

英文要約版

The Role of SWFs and Policy Implications
Report of the Study Group on SWFs¹
October 2009

1. Objectives of the Study Group and Its Activities

In recent years, governments or government-related organizations in certain countries have accumulated sizable external assets, and their investment behavior has attracted global attention. The reasons for this external asset accumulation include the following. First, sharp increases in natural resource prices have expanded the trade surpluses of resource-exporting countries and their foreign currency revenue. Second, the search by global investors for yields has resulted in buoyant capital inflows into emerging markets and a number of developing countries. Some of these countries have responded with foreign exchange market intervention, and built up foreign reserves.

Although the recent global financial crisis has caused a substantial reversal in both of these trends, as the disruptive impact of the crisis subsides, recovery is already evident on both fronts. It is therefore likely that the external asset accumulation of these countries will revive, with important repercussions for international capital flows.

Assets held by these governments or government-related organizations and invested strategically have come to be called “sovereign wealth funds” (hereafter called “SWFs”). The external asset accumulation by governments or related organizations has led to active investment abroad by SWFs, making this category of investment a major force in global financial markets.

The activities of SWFs raise a number of policy questions. First, in order to maintain stability of international finance or to prevent financial protectionism, it may be argued that there is a need to monitor the behavior of SWFs closely or set certain rules regarding them. This is not an issue specific to Japan, and its resolution may require an international discussion forum where relevant countries are all represented. Second, in order to invest Japan’s huge official external assets efficiently, the issue arises of whether Japan should have an SWF of its own. Japan’s foreign reserves exceed \$ 1 trillion, and the Japanese public pension fund manages 120 trillion yen of assets (\$1.3 trillion), of which foreign assets currently account for about one sixth. How these assets are invested has major implications for public finance.

These concerns motivated the Study Group’s research and analysis of SWFs. The Group

¹ This study was funded by the Japan Economic Research Institute. A list of the Study Group members is attached at the end of this report.

reviewed major SWFs around the world, the role they play in international capital flows and financial markets, and their policy implications for Japan and the global financial system. The Group had eleven meetings, inviting experts on various issues related to SWFs, and several Group members visited Asian and Middle Eastern countries that own and operate SWFs, in order to conduct interviews.²

The Japanese version of the Group's Report covers the following topics: i) review of major SWFs around the world; ii) SWFs and the international financial community; iii) SWF investment in Japan; iv) an SWF for Japan?; and v) the Group's conclusions and policy recommendations. In what follows, only iii)-v) above are presented, namely, those parts of the original Report that are directly related to Japan.

² In addition, over the past year, two books by Group members on SWFs were published. See Mizuho Research Institute (2008) and Ohara (2009).

2. SWF Investment in Japan

Only limited information is available on SWF investment in Japan. Several major SWFs, such as ADIA (Abu Dhabi), DIC (Dubai), Temasek Holdings, GIC (both Singapore), and GPF (Norway) are known to be investing in Japanese market equities. Temasek and GIC are also investing in real estate in Japan. There has been no major incident of SWF investment in Japan causing social or other problems. However, cases of conflict have been reported, occasionally between foreign investors on one side and the Japanese companies receiving investment or the Japanese government on the other.

The basic rules that the countries receiving SWF investment should follow are stipulated by the OECD (see OECD (2008)), and Japan, as a member of the OECD, is obliged to follow these rules. For example, when a country regulates investment from abroad, the regulatory authorities should ensure transparency and predictability and limit any regulations to be introduced to the minimum necessary to achieve specific policy objectives. The government agencies responsible for setting or implementing regulations should be placed under adequate accountability requirements. The principle of no discrimination between domestic and foreign investment should be adhered to, and a deviation from this is allowed only when national security is at stake. The main message of OECD (2008) is that treatment of SWFs is no different from the treatment of foreign capital in general, as explained above.

Japan is in need of “risk money” (i.e., funds offered by investors prepared to take on large risks) in order to revitalize its economy and corporate sector. Therefore, Japan needs to actively invite investment from abroad, including SWF investment. The best way to achieve this goal is for Japan to improve its attractiveness as a destination for international investment by strengthening the economy and improving corporate governance. In addition to this, policy action should be taken to encourage investment from abroad, and if there are institutional obstacles to such investment, efforts should be made to remove them. The Expert Committee on FDI Promotion (2008) published a list of proposals along this line, focusing on “improving the regulatory framework for facilitating M&As”, “comprehensive reexamination of regulations on foreign capital”, “sector-specific strategic FDI priorities”, “reduction of business costs and enhanced institutional transparency”, and “revitalization of regional economy through FDI and stronger messages welcoming foreign capital”. Promptly implementing these proposals would help stimulate SWF investment in Japan as well.

