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C O L U M B I A U N I V E R S I T Y I N T H E C I T Y O F N E W Y O R K

Policy Options for Japan's Revival

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1. Introduction

Our earlier NIRA report (Hoshi and Kashyap 2011) examined the major causes of Japan's economic stagnation during the past two decades. We argued that Japan's stagnation is due to a failure to adapt successfully to three important changes that began to surface in the 1970s. First, Japan had substantially closed its economic gap with most advanced economies in the world. Growth achieved by simply catching up to the frontier economies was no longer possible. Second, the end of the Breton Woods system meant that Japan could no longer rely on the stable and undervalued exchange rate to promote its exports. Third, rapid aging made it impossible for Japan to grow merely by relying on factor accumulation. Collectively these shifts meant Japan needed to adjust if it was to continue to grow. Stronger domestic demand and productivity growth coming from its own innovation (rather from borrowing technology from more advanced countries) was necessary.

The report identified several important mistakes that Japan made in addressing these challenges. First, to ease the pain of the structural changes, Japan ended up protecting "zombie firms" that would have been put out of business in a normal competitive market. The zombie firms reduced the profitability of healthy competitors, especially potential new entrants with higher innovative capacity. Second, government regulation in many areas discouraged innovation. Third, there were a set of misguided macroeconomic policies in the 1990 and the 2000s. Monetary policy was not sufficiently expansionary to end deflation, so that the price level fell for more than 15 years. Fiscal policy was inconsistent at best. The public works, which were key parts of most of the government stimulus packages that were repeatedly enacted, were often harmful. The public investment was not productive and even worse crowded out private sector investment. Yet despite massive government spending in general, the specific funds allocated to tackle the banking problem in the late 1990s and the early 2000s were insufficient. Instead the banks remained undercapitalized and some policies even encouraged them to continue to support zombie firms.

There were some attempts to correct these policy mistakes during the Koizumi government, but even the Koizumi reforms did not focus sufficiently on policies that would raise productivity growth. The post-Koizumi governments reversed a number of the Koizumi policies so that the growth outlook by 2012 remains bleak.

In this sequel to Hoshi and Kashyap (2011), we explore several policy options for responding to the aforementioned challenges and for restarting growth. One important consideration is that after our original report was published, Japan suffered a set of terrible disasters. On March 11, 2011, a huge earthquake shook Tohoku and Northern Kanto, and a devastating tsunami hit the east coast of Japan. The earthquake and tsunami led all the active nuclear power plants on the coast to shut down. Most of the plants shut down safely, but Fukushima #1 nuclear power plant was an exception. All the reactors that were active when the tsunami hit are now believed to have gone through almost complete meltdown in a day or two. Radioactive materials were released into the environment and the residents of the neighboring towns were forced to evacuate. The policy focus after the disasters naturally centered on measures aimed at restoration and reconstruction. The discussion about growth was pushed to the back stage.

The disaster, however, makes it even more important to develop a better long-term growth strategy. Japan is recovering from the disaster, but absent better long-run growth policies, the economy will likely lapse back into the stagnant state that prevailed just before the 2011 tragedy. The disaster does nothing to invalidate the observation that the key to Japan's long term prosperity will depend on its productivity growth. Indeed, if anything, the disaster could allow the affected areas of the Japanese economy to make a fresh start. Japan should consider this as a great opportunity to reposition its policies.

In this report, we identify some specific concrete steps Japan can take to jump start growth. Our recommendations are organized around three broad themes: regulatory reform, opening up the Japanese economy, and improving macroeconomic policies. Section 2 identifies four types of regulatory relief that would improve growth in Japan. One set of changes show how to reduce the cost of conducting business in Japan. Each of these is achievable and together they would modestly improve business conditions and the efficiency of doing business in Japan. We also explain how to stop the protection of zombie firms, and identify several other government regulations that also discourage productivity growth, especially in the non-manufacturing parts of the economy. An approach that Koizumi government tried for deregulation was the creation of structural reform special zones. As our earlier report found, these special zones had mixed results, so we also explain the conditions that a special zone should satisfy to be growth enhancing.

Section 3 examines the gains that can be achieved by opening up the Japanese economy. One avenue for doing this is via the Trans-Pacific Partnership (TPP), which Japan has finally decided to join the negotiation. We explain why participating in this deal is desirable. A perpetual road block to trade negotiations in Japan has been the pressure from agricultural interests to protect that sector from competition. Productivity gains in the Japanese agricultural sector have been dismal and we also discuss policies that could help improve that situation. A third path to openness is through increased immigration. We sketch immigration reforms that would be growth enhancing.

Section 4 explores the growth impediments resulting from poor macroeconomic policies. The threat of a debt crisis that could cripple Japanese growth is real. We explain why a credible plan for fiscal consolidation is necessary and propose some principles that should be part of such a plan. Monetary policy has also been bad since the Bank of Japan's legal independence. We identify the type of monetary policy framework that is necessary to end more than a decade long deflationary period.

Section 5 offers some brief conclusions.

2. Regulatory Reform

There are many ways in which regulation holds back economic growth in Japan. We separate our proposals to tackle four different aspects of the problem.

2.1. Reducing the costs of doing business in Japan

One objective indicator of the existing regulatory barriers can be deduced from the World Bank's annual assessment that compares the ease of doing business in 183 countries (Doing Business (2011)). These

calculations are made by comparing 10 types of business regulations in each of countries.¹

The regulatory burden is assessed by tracing the specific steps are involved a particular transaction that are representative of routine business needs. For example, one component of the index relates to the procedures required to start a business. To assess what is involved, the Bank measures the time, cost, required paid in capital, and number of procedures to get a local limited liability company up and running. Similarly, to study tax burdens, they look at the time, total tax rate, and number of payments necessary for a local medium sized company to pay all taxes.

The advantage of studying these very specific tasks is that it is easy to make comparisons across countries and to highlight the precise road blocks to doing business. The downside is that the grades may be sensitive to the choice of tasks to be evaluated. For Japan, our view is that the tasks that they concentrate upon are sensible, and the problem areas that are identified surface in other assessments as well. So while we do not claim that this study captures all the ways in which regulation can affect growth, or that it perfectly captures the effects on business, we do believe the impediments that are documented are real and meaningful.

Table 1 shows various indicators related to the ease of doing business in Japan and selected other countries as of 2011. We draw two conclusions from these data. First, and most importantly, business regulation in Japan has much scope for improvement. The overall rank of 20 out of 183 is a little deceptive because the bulk of the 183 countries are poor and regulations in many of them are stifling. A more natural benchmark for Japan would be relative to the 31 members of the Organization for Economic Cooperation and Development that are in the sample. Japan comes in 14th in this set, just above Estonia and below Germany; Italy and Greece are the two lowest rated OECD countries.

Second, the reason why Japan ranks poorly can be traced to difficulties associated with three particular aspects of doing business that are related to business formation, taxes and land use. The problems in starting businesses can be further narrowed to the long lags in completing an application (23 days for Japan versus the OECD average of 12), and in the number of separate procedures required (8 steps in Japan versus 5 for the average OECD country). These hurdles mean that Japan ranks 26th of the 31 OECD countries in ease of starting a business. As Table 1 shows this also puts Japan below other wealthy Pacific and East Asian countries.

The tax difficulties in Japan arise because the overall rate is high, 49.1 percent of profits in Japan versus the global average of 44.8, and because of high compliance costs (330 hours per year versus an OECD average of 186). As indicated in the table, it is more difficult to pay taxes for a business in Japan than in Greece, and is roughly comparable to China. As documented by Djankov et al (2010), higher business taxes deter fixed investment, foreign direct investment and entrepreneurial activity.

Japan also is a difficult place to register land and obtain construction permits. The registration challenges are mainly due to fees involved in land transfers. In Japan two businesses that are transferring a land title pay 5.7% of the property value in fees, versus an OECD average of 4.4. In getting a permit to build a warehouse, it takes 193 days in Japan to complete the process versus 152 in the typical OECD

¹ The ten categories pertain to starting a business, dealing with construction permits, getting electricity, registering property, getting credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and resolving insolvency.

country.² Inefficient land use policies have long been cited as an efficiency barrier in Japan (e.g. Ito 1992, chapter 14).

Japan should directly address all three of these impediments. There are several respects in which Japan does not follow international best practices to support business formation. Most importantly, there is not one-stop shopping, whereby an applicant can use a single point of contact to complete all the requisite paperwork. Instead, a Japanese new business go through separate procedures with the ward office, the legal affairs bureau of the Ministry of Justice, the District Tax Office, the local tax office, the Labor Standards Inspection Office, the Social Insurance Office and the Public Employment Security Office. Malaysia, Vietnam and Korea all have one-stop shopping for startups and there is no reason Japan could not as well.

Haidar (2012) shows regulatory reforms to reduce the cost of doing business does lead to higher growth. He starts by counting the number of regulatory reforms in ten areas covered by the Cost of Doing Business ranking over five years from 2006 to 2010 for 172 countries. The potential scope for reforms could be as high as 50. In the sample, the observed range of reforms lies between 0 and 23 with the mean of about 6.5. He then runs regressions of the annual average economic growth rate from 2006 to 2010 on the regulatory reform variable with a variety of other control variables. The regression suggests that each regulatory reform increases the average growth rate by 0.11% to 0.15%. In his dataset, the number of regulatory reform for Japan is 3.³ Taken literally this suggests if Japan had implemented the average number of reforms in the sample (6.5), the annual growth rate would have been higher by 0.525%. But even if we worry that the controls are imperfect, and the estimates are too high, it seems that Japan could grow substantially faster if it were to deregulate.

In section 4 of the report we offer more details on the role of adjusting taxes in Japan as part of a comprehensive fiscal consolidation. Our proposed solution focuses on increasing the consumption tax to improve the long-run budget outlook. But, a shift from a reliance on business taxes to consumption taxes would be pro-growth in that doing so promotes investment.

High existing business taxes in Japan are also a consequence of its inefficient tax collection system. Because large corporations are required to withhold taxes before they pay their employees' salaries, the tax agency has fairly precise information about the salaried workers' taxable income. Farmers and self-employed workers are not required to have taxpayer IDs. This facilitates the underreporting of their income and complicates the ability to track retirement contributions. So one additional step Japan should take is to institute a comprehensive taxpayer identification system.

There are obvious reforms that would improve the efficiency of land use, too. As mentioned above the fees for transferring land in Japan are unusually high, and the time involved in getting permission in Japan is relatively long. Cutting the transfer fees is straightforward and is consistent with the general preference for having a less complicated tax system. The permission process in Japan now takes longer than it did in 2006, in part because of the scandal that involved falsified certifications of

² In fact, last year Japan took a step back on this dimension by raising inspection fees.

³ We thank Jamal Haidar for sharing the data for Japan.

earthquake resistance of structures.⁴ In response to that scandal the scrutiny of subsequent applications has been increased but the staff of qualified examiners has not kept up, so that there is now a backlog in the inspection process. Increasing staff would be desirable.

A related problem arises in cases where farm land is to be transferred. For historical reasons, Japan has taxed farm land at extremely favorable rates (relative to other types of land). This tax preference has the perverse effect of making it economical to have land earmarking for farming even in densely populated areas. Moreover, when someone does decide to eventually sell farm land, the poor official record keeping can be an impediment. The farm land registry is antiquated and error-ridden. It should be updated and modernized so that transfers can be done quickly without leaving doubts about whether a clear title has been conferred to the new owner.

Finally, Japan has the possibility of creating a one-time gain in economic efficiency by improving the addressing system used in Tokyo and other cities. Currently, addresses are given based on the location's position relative to a nearby area rather than its position on the street. In particular, for each area, the numbers are generally assigned using a clockwise algorithm that breaks up the circumference of the zone into equal segments and each house is given a number that most closely matches its location. In a large city like Tokyo, areas themselves are assigned numbers (*chome*) and considered parts of wider area (e.g., Ginza 1-chome, Ginza 2-chome, and so on). Therefore, adjacent buildings need not have consecutive addresses. In some rare cases, two houses can share the same address. This leads to lots of wasted time as people search for addresses and arrange to send maps ahead of meetings. While there would be substantial short-run disruptions to rationalizing the addresses, the long-term gains would be enormous.

