure 4**).

Figure 4: Number of clicks vs. relative price



Prof. John DRIFFILL (Professor of Economics, Birkbeck College, University of London)

"A Response by Prof. Driffill to Prof. Watanabe's Presentation"

Commenting on the presentation by Faculty Fellow Watanabe, Professor Driffill raised questions as to how the presented

micro-analysis model can be utilized or expanded to enable a macro-level analysis of price fluctuations. He suggested that the stickiness (rigidity) of wages may be a larger factor for deflation and inflation than prices. He also pointed to the need to consider financial risk hedging.

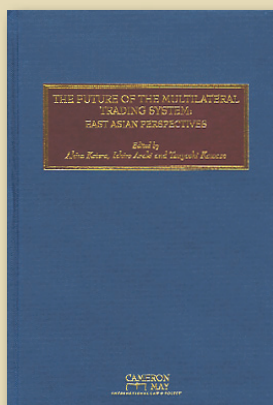
Discussion Session

In the general discussion session, participants exchanged views on the state of the economy in Europe and Japan, i.e. how they assess the present state of the European economy in light of Japan's experiences during the 1990s, how they diagnose the state of deflation in Japan, and so forth. The main arguments made are as follows:

- (1) In his presentation, Senior Fellow Kobayashi showed that the Bank of Japan significantly increased the supply of base money in the 1990s. However, a more broadly-defined money supply, such as M2, showed only a limited increase. This seems to indicate that the Japanese financial system was impaired at the time, which caused the credit multiplier to decline and diminished the effect of easy-monetary policies. Vigilance is required as the EU could now be facing a similar situation.
- (2) It seems certain that rising imports from China are having a deflationary effect in Japan. In other words, the income redistribution function is working because of the easy availability of cheap daily commodities. The deflationary effect may be at least 1%.
- (3) With respect to the view that deflation is progressing as a result of improved efficiency in the distribution of goods and services made possible by IT technology, the causal relationship is not so clear. According to research on the actual state of trade and investment, the gravity model still fully applies, with distance controlling the size of trade and investment. Thus, it cannot be concluded that IT technology has rendered distance insignificant, or that IT has caused deflation.
- (4) The current economic conditions in Europe are very severe and as a matter of course give rise to pessimism about the future of the European economy. Reasons for this view can be described in the four factors below:
 - A) A great deal of effort is required to adjust the global trade imbalance. A trade structure observed in the relationship between developing economies in Asia and developed countries in Europe and the Americas also exists between countries within Europe. That is, peripheral EU economies are increasing exports to developed EU countries, taking

advantage of lower manufacturing costs. Because no exchange rates exist within the Euro zone, adjustments to correct intra-regional imbalance must be made through product prices. What we see here is an adjustment mechanism not by means of monetary policy but by changing the quantity of real goods. This imposes a large burden on companies. Although government debt has been offset (financed) by savings surplus in the corporate sector, it is highly doubtful that this can continue.

- B) Restraint on fiscal spending. If EU members abide by their agreement to halve government debt, the European economy will undoubtedly experience a double-dip recession. This could invite a situation in which economic recovery takes 20 to 30 years. Rather, it would be advisable for them to break this agreement because as long as inflation remains around the rate of 2%, substantial government spending should pose no problem.
- C) Banks are being subjected to stress tests. Their financial situation is the foremost concern.
- D) The Greek economy is in turmoil, going beyond the boundaries of economic discussion to become a full-blown political issue of who should pay and who should be helped. Although Germany bears a considerable burden in this regard, there is significant political uncertainty as to whether public understanding can be achieved if the crisis engulfs other countries.
- (5) The economic recovery of Japan during the 2000s was partly attributable to its foreign exchange policy, as Japan managed to differentiate itself from other countries by adopting the zero interest rate policy. Now that other countries have followed Japan's example, they are competing to drive down the value of their currencies, leading to policy ineffectiveness.
- (6) As the average maturity of government debt of 13.7 years in the United Kingdom is fairly long, measures such as a moratorium are unnecessary. However, countries like Spain and Italy may be forced to consider a moratorium on government debt. This gives the impression that governments not only face a rise in the interest burden like the Japan premium, but are also finding that raising funds is becoming increasingly difficult.



The Future of the Multilateral Trading System: East Asian Perspectives

Akira KOTERA, Tsuyoshi KAWASE and Ichiro ARAKI

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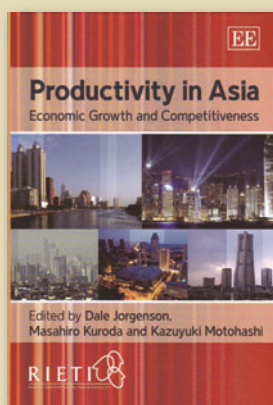
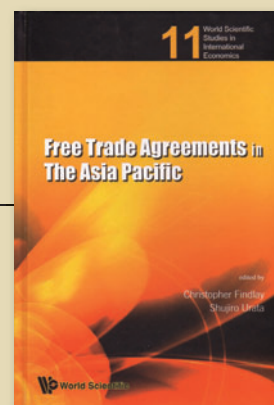
Free Trade Agreements in The Asia Pacific

Christopher FINDLAY and Shujiro URATA

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Productivity in Asia

Dale JORGENSON, Masahiro KURODA and Kazuyuki MOTOHASHI

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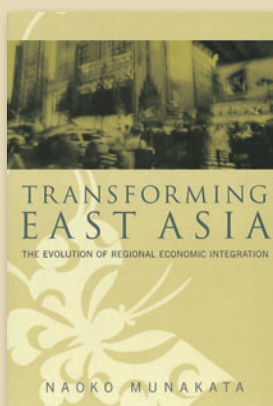
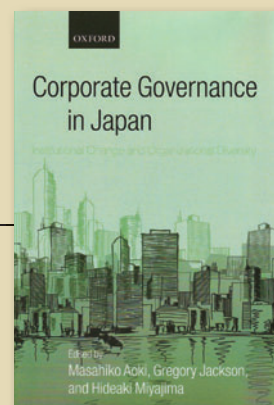
Corporate Governance in Japan

Masahiko AOKI, Gregory JCAKSON and Hideaki MIYAJIMA

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Transforming East Asia

Naoko MUNAKATA

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