South Korea offers a test case. The Japanese-style addressing system there was established by Japan during its 1910 annexation of Korea. Korea has begun moving to a street-based system. Since the Law for Indicating the Address based on the Street Name became effective in 1997, the Korean government has been giving street names and addresses to all the buildings in South Korea. A timeline for this project is found on their web site⁵. The plates for street names and house addresses were installed by October 2010, and all the uses of address for public services will be moved to the new street address system by the end of 2013. According to a report in *Geospatial World*, the Korean government estimated that the reform will save about 4.3 trillion won (about 3.8 billion dollar at the exchange rate of 1,118 won per dollar) a year.⁶

2.2. Stopping protection for zombies

The previous report explained why supporting the operations of zombie firms reduces growth. Beginning with the Takenaka reforms in late 2002, the Japanese banks (at least large banks) were forced to shed their non-performing loans. This was a turning point, but during the global financial crisis of 2007-2009, the government reversed policy to resume supporting zombies. The most recent policies encourage banks

⁴ See *Doing Business 2012: Economy Profile Japan* (chapter 4)

⁵ <http://juso.go.kr/eng/about/ProjectStatusandProgress.htm>

⁶ See http://www.geospatialworld.net/index.php?option=com_content&view=article&id=18729%3Areform-in-address-system-to-boost-lbs-industry&catid=67%3Abusiness-general&Itemid=1.

to help their troubled customers, especially small and medium enterprises. Stopping the protection of the zombies is a necessary step for revival of economic growth in Japan.

The first sign that the government was resuming its policy of tacitly enabling zombies came on November 7, 2008, less than two months after the collapse of Lehman Brothers. The Financial Services Agency (FSA) announced a policy called Measures to Facilitate the Easing of Lending Terms for Loans to Small- and Medium-Sized Enterprises. This narrowed the definition of restructured loans, a category of classified loans.⁷ Previously the FSA's Inspection Manual for Deposit-Taking Institutions had stated that a loan with relaxed terms can still be classified as "normal" only if the company has a comprehensive business reconstruction plan that would make the loan performing in around three years. Under the new policy banks could classify a restructured SME loan "normal" if a company has a reconstruction plan which would make the loan performing in around five years; even loans to companies that would follow a plan that make a loan performing after 5 years but within 10 could be counted as normal. This change shifted some loans that previously would have been counted as restructured to being classified as normal.

After the Democratic Party of Japan (DPJ) won the election in fall 2009, the measures for the facilitation of financing for SMEs were enshrined in law. The Act concerning Temporary Measures to Facilitate Financing for Small and Medium-Sized Enterprises (SMEs), which was passed on November 30, 2009, stipulated that financial institutions should make efforts to respond favorably to loan modification requests from small and medium-sized business borrowers. This resulted in a further change to the FSA's Inspection Manual to stipulate that, even if a debtor had not yet formulated a highly feasible and comprehensive business reconstruction plan, if the debtor was a small or medium-sized enterprise and there was a good prospect that the enterprise would formulate such a business reconstruction plan within the period of one year from the date on which the conditions of the loan were changed, the loan need not be classified as being restructured. In other words, the mere pledge that a business reconstruction plan was being planned was enough to allow a company's loan to be classified as normal.

Following these regulatory changes, the banks restructured many SME loans but avoided labeling them as non-performing. According to the FSA, subsequent to the enactment of the SME Financing Facilitation Act, borrowers with a total of 42 trillion yen of SME loans applied for restructuring, of which banks agreed to restructure 39 trillion yen as of the end of June 2011; in other words, loans of over 7 percent of GDP were reorganized under this program and virtually everyone who sought assistance got it.⁸

Figure 1 shows the reported amount of restructured loans for large banks and regional banks separately. It is hard to get precise estimates on how many non-performing loans are classified normal due to the regulatory changes, the fact that the amount of reported restructured loans declined during the severe recession following the global financial crisis suggests that the non-performing loans at Japanese banks are seriously underreported. Thus, the zombie problem is likely to re-emerge if it has not done so. When the act was passed in November 2009 it was scheduled to be a temporary measure, in effect until

⁷ <http://www.fsa.go.jp/news/20/20081107-1.html>.

⁸ The cases in which the applications were refused amounted to less than one trillion yen, with the remaining applications having been withdrawn before a decision was reached. So in fact 97.2% of the total applications were approved.

the end of March 2011, but was later extended until the end of March 2012. In December 2011, the act was extended by one more year. The “final extension” set the terminal date of March 31, 2013.

Ironically, there is a well-known precedent for rolling over this kind of support. After the Great Kanto Earthquake in 1923, the Diet passed an emergency bill that allowed banks to present notes issued by the firms that were adversely affected by the quake to the Bank of Japan for rediscounting. The BOJ would allow up to two years for repayment. It was widely reported that many bills that were doubtful for reasons unrelated to the earthquake were rediscounted through this program. Moreover, when the temporary program was to end in 1925, it was argued that the economy was too weak to discontinue it, and it was renewed for another two years.

Similarly, when the size of the banking problems in Japan were still being debated in 1997 the Diet temporarily eliminated the cap on the amount of insured deposits, thus effectively guaranteeing all bank deposits. This support was supposed to be temporary, with a targeted expiration in April 2001. But as that date approached, concerns that the banking system was still too weak to function without it were raised, and the guarantee was extended until April 2002. Eventually the guarantee was rescinded but certain deposit classes remained protected, so that the effective withdrawal of support was quite gradual.

It is clear Japan has a long history of having trouble removing subsidies once they are in place. So the regulatory forbearance on classifying bad loans is not unique. But, a return to robust growth requires this policy to cease.

2.3. Deregulation especially in non-manufacturing sectors

The high cost of starting up businesses in Japan that we discussed above is mostly a result of regulation. Despite some deregulation efforts in the last couple of decades, many industries still face onerous restrictions that hamper growth. The situation is especially serious in non-manufacturing industries. Figure 2 reproduces a figure from our previous report that shows the degree of regulations in manufacturing and non-manufacturing industries separately. The non-manufacturing industry here consists of the especially growth challenged industries that we identified in the previous report: construction, retail & wholesale trade, real estate, agriculture, finance & insurance, and hotels & restaurants. The figure is based on the regulation index compiled by the Cabinet Office (2006). The index is constructed by counting the number of regulations on the book for each industry every year. In addition to the regulations on the books, their measure tracks the deregulations that opened up new business areas or new products each year. To account for those changes in the regulation, they assume that the new business areas and products were effectively banned by the regulation before the deregulations even when such regulations are not on the book. The figure shows the deregulation took place in both manufacturing and non-manufacturing during the decade from 1995 to 2005. For the non-manufacturing, however, the deregulation slowed down substantially during the last half of the period. The previous report pointed out a weak empirical relation between the extent of deregulation and the growth of total factor productivity (TFP) at least for non-manufacturing industries. Thus, the slowdown of deregulation likely contributed to the lack of productivity growth in non-manufacturing industry.

Figure 3 shows the TFP growth rate for manufacturing and non-manufacturing separately for

selected OECD countries. The data come from EU KLEMS⁹. Japan's TFP growth rate is at near bottom for both manufacturing and non-manufacturing. For the non-manufacturing, the situation is especially serious: the level of total factor productivity has not increased since the early 1990s.

Thus, it is important for Japan to speed up the deregulation especially in non-manufacturing industries. This idea is not new. Indeed the Japanese government would claim that they have been promoting deregulation to restore growth for more than 10 years. Table 2 shows the series of government commissions and councils that were created to advance deregulation in various areas. Each deregulation commission consisted of 15 or so business and academic leaders. Each commission formulated a three-year plan for deregulation and recommended it for the government. The commissions also examined how the government has handled previous recommendations.

Despite these efforts, some onerous regulations remain. The fact that the regulation indices for non-manufacturing stopped falling after the late 1990s suggests that the process has not been effective enough. The previous commissions' follow up examinations highlight the recurring unwillingness to fully engage these problems. For example, the Commission on Regulatory Reforms specified 429 deregulatory measures to be implemented during fiscal 2002. Of these 429, only 208 were implemented during the fiscal year¹⁰. The report claims that another 217 items were "partially" implemented. As of March 2008, there were 25 items that were supposed to be implemented by March 2004 but not yet implemented. Only one of them was implemented in fiscal 2008¹¹. There were additional 30 items that were supposed to be implemented by March 2007, but none of them was implemented in fiscal 2008¹². Of the 362 items that were to be implemented in fiscal 2008, only 212 were actually implemented¹³.

Another problem is that many recommendations made by the commissions are counted as deregulation when this is not really the case. For example, the commissions often suggest that regulatory agencies should conduct a survey or research to understand the current problems with existing regulations. These studies often occur, but they do not reduce the regulation at all.

Here we describe two modest examples where growth enhancing deregulation would be possible. Both of these have been discussed by the commissions at some point but neither of them has been fully implemented.

One example of counter-productive regulation relates to the rules concerning combined provision of medical treatments covered by the national health care insurance and uncovered treatments, such as some experimental treatments or uses of advanced drugs that have not been approved in Japan. The patients can receive uncovered treatments if they pay the full cost, but if they do this they would be required to pay full cost for all the covered treatments that are related as well retroactively. The prohibition is not explicitly based on law, but the national health insurance system has been enforcing the rule. In 2011, the Supreme Court ruled that the prohibition is consistent with the Health Insurance Act.

The prohibition creates high hurdles for the deliveries of advanced medical treatments and as a

⁹ www.euklems.net

¹⁰ <http://www8.cao.go.jp/kisei/siryo/0305/1-0.pdf>

¹¹ http://www8.cao.go.jp/kisei-kaikaku/publication/2009/1109_03/item090911_00.pdf

¹² http://www8.cao.go.jp/kisei-kaikaku/publication/2009/1109_02/item090911_00.pdf

¹³ http://www8.cao.go.jp/kisei-kaikaku/publication/2009/1109/item090911_00.pdf

result slows down the technological progress of the medical service and related industries, which are often considered to be a growth area in many advanced countries. We are not aware of any studies that quantify the benefits of relaxing the prohibition, but given the size and growth of healthcare industry it could be substantial.

Another area that would benefit from deregulation is child care. According to a survey by the Ministry of Health, Labor, and Welfare, there were more than 25,000 children who were on the waiting lists for nurseries as of April 1, 2011. Collectively nurseries were operating at more than 96% of the capacity.

The shortage of the supply of child care services is primary due to stringent regulations that limit new entry and competition. For example, a nursery faces rules governing the number of caregivers per child, the floor area per child, outdoor playing ground, nursing room, kitchen, rest room for children, etc. The conditions are centrally set by the Ministry of Health, Labor, and Welfare, and common to all cities and towns whether they are located in an urban area or not. Consequently, the regulations are more onerous in the metropolitan areas and the shortages there are more acute.

Another type of institutions that provides child care is kindergarten but they are only open to children older than 3 years old and can only accept children for a half day. This is because kindergartens are considered to provide schooling for young children. They are also strictly regulated by the Ministry of Education, Culture, Sports, Science and Technology which must approve their operations. . In practice this serves to minimize competition between nurseries and kindergartens.

Proposals have been made to integrate kindergartens and nurseries, and allow some organizations to provide both kindergarten and nursery services at the same premises. This could introduce competition between existing kindergartens and nurseries and ease expansion efforts by more efficient providers. If this goes forward along with a relaxation of the approval criteria, the supply of child care could be increased. Mitigating the shortage of child care facilities would make it easier for parents (mostly mothers) to go back to work sooner and could make it easier for families to raise children. Any steps in this direction would help raise the very low birth rate which is a priority.

The latest government bill submitted to the Diet on this issue is not very helpful. It would allow kindergarten operators to expand into providing nursery facilities on the same premises. But in order to expand, the kindergartens need to comply with all the existing rules governing nurseries. Although they can use the existing building, they have to satisfy a whole set of different rules. A more rational policy would recognize the synergies between operating kindergartens and nurseries and relax some requirements.

In summary, there are many regulatory reforms especially in non-manufacturing that would help Japan's growth. Japanese government has been calling for the deregulation for more than 15 years but the accomplishments have been limited. After the Koizumi government and especially under the DPJ governments, the efforts for regulatory reforms have slowed down markedly. It is important for Japan to renew the efforts to restore the growth.

2.4. Growth enhancing special zones

Creation of special zones was one of the major initiatives under the Koizumi government. Many of them,

however, simply had temporary effects that raised growth for a little while but made no lasting difference. As we pointed out in our previous report, the special zones were hamstrung by their dual mandate. On the one hand, special zones were experiments to relax or abolish some national regulations in selected local areas. If an experiment is judged successful, the deregulation was expanded to the rest of Japan. On the other hand, another important goal of the special zones was revitalization of local economies. The special zones projects emphasized a bottom-up approach where local entities took initiatives to design regulatory reforms that they saw promising. The central government did not impose strict guidelines or provide financial support. Local governments and businesses often came up with special zones that were designed to give themselves small regulatory advantages to shift demand from neighboring localities.

A case in point is the proliferation of “doburoku” zones. “Doburoku” is home-brewed sake and selling such sake was illegal. Under the Koizumi reform, a few villages started allowing production and sales of doburoku in their special zones. The attempts were considered initially successful as tourists poured in and stimulated these remote village economies. The success, however, was short-lived. When many other villages across the country followed suit, they ended up competing for the same (limited) demand and many of them failed to attract tourists.

Not all special zones fared so poorly. Two prominent examples with lasting impact are the Advanced Medical Cluster in Kobe and the International Exchange Zone in Kitakyushu, Fukuoka. Both zones simplified visa application process to attract highly talented foreigners. Each zone had its own distinct features as well. Kobe’s Advanced Medical Cluster relaxed the restriction imposed on faculty members of national universities to prohibit them from taking any outside jobs. Kitakyushu’s special zone included a variety of deregulatory measures, such opening customs for clearance 24 hours a day, reduction of the fees for overnight (expedited) services, and simplified application for landfill usage. Kobe’s special zone attracted more than 215 companies between 2003 and 2011. Kitakyushu’s special zone attracted 35 firms between 2002 and 2008, and boosted local demand.

These successful examples show that the special zones can spur the economic growth if they are designed to target some important deregulatory measures rather than to shift the demand away from other cities. Japan can reintroduce the special zones for structural reform that exclusively focus on eliminating potentially useless regulations.

The most recent government policies in this domain do not look very promising. In response to the March 2011 tragedy the government eventually passed the Act for Special Zones for Reconstruction in December 2011. The law allows the local governments in the affected areas to establish special zones to support reconstruction. As of April 24, 2012, 14 special zones in five prefectures in the affected area had been approved. Table 3 lists these special zones and major provisions for each zone. Many of the zones offer subsidies and tax incentives for companies to invest in the affected areas. In principle these policies could contribute to longer term prosperity, but in fact most do not meet this standard. Some are old fashioned industrial policies to promote targeted industries in targeted areas. Others are just subsidies to rescue the firms in the affected areas, with no controls to make sure that the firms will be viable. One zone (Fukushima IV) is designed to provide subsidies to one financial institution (Development Bank of Japan) so that it can rescue one large company (Mitsubishi Shindo) in the region. Only a few measures involve deregulation to encourage competition and productivity growth. Thus, looking forward these

reconstruction zones are not likely to contribute very much to renewed growth in the region.

3. Opening up the Japanese Economy

There are various factors that insulate the Japanese economy from international competition. Here we show how three of them could be reformed to aid growth.

3.1. Trade Liberalization

Especially important on this front is to negotiate successfully Japan's membership in the Trans-Pacific Partnership (TPP). The TPP has received substantial media and political attention, but substantively it can also be an important step forward for opening up Japan and stimulating growth.

TPP is a trade agreement that was originally signed by New Zealand, Chile, Singapore, and Brunei in 2005. Later the U.S. joined the negotiations (along with Australia, Malaysia, Peru, and Vietnam and the original members) for expanding the TPP. Compared with other typical free trade agreements (FTA), the TPP aims to include more countries, cover a larger number of industries, and to rely on few exceptions. Japan had intended to decide whether to join the negotiations by June 2011, but that date was pushed back after the March 2011 disasters. In November, 2011, Japan finally applied to be included in the TPP negotiations.

Starting in the early 2000s, Japan has established FTAs with several countries, but these covered smaller trading partners, rather than the country's largest trading partners, such as China, the U.S., or South Korea. Joining the TPP would link Japan and the U.S. and thus have a significant impact on the Japanese economy. Other major trading partners, such as China, South Korea, and Canada, are also said to be considering joining the TPP.

The effects of reducing trading barriers on consumer welfare are well-known. Consumers will have access to cheaper imported goods. Producers may gain or lose from trade liberalization. The Stolper-Samuelson theorem in international trade predicts that income for the factor of production used more in the goods for which the country has comparative advantage (for example, high skilled workers in an advanced economy like Japan) will increase while income for the factor of production used in less competitive goods (for example, low skilled workers in countries like Japan) will fall following trade liberalization. In light of this, economists (including us) favor policies that compensate the groups that are harmed by trade deals to soften the blow and share the gains more broadly.

Less well-known, but in Japan's case a perhaps more important impact of trade liberalization is its potential effect on productivity growth. Recent empirical research using data from many countries has established that exporting firms and firms that undertake FDI (foreign direct investment) tend to have higher productivity than purely domestic firms. This is the case mainly because high productivity firms are better able to afford the start-up costs needed to export and invest abroad (see Melitz 2003). Arkolakis, Costinot, and Rodriguez-Clare (2012) shows that the gains from trade suggested by Melitz (2003) type models are still roughly the same as the gains implied by more traditional models that focus on the consumers, but the new models suggests at least a new channel (productivity growth) through which trade can increase the welfare.

Recent research using Japanese data suggests that competing in global markets may directly increase the productivity of the firms. For example, Wakasugi et al. (2008) compares the productivity of two groups of Japanese firms. One group called “switchers” are those firms that started to export (or make FDI) for the first time in 2001 and continued to do so at least till 2005. The other group called “non-switchers” are those firms that continued to be domestic throughout the sample period. Figures 4 and 5 (adapted from figures 7 and 8 in Wakasugi et al. 2008) show the result. For either firms that become exporters or foreign investors, productivity growth subsequent to starting the international activities is faster than for comparable firms that remain domestic.

Another paper by Todo and Shimizutani (2007) shows that the faster productivity growth of FDI firms at least partially comes from the access to more advanced technology abroad. They estimate the impact of R&D investments conducted in foreign affiliates of Japanese multinationals on the productivity of their operations in Japan. They distinguish between two types of foreign R&D activities: “innovative R&D” that includes basic research, applied research and development for the world market and “adaptive R&D” that includes development for the local market, designing for the world market, and designing for the local market. They find the innovative foreign R&D increases productivity substantially while the adaptive foreign R&D does not raise productivity. The coefficient estimates suggest that the impact of foreign innovative R&D on the productivity is often larger than the impact of domestic R&D.

These results suggest that trade liberalizations like the TPP will not only enhance the consumer welfare through the standard channel but also increase the productivity growth and economic growth by exposing Japanese firms to international competition.

3.2. Reduction of agricultural subsidies

The agricultural sector is heavily subsidized in many advanced economies. The level of protection for the Japanese agriculture, however, is unusually high. Figure 6 shows the producer support estimates (PSE) calculated by OECD for selected countries. The PSE seeks to measure the annual monetary value of gross transfers from consumers and taxpayers to support agricultural producers. Japan’s PSE is much higher than the U.S. and higher than the EU. The level of support for Japan declined in the first half of the last decade, but has begun rising again. The decline of PSE and the subsequent rise reflect the Koizumi reform and the post-Koizumi reversal that our previous report pointed out. For 2010, the PSE is estimated to be \$53 billion (or ¥4.664 trillion assuming an exchange rate of 88 yen/dollar). This happens to be almost exactly equal to the value added of the agricultural sector in 2010 (¥4.665 trillion). Thus, the total value added of the agricultural sector is completely offset by the subsidies, implying the net contribution of the Japanese agriculture in value added terms is zero.

The agricultural subsidies were used mostly to protect small inefficient farms rather than encouraging efficient farms to expand. Thus, the productivity of agriculture in Japan stagnated. Figure 7 shows the total factor productivity growth of the agricultural sector for selected countries. The productivity data again comes from EU KLEMS. The figure shows productivity growth in agriculture for Japan has been by far the lowest among these countries.

The Japanese agriculture industry is heavily skewed towards the elderly. Figure 8 shows the population distribution of farm workers at commercial farms (i.e., excluding those farms that produce

only for own use and not for sale) as of 2010. Remarkably, the majority of farm workers are 75 years old or older.

The number of commercial farms in Japan has been declining as we can see from Figure 9. This is inevitable because of the aging workforce. A problem for Japan is that the fall of the number of commercial farms has been partially offset by increases in non-commercial farms and in households that own farm land but do not farm. Low appraisal values in tax calculations for land designated as farm land make the cost of holding onto land very affordable even if the land is not generating any income. Many farmers, especially in urban areas, hold on to these “farms” waiting for future opportunities to convert them to a commercial use and make huge capital gains.

Godo (2010) argues that some farmers use their farm lands for non-farming activities such as parking lots or industrial waste dumping sites without formally converting them. This is possible because there is no centrally administered farm land registry with decent accuracy. There are numerous registries that are created for different purposes: one for farmers’ insurance, another for property taxation, yet another for rationing of rice production, etc. There is a Farmland Standard Registry that is supposed to record sales, leases, and conversions of farm land, but the registry is maintained and updated by Agriculture Committees of each town/village and is well known for its inaccuracies according to experts (Godo, 2010, pp.20-27).

The increased presence of non-farms and non-commercial farms that own farmland damages agriculture in the ways similar to zombie firms in other industries harm the economy. They reduce the expansion of productive farms and stifle new entry. The increase of these zombie farms is a serious issue for the Japanese agricultural sector.

As the previous report discussed, the Koizumi government started to change the agricultural policy to reform the nature of subsidies. For example, the government tried to concentrate agricultural subsidies and support to large and productive commercial farms. The policy had some loopholes (such as making it possible for small farms and non-farms households to create a collective farm just to receive subsidies without any increase in efficiency), but the change that Koizumi introduced was in the right direction. After Koizumi stepped down as the prime minister, the Liberal Democratic Party (LDP), then the ruling party, started backtracking on this reform because the Democratic Party of Japan (DPJ), then the opposition, was gaining support from small farmers who were dissatisfied with the reform. The government led by Yasuo Fukuda in 2007 changed the policy (back) to subsidizing all the farmers including small ones. The DPJ, after taking the power in 2009, continued the re-expansion of the agricultural subsidies. At the core of DPJ agricultural policy was the Individual Income Compensation Policy for Farmers, which pays the farmers the difference between the market price and the production cost of crops. Since the production cost is calculated using a standard hourly rate for the labor, the policy rewards farms with low productivity.

To stop the declining agricultural productivity, Japan needs to roll back the agricultural policy to what Koizumi government tried to implement by focusing on promoting large scale and efficient farming. With a smaller amount of subsidies, some zombie farms would decide to exit. To stop the rise of non-farm households who hold on to farmlands, it will be useful to follow Godo’s suggestion (2010, pp.162-168) to create a centrally administered farmland registry that is constructed using a thorough inspection of

the current use of farmland.

3.3. New immigration policy

Our earlier report identified aging as a fundamental cause for Japan's economic slowdown. Encouraging migration to Japan can slow down the aging induced labor force decline and can help Japan restore its growth. One potential problem of increasing foreign workers is potential crowding out of jobs for natives. If immigrant workers just replace the jobs previously occupied by the native Japanese, immigration does not lead to economic growth. If the increase of immigrant workers depresses the wages in general, the labor supply of Japanese workers for those jobs that compete with immigrant workers may decline, leading to further stagnation of the economy.

The recent empirical work, mostly from the U.S., suggests that such crowding out is not likely to be a problem at least when considered over the course of several years (during which people and markets can adjust). Immigration tends to increase total employment. Moreover, immigration is also associated with higher rate of innovation. For example, using state level data on patenting from the U.S., Hunt and Gauthier-Loiselle (2010) find that a one percentage point rise in the share of immigrant college graduates increases patents per capita by 6%. They also find the immigration has positive spill-overs, in the sense the immigrants' innovative activities stimulate non-immigrant inventors. When one takes into account the spill-over effect, a one percentage point rise in the share of immigrant college graduates eventually leads to 15% increase in the patents per capita.

The net immigration rate into Japan has increased recently but miniscule compared with other advanced economies. For example, Table 4 shows the net migration rates as well as the proportions of migrants for G7 countries. Japan is by far the least open country judging by either the stock of foreign workers or the flow of new immigrants. The lack of migration into Japan reflects the restrictive policy toward foreigners in Japan. The Japanese government has been limiting the immigrant workers with permanent residency only to people with Japanese ancestry within three generations (i.e. grand children of Japanese). The opportunity for Japanese descendants who do not meet that requirement and other foreigners to work in Japan on a permanent basis is extremely limited. Japan does not try hard enough to integrate the few foreigners into Japanese society, either. The last column of Table 4 reports whether the country has explicit policies aimed at integration of non-citizens. Japan is the only country among G7 that does not have such a policy. Relaxing these restrictions would be a good starting point to increase immigrant flows.

A more ambitious and beneficial policy would be to significantly lower the barriers to becoming a Japanese permanent resident when applicants meet several criteria. These criteria could include requiring adults to be proficient in speaking Japanese and having the wealth and intentions of starting a business. Alternatively entry could be granted for people with graduate education and a demonstrated job offer. Canada has used such policies with great success and even a modest program of this type could lead to important labor force improvements.

4. Macroeconomic Policy Reforms

Japan has also been held back by poor macroeconomic policies. We first review challenges for fiscal policy and then discuss potential monetary policy reforms.

4.1. Fiscal Consolidation

Japan's fiscal expansion policy after the collapse of the bubble economy may have been effective initially. At least with hindsight, the decision to reverse the fiscal expansion in 1997 was a mistake, which put Japan back into recession. By the late 1990s, however, the fiscal expansion seemed to have morphed in undesirable ways. As we showed in our previous report, the increased government spending crowded out private sector investment. The majority of the government expenditure was used to finance low productivity public works.

Continued fiscal expansion, combined with stagnating tax revenues, led to high budget deficits and increasing government debt. As late as 2003, Broda and Weinstein (2005) concluded that the ratio of government debt to GDP could be stabilized if the government was willing to raise taxes and cut spending. The Koizumi government was moving in that direction. As the tax revenue increased during the economic recovery in the mid-2000s, the budget deficit started to shrink. The global recession of 2008-2009, however, prompted the government to change its policies and in doing so created new, very large budget deficits.

When the sustainability calculation of Broda and Weinstein (2005) was replicated using the data up to 2010, Doi, Hoshi, and Okimoto (2011) concluded that unprecedented, extremely large tax increases would be necessary to stabilize the debt to GDP ratio, even if the adjustment period was stretched to be 100 years. Worse, they show such a drastic fiscal consolidation is politically unlikely, judging from the observations from the last 30 years. This is just one of the many recent papers that show the current fiscal stance of Japan is not sustainable¹⁴.

This dire conclusion immediately raises two additional questions. First, why are interest rates on Japanese government bonds (JGBs) so low if the debt dynamics are so precarious? Second, what kind of budget policies should be pursued to correct the problems?

Hoshi and Ito (2012) help answer this first question. They begin by identifying three factors that have made it attractive to hold Japanese government bonds (JGBs) at the prevailing low interest rates. First, most of the Japanese government bonds are held by the Japanese residents, who for various reasons seem to prefer to hold these securities. Second, the long stagnation of the Japanese economy has meant that Japanese financial institutions have faced limited investment opportunities so that in relative terms the JGB yield is adequate. Third, financial market participants still believe that the Japanese government will eventually take corrective budget actions.

They then ask how long these conditions might be expected to persist. Because the aging has started to reduce Japan's private saving rate, the total pool of private savings by Japanese residents is

¹⁴ Other studies include Doi (2009), Hosono and Sakuragawa (2011), Imrohoroğlu and Sudo (2011), Doi and Ihori (2009), Ito (2011), Ito, Watanabe and Yabu (2011), Ostry et al. (2010), and Gagnon (2011).

destined to shrink. This suggests that it might be useful to determine when the amount of government debt will exceed the total private savings in Japan. Doing this kind of calculation requires making demographic assumptions to determine savings levels and making assumptions about the path for future debt. One important consideration is the connection between future deficits (and debt levels) and interest rates.

Hoshi and Ito (2012) consider three alternative assumptions about how the interest rate responds to increasing government debt, and simulate the future paths of the private sector financial assets and the government debt both in relation to GDP. Under the first assumption, the interest rate is determined by the larger of the current interest rate (1.3%) or the growth rate of GDP regardless of the level of debt to GDP ratio. The second assumption assumes the interest rate increases by 2 basis points for every 1 percentage point increase in the debt to GDP ratio above the 2010 level. The third assumption assumes the interest rate increase for every 1 percentage point increase in the debt to GDP ratio is 3.5 basis points. The simulation exercises show that the Japanese government debt will exceed the private financial assets sometimes between 2022 and 2024 at the current pace. If this occurs then it must be the case that the marginal buyer of JGBs can no longer be a Japanese citizen. In that case, there could be a rapid change in JGB pricing.

Even with low interest rates, accumulation of debt raises the proportion government revenue that must be devoted to paying interest on the debt. Hoshi and Ito (2012) assume that once interest payments surpass 35% of the total government revenue the economy is vulnerable to a crisis. Even under the most favorable assumption for the interest rates (Assumption #1), the Japanese budget comes within 2 percentage points of the danger zone by 2027. Under the other assumptions, the budget reaches within 2 percentage points of the danger zone by 2017. At that point, a small increase in the government's borrowing rate, which may come from positive developments for the Japanese economy or because of concerns over the government financial condition, could trigger a crisis.

Perhaps the most important reason why financial market participants do not seem to have any concerns about Japanese government debt is their faith in the ability of the government to rearrange the budget situation. Hoshi and Ito (2012) give an example of tax policy changes that would stabilize the debt to GDP ratio under each of the three interest rate assumptions. The sustainable policies take as a starting point the current plan proposed as part of the government's Integrated Reform of Social Security and Tax Systems. These plans call for increases in the consumption tax rate from 5% to 8% in April 2014 and to 10% in October 2015. With the oft-used rule of thumb that one percentage point hike of the consumption tax rate increases the tax revenue by 0.5% of GDP, the plan if implemented would increase the tax revenue from the current 30% of GDP to 31.5% of GDP in fiscal 2014 and 32% of GDP in fiscal 2015.

Under the assumption #1 for the interest rate, the tax policy is adjusted further to increase tax revenue by 1% of GDP every year from 2016 to 2026 (so that the tax revenue becomes 43% of GDP). If the level of tax revenue relative to GDP is then sustained from 2026 onwards, the debt to GDP ratio stabilizes. In other words, the planned consumption tax increases so far are not sufficient, but continued efforts towards fiscal consolidation can eventually reduce the debt to a sustainable level. If the market believes that the government will be eventually successful in implementing such measures, the low

interest rate observed for JGB is understandable.¹⁵

But this conclusion is sensitive to starting the fiscal adjustment promptly. Hoshi and Ito (2012) repeat their calculations delaying the initial tax increase from 2014 to 2019, in this case the debt, while eventually sustainable, comes close to 90% of the private financial assets in the mid-2020s.

The problem is more serious under the interest rate assumption #2 or #3. Under assumption #2 for example, the sustainable policy would raise the tax revenue to GDP ratio by 1.5% every year from 2016 to 2027 so that the tax revenue to GDP ratio reaches 50%. This level of taxes must be maintained for another 30 years or so before it can slowly decline. But a 5-year delay in starting the fiscal consolidation would be fatal: the debt is then expected to surpass the private sector financial assets in 2023.

The simulation exercises in Hoshi and Ito (2012) suggest that it is still possible for the Japanese government to stabilize the debt but the time is running out. The consumption tax increases planned in the Integrated Reform of Social Security and Tax Systems are necessary but not sufficient. What principles should govern the adjustments that must occur?

First, it would be wise to achieve fiscal consolidation using both tax increases and spending cuts. Second, on the spending side the government should continue efforts to try to trim wasteful spending, but that is unlikely to be enough to make a meaningful reduction. So it seems likely that some cuts in expenditure targeted at the elderly will be necessary. As Figure 10 indicates the current elderly generation is slated to receive much more from the government (mostly in social security benefits) than they contributed because of a transfer to them from the young that are currently alive and yet to be born generations. A reduction in promised social security benefits looks inevitable to us and given the circumstances would also be equitable.

Third, the additional tax revenue should be raised using a phased-in series of consumption tax increases. Raising tax revenue in this way has three important advantages. First, taxing consumption is less distortionary than taxing income because it does not create incentives to reduce work. In addition, a consumption tax affects both working and retired citizens. Given the rapid aging problems it will be much more equitable to force all the citizens to share in paying for the accumulated debt. Finally, by announcing a series of tax hikes, the government creates an incentive to consume sooner rather than later. By pulling some consumption forward this policy might help the economy in the short-run, but the higher level of taxes may slow the economy.

Oguro and Kobayashi (2011, pp.90-91) reports an interesting finding that suggests fiscal consolidation may actually increase the economic growth if it results in the reduction of intergenerational inequity. By estimating a cross-country regression model, they find the countries that put more burdens on future generations tend to have low growth rates. Although their regression analysis is silent about the causal direction, the result suggests that fiscal consolidation that reduces the intergenerational inequity may also increase the economic growth rate.

The lack of a credible fiscal plan, on the other hand, would certainly jeopardize growth by

¹⁵ Even when the added debt to finance the reconstruction after the earthquake and tsunami of 2011 (2.4% of GDP in fiscal 2011 and 2.6% of GDP in fiscal 2012), the policy remains sustainable with a very small increase in the debt to GDP ratio during the transition. The same is true under the other interest rate assumptions.

triggering a government debt crisis and increasing interest rates. If the financial markets come to believe that the Japanese government does not in fact plan to stabilize the debt, the government will have difficulty financing the widening deficits.

4.2. Monetary expansion to end deflation

Ineffective monetary policy was another factor behind Japan's stagnation that we pointed out in our previous report. The Bank of Japan (BOJ) responded to the collapse of the bubble economy in the early 1990s by lowering its policy interest rate. By late 1995, the policy interest rate was lowered to 0.5%, and in February 1999, the target call rate was pushed down to zero, starting the zero interest rate policy (ZIRP). The BOJ, however, was reluctant to go further and try non-traditional monetary expansion such as quantitative easing. This idea was floated by some economists including Kazuo Ueda, who was on the BOJ's policy board from 1998 to 2003, but the BOJ resisted it. Moreover, the BOJ often publicly expressed doubts about the ability of the ZIRP to stimulate the Japanese economy. Masaru Hayami, the BOJ's governor then even argued that the deflation may not be bad, undermining the credibility of the BOJ as a deflation fighter.

In August 2000, the BOJ made a mistake of terminating the ZIRP even though the economy still suffered from deflation. By March 2001, the BOJ had to go back to the ZIRP and finally started a quantitative easing (QE) policy. Even then, the BOJ often downplayed the importance of the non-traditional monetary policy, arguing changes in monetary policy were not needed for the recovery of the economy. In 2006, the BOJ exited from the QE and then stopped the ZIRP. During this period the BOJ also refused to set a clear target for the inflation rate or the price level. Eventually it published its "understanding" of the inflation rates that are consistent with the price stability, which was identified as a range between 0% and 2%.

Continued deflation meant that the yen was pressured to appreciate against other major currencies. Figure 11 shows the trade weighted exchange rate for Japanese yen. In nominal terms, the yen appreciated by about 100% from the early 1990s to 2012. The real exchange rate fluctuated more than the nominal rate, with several period of sharp appreciation, most recently in late 2008 immediately following the Lehman Brothers failure, but the rate in early 2012 is roughly the same as that in the early 1990s. Thus, the most of phenomenal (nominal) appreciation of yen was the result of deflation.

The BOJ was again slow in expanding the monetary policy in non-traditional ways after the global financial crisis. The BOJ often looked as if they were reluctantly following the actions of the Federal Reserve. Figure 12 shows that BOJ did not expand the balance sheet as much as the Federal Reserve, the Bank of England, or the European Central Bank. The BOJ also refused to have any "target" for the inflation rate.

After the global financial crisis, Japan fell back into recession and deflation. In December 2008, the BOJ followed the Federal Reserve and cut the target call rate effectively to zero. The BOJ, however, was very reluctant to dive back into quantitative easing and other non-traditional measures, even after the Federal Reserve implemented such policies. Only in December 2009 did the BOJ take a step in this direction when it created a three-month loan facility of 10 trillion yen to lend against eligible collateral. The facility was later expanded (to 20 trillion yen) and supplemented by facilities that would lend for

periods beyond three months.

In October, 2010, the BOJ introduced a comprehensive monetary easing policy, which clarified that the ZIRP would be continued until price stability (inflation rate of 0% to 2%) is in sight. This included the establishment of an assets purchase program of up to 35 trillion yen. Although the assets to be purchased included new categories such as ETF and J-REIT, the comprehensive monetary easing overall was not much different from the quantitative easing in the mid-2000s. Even after the 2011 earthquake and tsunami, the BOJ's policy stance did not change dramatically. The assets purchase program was expanded by 5 trillion yen three days after the disaster, and the fund supplying operations to financial institutions in the affected areas started in late April. The size of assets purchase program was further expanded to 50 trillion yen and then to 55 trillion yen in late 2011.

One reason why the BOJ was often reluctant to expand monetary policy through quantitative easing may be out of concern over the potential effects on zombies. Absent an effective bank supervision regime, monetary accommodation can prolong the lives of zombie banks and zombie firms. Hoshi (2011) argues this is plausible and develops a simple model that explores the consequences of a lack of coordination between the monetary authority and the bank supervisory authority. He finds that this can lead to the equilibrium where the monetary authority sets the inflation rate lower than either authority finds optimal. Given the low level of supervisory effort, the central bank is reluctant to generate higher inflation because that would undermine economic restructuring. Given the low inflation rate, the bank regulator is reluctant to exert supervisory effort because that would push the unemployment rate too high.

On February 14, 2012, the BOJ seemed to have made an important step towards becoming committed to ending deflation. The bank jettisoned its "understanding" of the price stability and instead replaced it with a price stability "goal" which was specified to be the inflation rate of 1% per annum for the moment. Many speculated that the BOJ's move was a response to the government pressure to expand monetary policy and that it was only following the Federal Reserve action that specified an explicit 2% inflation rate target (and included a statement that the Federal Open Market Committee expects interest rates of near zero to continue into 2014).

The policy shift first appeared to have made a positive difference. The yen/dollar exchange rate quickly depreciated to 80 yen per dollar or less. The stock prices started to increase. After three months, however, the yen appreciated back to below 80 yen, and the Nikkei 225 also came back down to the level before the policy change.

To end the deflation, which has been continuing for more than 15 years, the BOJ should do more, including adjusting its communication policy. For instance, the assets purchase program of the BOJ contains some innovative elements, such as purchases of ETFs and J-REITs. The BOJ should stress these aspects of the policy, since standard monetary theory suggests that asset purchases are more effective when the central bank swaps bank reserves for assets that are not close substitutes for reserves. Finally, if the BOJ's reluctance is indeed due to the concerns on the lax bank supervision, as Hoshi (2011) suggests, increasing the role of the BOJ in financial supervision would make it easier for the BOJ to conduct more appropriate monetary policy.

5. Conclusion

The Japanese economy has stagnated for the most of the last 20 years. As we argued in our 2011 NIRA report, Japan does not have to continue the stagnation. This report has provided some concrete policies that Japan can implement to restore the growth. We do not claim the list is exhaustive but this is a good starting point.

Our proposal covers three policy areas: regulatory reforms, opening up to the rest of the world, and improving macroeconomic policies. The regulatory reforms include several efforts to reduce the cost of doing business, stopping the measures to help zombie firms, and renewing the commitment to deregulate, especially in non-manufacturing. Special zones for structural reform that were tried under the Koizumi government also could be used to push deregulation, but many measures specified in the new special zones approved for the areas affected by the earthquake and tsunami disaster do not appear promising. Among the options for opening up Japan to the rest of the world, the success of the currently debated TPP will be important. Trade liberalization not only increases the Japanese consumer's welfare through the traditional trade channel but can also contribute through higher productivity growth of the Japanese firms that compete in the global markets. To allow the Japanese agriculture to adjust to the globalized world, the agricultural policy needs to be changed. Opening up to allow more immigration, especially by foreigners who would contribute to innovation, would also help. Finally, getting the macroeconomic policies right is another thing Japan can do to restore growth. A credible policy to future fiscal consolidation is necessary to remove policy uncertainty and make fiscal policy sustainable. More aggressive and clear monetary policy to put an end to deflation that has persisted since the Bank of Japan became independent is also necessary.

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Table 1. Ease of Doing Business for Selected Countries

Country	Ease of Doing Business Rank	Starting a Business	Dealing with Construction Permits	Registering Property	Paying Taxes	Trading Across Borders
Hong Kong SAR, China	2	5	1	57	3	2
United States	4	13	17	16	72	20
Korea, Rep.	8	24	26	71	38	4
Australia	15	2	42	38	53	30
Japan	20	107	63	58	120	16
Taiwan, China	25	16	87	33	71	23
Chile	39	27	90	53	45	62
Italy	87	77	96	84	134	63
China	91	151	179	40	122	60
Greece	100	135	41	150	83	84

* For Dealing with Construction Permits, one data point on cost was corrected. Rankings are adjusted once a year with each published report.

Additional note: All Doing Business 2011 rankings have been recalculated to reflect changes to the methodology. For further details on changes, please refer to the data notes

Table 2. Government Committees for Deregulation: Feb. 1998 to Present

Name	Met during	Prime Ministers
Regulatory Reforms Commission (規制改革委員会)	February 1998 – March 2001	Hashimoto, Obuchi, Mori
Council on Comprehensive Regulatory Reforms (総合規制改革会議)	April 2001 – March 2004	Koizumi
Council on Regulatory Reforms and Promotion of Opening up to Private Sector (規制改革・民間開放推進会議)	April 2004 – January 2007	Koizumi, Abe
Council on Regulatory Reforms (規制改革会議)	January 2007 – February 2010	Abe, Fukuda, Aso, Hatoyama
Sub-committee concerning Regulatory and Institutional Reforms (規制・制度改革に関する分科会) (within Council on Administrative Renewal (行政刷新会議))	March 2010 – Present	Hatoyama, Kan, Noda

Sources: <http://www.kantei.go.jp/jp/gyokaku-suishin/>, <http://www.kantei.go.jp/jp/singi/kisei/>, <http://www8.cao.go.jp/kisei-kaikaku/old/about/index.html>, <http://www8.cao.go.jp/kisei-kaikaku/about/index.html>, <http://www.cao.go.jp/sasshin/kisei-seido/index.html>

Table 3. Special Zones Approved for the Affected Areas (as of May 1, 2012)

Special zone	Deregulation or promotion measures
Aomori I	<ul style="list-style-type: none"> • Low interest loans to affected firms and firms that hire the workers who lost jobs because of the disaster • Investment subsidies and employment subsidies to the firms in the affected areas • R&D subsidies for energy saving manufacturing technology • Subsidies to firms that use transportation services at Hachinohe Port
Fukushima I	<ul style="list-style-type: none"> • Relaxes entry restriction for medical equipment producers and distributors (drops the required three year experience)
Fukushima II	<ul style="list-style-type: none"> • Subsidies to companies that newly enters or expands in Fukushima • Interest payment credit for cities/towns that create industrial zones • Help local firms in semi-conductor industry and transportation durables industry develop business contacts in Tokyo areas • Subsidies to reproducible energy industry: Encouraging more collaboration between universities and industries • Subsidies to R&D investment in advanced medical equipment • Export promotion for medical and elderly care devices • Subsidized loans for affected companies • Financial support for the fund created to lend to distressed firms in the area • Financial support for the fund created to buy up existing loans to small and medium enterprises in the area
Fukushima III	<ul style="list-style-type: none"> • Relaxation of requirements to be qualified medical or elderly care facilities
Fukushima IV	<ul style="list-style-type: none"> • Subsidy to Development Bank of Japan for its loans (exceeding 300 million yen) to Mitsubishi Shindo in Aizu Wakamatsu City
Ibaragi	<ul style="list-style-type: none"> • Tax exemptions for the companies that newly enter or expand in Ibaragi prefecture • Reduction of water fees for the companies that newly build factories in certain areas • Reduction of electricity fees for the companies located around nuclear power facilities in Ibaragi • Loans to the companies in Ibaragi for new investment • Loans and interest credits to small and medium enterprises affected by the disaster • Marketing campaign for agricultural and fishery products of Ibaragi • Encourage small and medium enterprises to enter promising growth industries
Iwate I	<ul style="list-style-type: none"> • Relaxation of minimum standards for opening up medical offices, pharmacies, home-visit rehabilitation services
Iwate II	<ul style="list-style-type: none"> • Subsidies to the firms that establish new factories in the affected

	<p>areas</p> <ul style="list-style-type: none"> • Subsidies to the firms that provide training related to automobile and automobile parts manufacturing • Subsidies to the firms in medical equipment industry • Loan program to the firms that newly build factories or expand the existing facilities • Promotion of buying Iwate products in Iwate • Establish organizations to promote semi-conductor industry
Miyagi I	<ul style="list-style-type: none"> • Investment subsidies, tax relief, and loan programs for specified industries (manufacturing, research, transportation, warehousing, packaging, and wholesale) • Providing consulting and subsidies to affected firms • Encouraging investment by foreign firms
Miyagi II	<ul style="list-style-type: none"> • Investment subsidies to specified industries (manufacturing, research, transportation, warehousing, packaging, and wholesale) • Financial assistance for farmers to process and/or market their products • Advising on how to incorporate farms • Helping famers develop business contacts with manufacturers and distributors • Export promotion of agricultural products • Promotion of agricultural tourism • Promotion of information technology for farmers
Miyagi III	<ul style="list-style-type: none"> • Tax exemptions for seafood processing related industries • Loans and interest credits to small and medium enterprises • Subsidies to the companies that newly establish or expand their facilities • Promotion of tourism
Miyagi IV	<ul style="list-style-type: none"> • Investment subsidies to specified industries (manufacturing, research, transportation, warehousing, packaging, and wholesale) • Tax reliefs for the companies that newly establish or expand facilities in Ishinomaki City • Loans and subsidies to affected firms • Inviting new firms to Ishinomaki • Public works including public housing, medical facilities, a museum (renovation), waterfront development, and tourist attractions • Projects to build a compact and environmentally friendly city
Miyagi V	<ul style="list-style-type: none"> • Encourage larger scale farming • Building a large crop drying and storage facility • Relaxation of conversion restrictions on farmland
Miyagi VI	<ul style="list-style-type: none"> • Temporary (3 years) relaxation of the minimum requirements (number of doctors, facility areas, experience, etc.) for medical offices, hospitals, pharmacies, nursing homes, and medical equipment manufacturers

	<ul style="list-style-type: none">• Promotion of agglomeration of health care industry• Subsidies to rebuild affected medical facilities
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Source: Reconstruction Agency web site (<http://www.reconstruction.go.jp/>)

Table 4. Net Migration Rates for G7 Countries

Country	Proportion of Migrant Stock (% of total population)	Average Annual Net Migration (per 1,000 of population): 2005-2010	Policy for Integration of Non-Citizens
Canada	21.3	6.3	Yes
France	10.7	1.6	Yes
Germany	13.1	1.3	Yes
Italy	7.4	5.6	Yes
Japan	1.7	0.2	No
United Kingdom	10.4	3.1	Yes
United States of America	13.5	3.3	Yes

Source: United Nations (<http://www.unimigration.org>)

Figure 1a. Amount of Restructured Loans for Large Banks (Unit: 100 million yen)

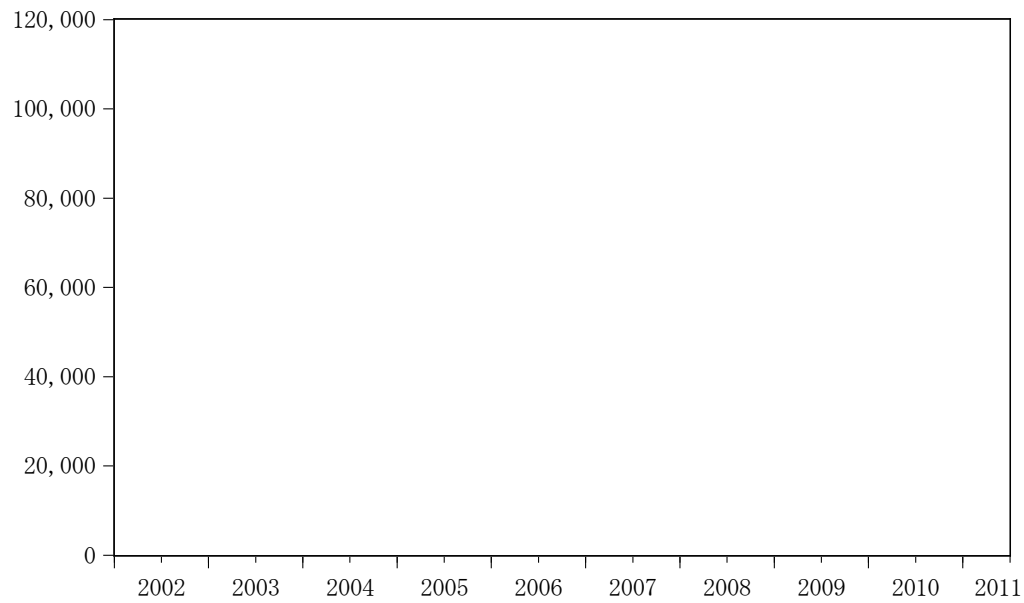


Figure 1b. Amount of Restructured Loans for Regional Banks (Unit: 100 million yen)

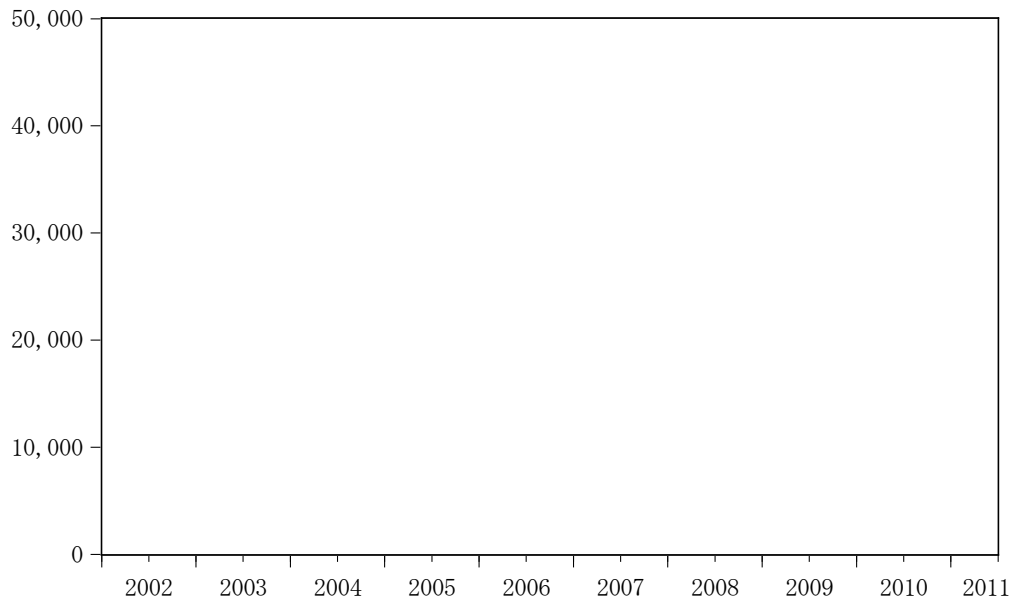


Figure 2. Weighted average of regulation index from Cabinet Office (2006)

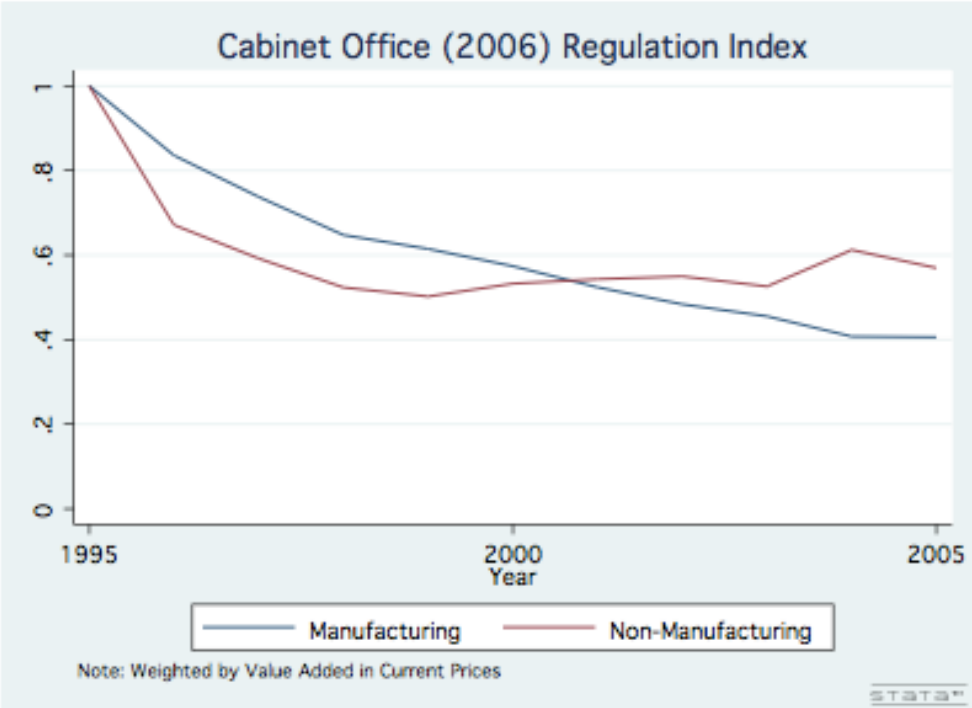
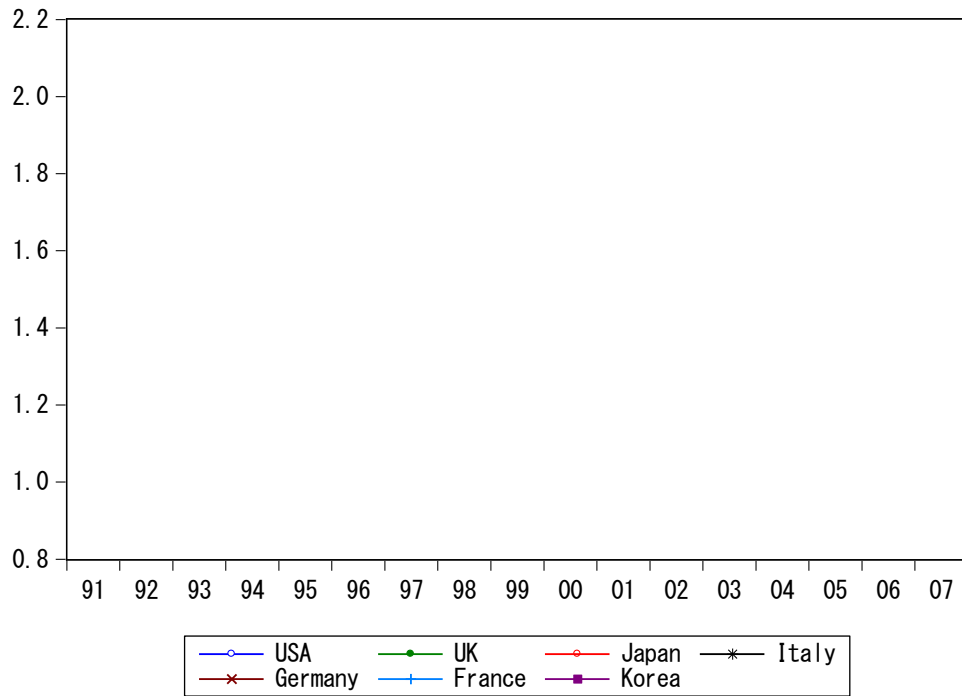


Figure 3a. Total Factor Productivity of Manufacturing

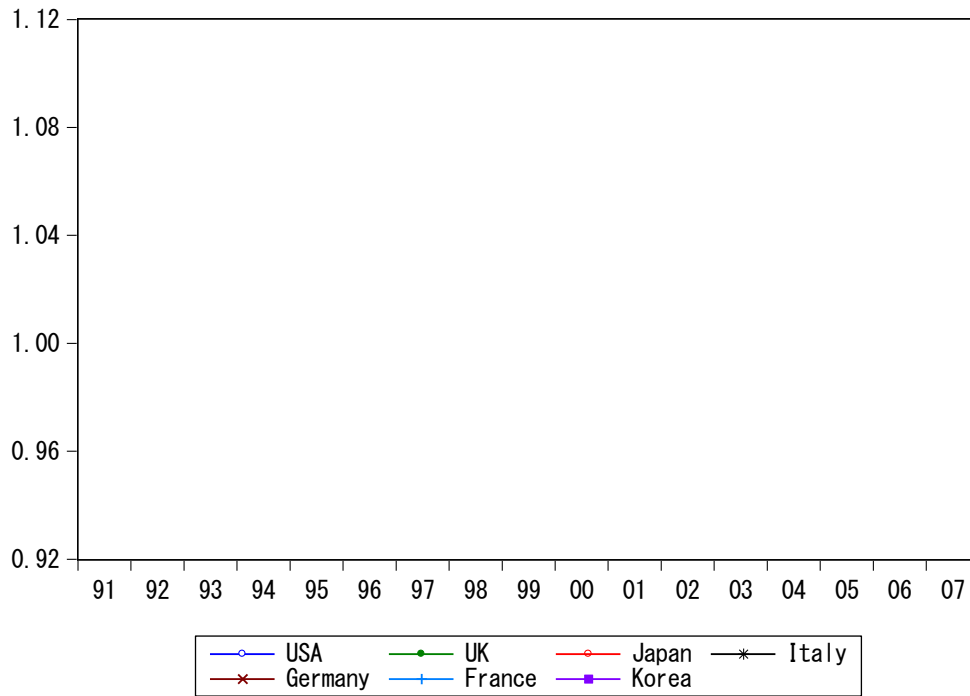
Units: 1991 = 1.0



Source: EUKLEMS

Figure 3b. Total Factor Productivity of Non-Manufacturing

Units: 1991=1.0



Source: EUKLEMS

Figure 4. Comparison of Labor Productivity for Exporting and Non-Exporting Firms

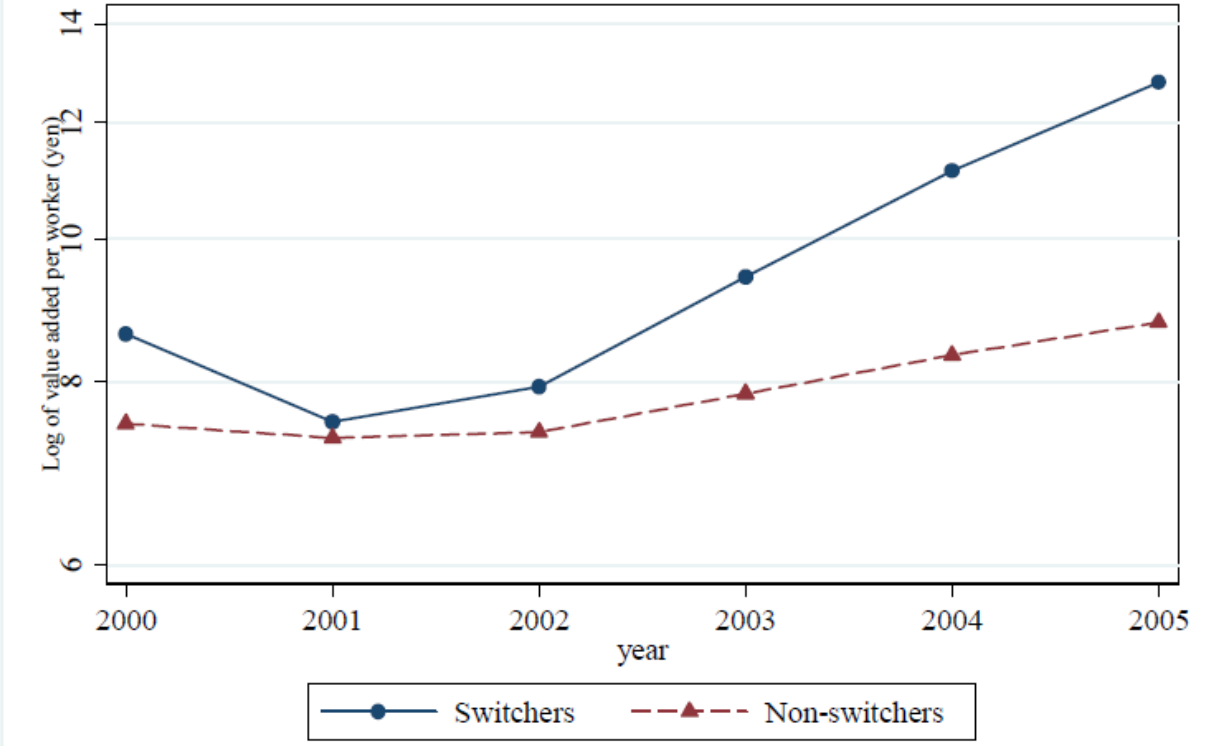


Figure 5. Comparison of Labor Productivity for Firms that have and have not Engaged in Foreign Direct Investment

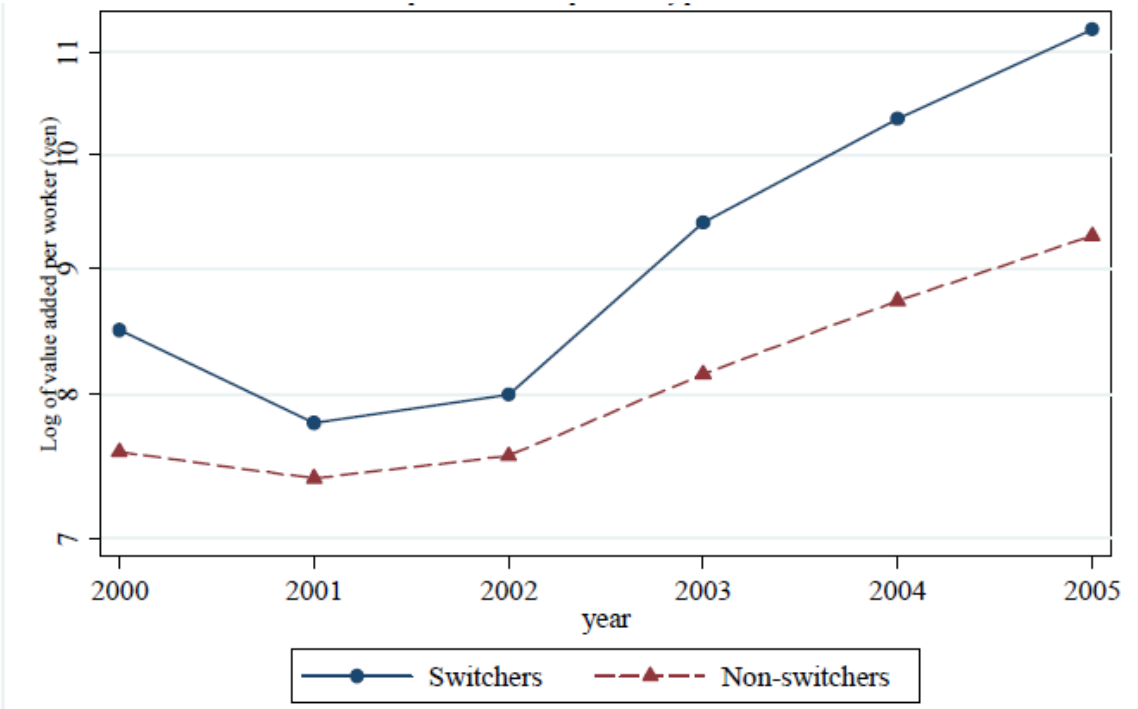


Figure 6. Producer Support Estimates (PSE) for Selected OECD Countries (% of gross farm receipts)

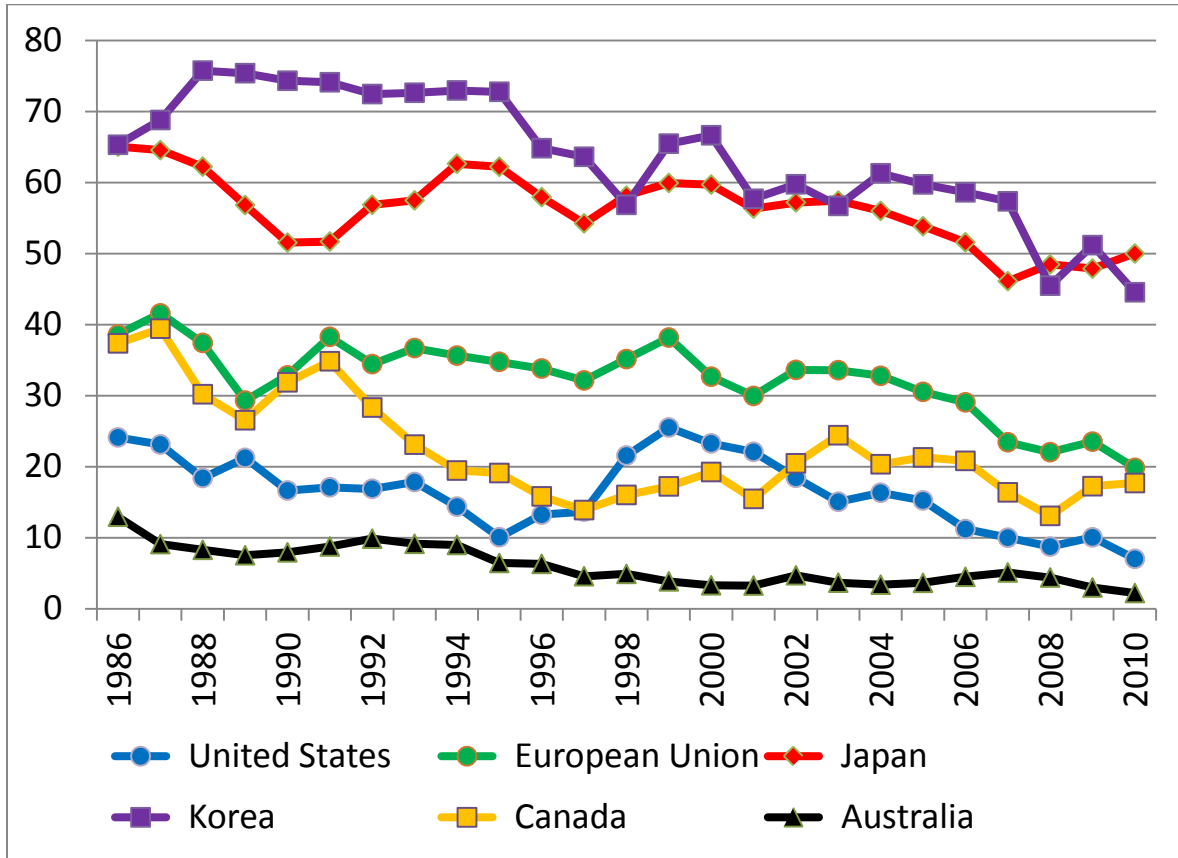


Figure 7. Total Factor Productivity of Agriculture

Units: 1991 = 1.0

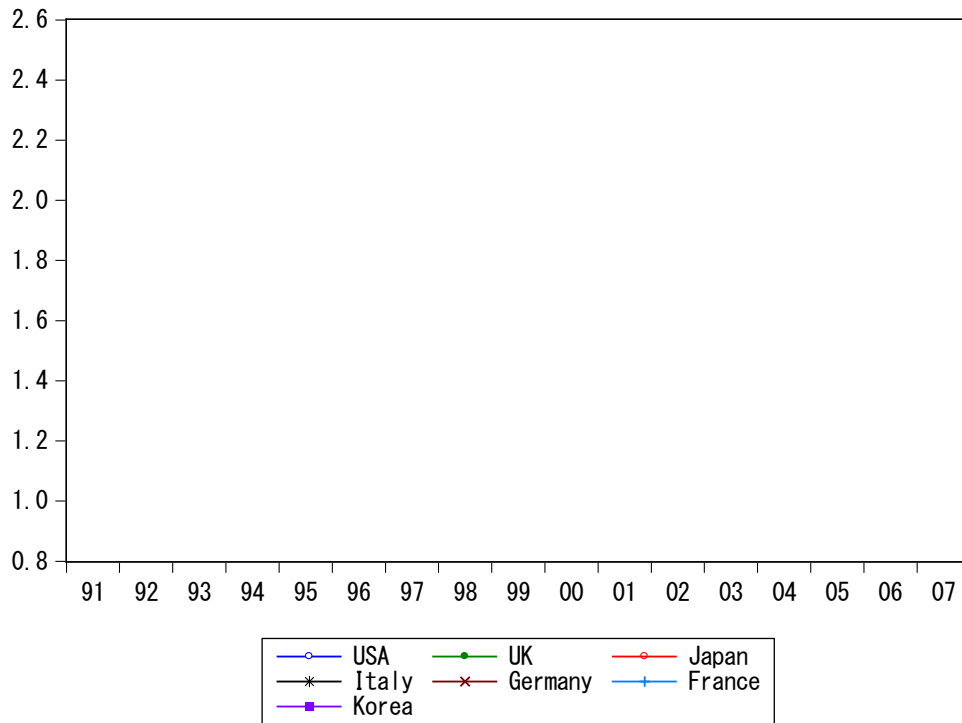


Figure 8. Age Distribution of Farm Workers (2010, Commercial Farms only)

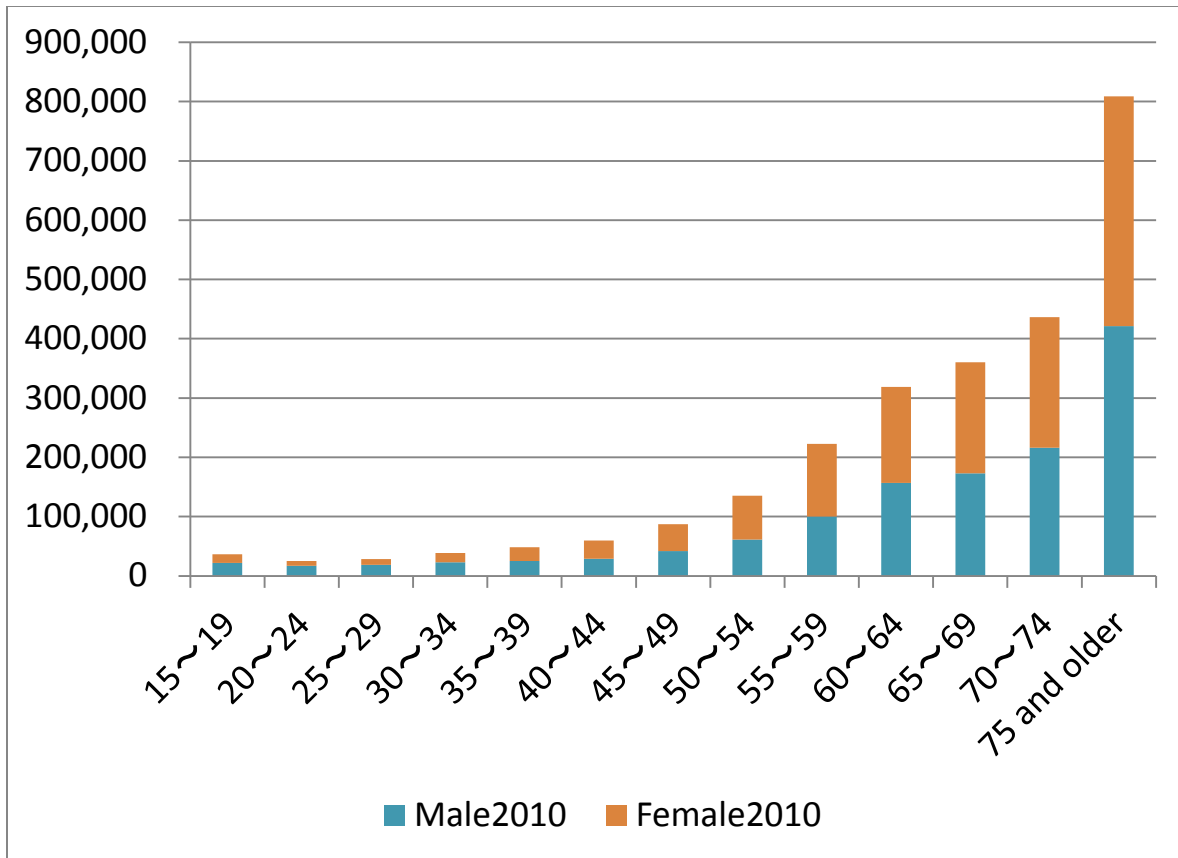


Figure 9. Number of Unincorporated Agricultural Management Entities by Type

(Unit=1,000)

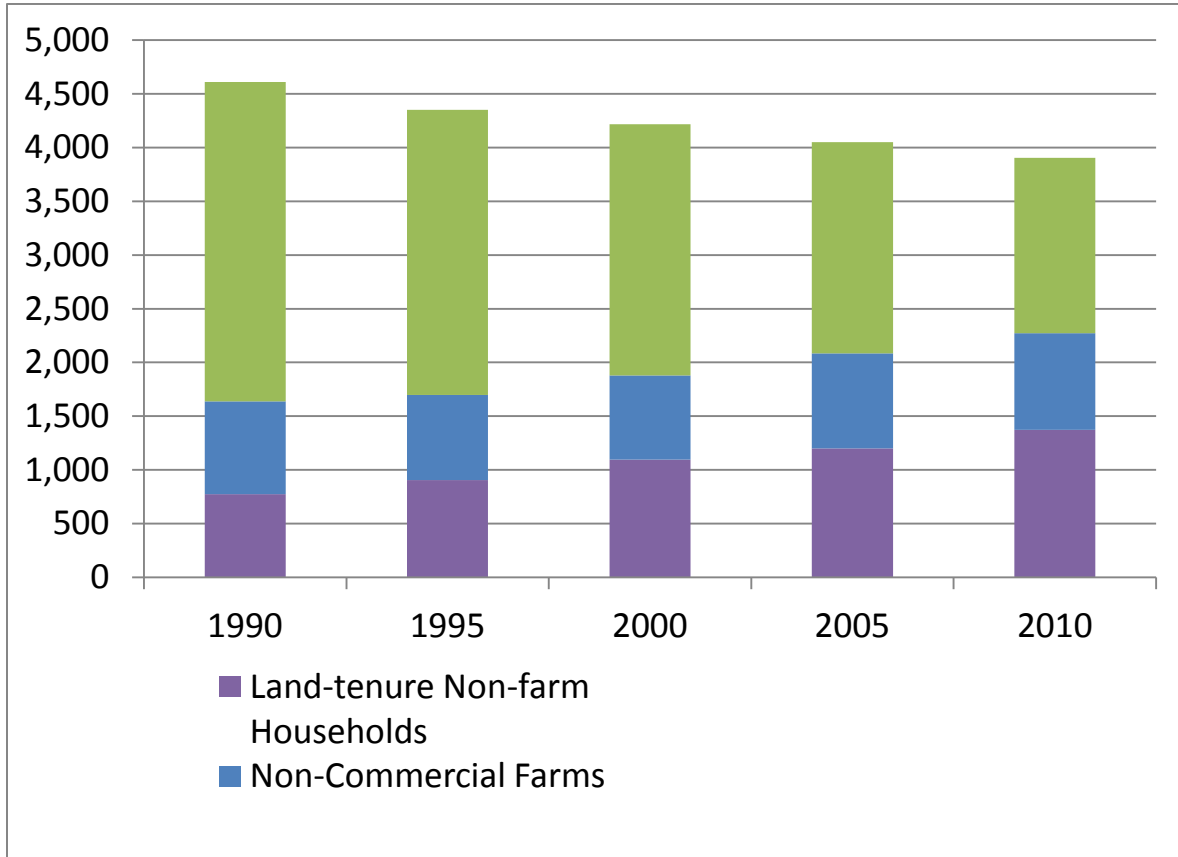
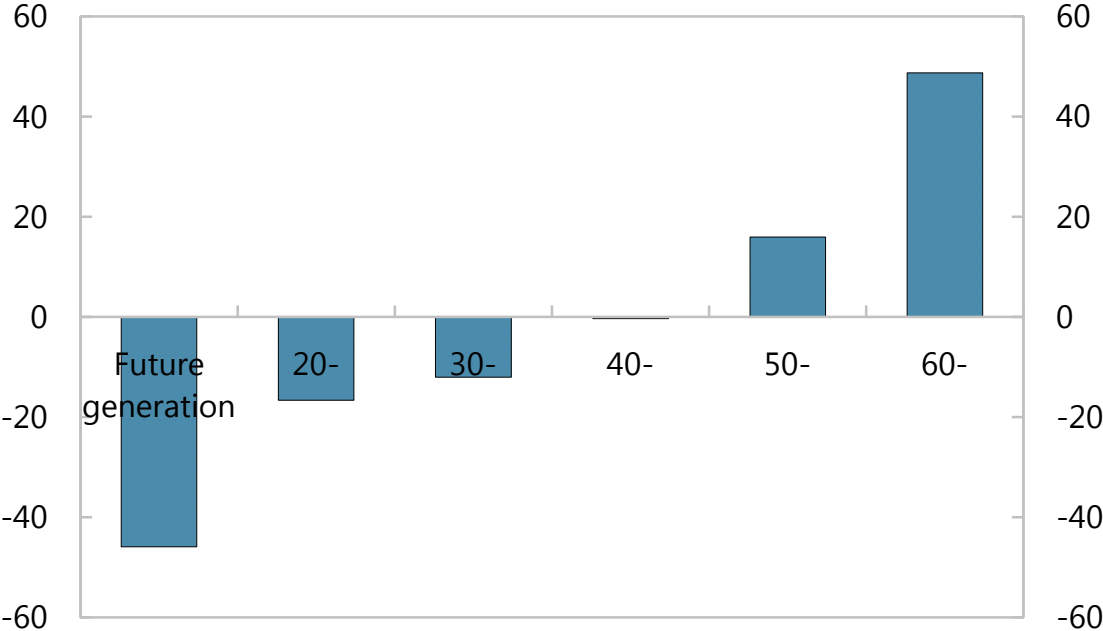


Figure 10 Lifetime Net Transfers (in present value term) from the Government by Age Group as of 2003

Units: million yen



Source: Cabinet Office (2005). *Annual Report on the Japanese Economy and Public Finance 2005*.

Figure 11. Effective Exchange Rate: 1990-2012 (2010=100)

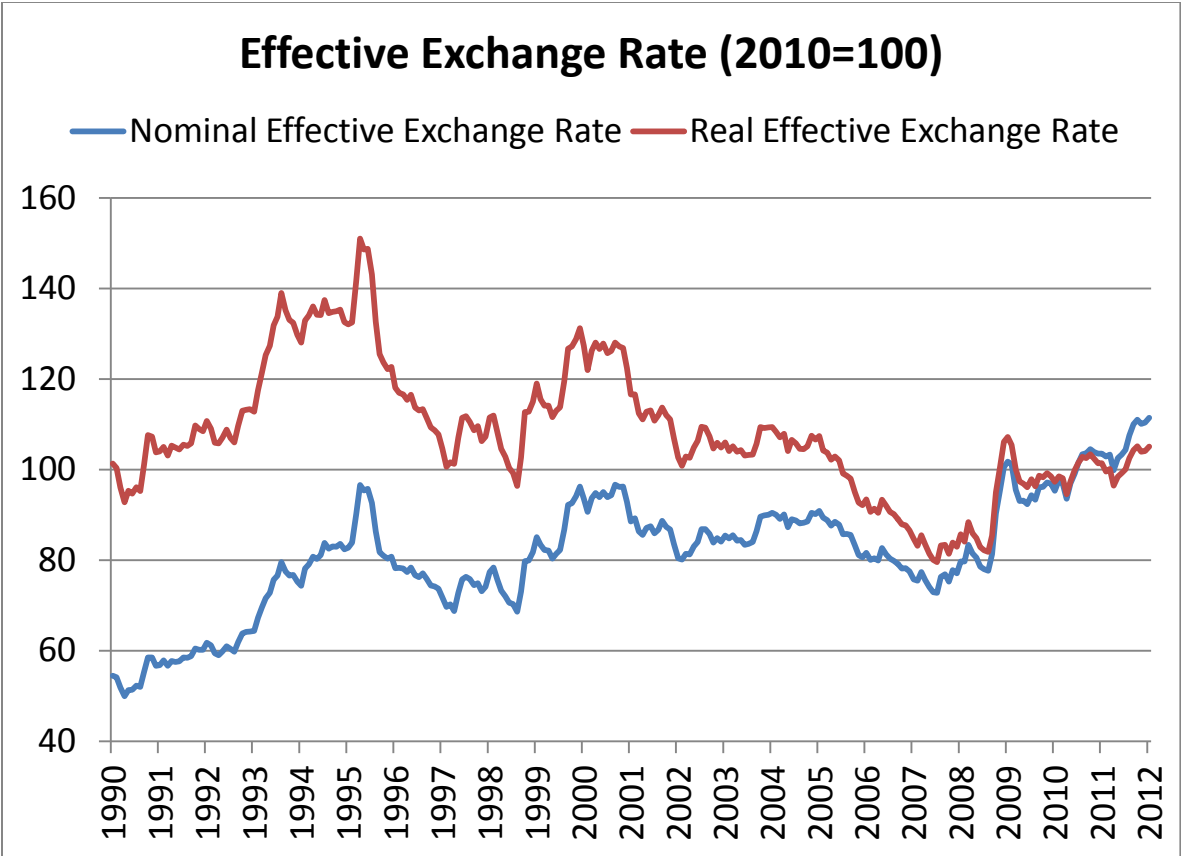


Figure 12. Total Assets of Central Banks