Furthermore, the Financial Market Strategic Team (2008), an advisory group to the Minister in charge of financial regulation and supervision, stated in its report: “As Japan’s population ages and the birth rate declines, it is of urgent necessity to open the country to the world and establish attractive domestic financial markets to invite investment both from

home and abroad. In this regard, we should welcome SWFs' investment in principle, provided that their investment is in conformity with global best practice.”

However, while such official statements in favor of foreign investment are being made, there still seems to be a pervasive “sakoku” (closed nation) mentality in some quarters, both private and public. Japan needs to overcome such a mentality through a public debate on the way it receives foreign capital, including from SWFs.³ Another obstacle to foreign investment in Japan which is often pointed out is the way it is treated under Japanese tax law.⁴ Lest these problems make foreign investors turn away, Japan needs to review and improve its investment environment.

³ See Fukunaga (2008) for the imbalance between inward and outward FDI and its causes.

⁴ The taxation applicable to investment from abroad through investment funds was revised in 2005, which resulted in an unfavorable treatment of foreign investors. This reduced the attractiveness of Japan as an investment destination compared with the US and the UK, and had adverse effects on finance through investment funds for the structural adjustment of Japanese firms. Although this treatment was revised from 2009 and the system has been reversed to the pre-2005 one in the letter of law, there still are problems with its implementation, and negotiations are continuing among relevant parties.

3. An SWF for Japan?

1) Definition of SWF

There is no well-established or official definition of SWFs, but it is useful to have one for the purpose of this Report. When discussing overseas SWFs, the following three characteristics seem most important: funds a) owned and/or managed by a government or government-related organization; b) engaged in international investment; and c) actively investing in risky assets in search of high yields.

When a government or government-related organization manages a fund, there is a possibility that its investment objective or behavior is different from that of purely commercial investment funds, which may require the application of special rules or close monitoring. However, if such a fund invests entirely in domestic assets, there are no international ramifications, and hence no reason to put it under any global rules or monitoring. Even when the fund invests abroad, if the scope of investment is limited to such traditional assets as developed country government bonds or blue chip shares, the fund's investment behavior is unlikely to have any major disruptive impact on the recipient countries. Therefore, there is again no reason to make this an issue.

However, when discussing an SWF for Japan, the condition c) above should be interpreted flexibly. For example, Japan's foreign reserves are currently invested only in safe and liquid assets such as US Treasury securities, and thus do not constitute an SWF. But this Report does not exclude foreign reserves from the discussion of SWFs, because a part of them could be separated from the Foreign Exchange Special Account (FESA) and made into an SWF. Similarly, although Japan's public pension funds (National and Employees' Pension Insurance funds managed by the Government Pension Investment Fund, hereafter called GPIF), have so far been invested rather conservatively, there is room to consider shifting GPIF's investment strategy closer to that of typical SWFs.

Another important defining characteristic of SWFs that should be emphasized in this Report is the presence of national strategic considerations behind the establishment of an SWF, or investment decisions that are beyond the purely economic motive of maximizing investment return. Such cases include, for example, saving natural resource revenue for future generations, shifting asset holdings abroad to avoid the so-called Dutch disease, diversifying assets to hedge the risk of resource price fluctuations or geopolitical risk, and acquiring shares of technologically-advanced foreign companies in order to obtain know-how or for business partnerships.⁵ Such strategic considerations can be interpreted as aimed at

⁵ Ohara (2009)'s Chapter 3 discusses the case of Kuwait's SWF (KIA) in detail as an example of national strategic considerations behind the establishment of an SWF.

minimizing the country's vulnerability to shocks, and they lead to a high weight being given to overseas investment or specific choices of investment targets that are complementary to the country's industrial or economic structure. An important implication of this is that when discussing an SWF for Japan, the main question may not be whether Japan should have an investment vehicle like an SWF, but to think about national strategies for the security and stability of Japan's economy, and then determine what kind of investment is needed to implement such strategies.

2) Candidates for SWFs in Japan

There are two main candidates for SWFs in Japan. One is about 120 trillion yen of public pension funds (of which externally invested funds are currently about 19 trillion yen) managed by GPIF, and the other is more than US\$ 1 trillion (about 95 trillion yen) of foreign reserves owned and managed by the Ministry of Finance and the Bank of Japan. Since Japan's gross and net external assets as of end-2008 are 547 trillion yen and 345 trillion yen, respectively, the external assets held by these two candidates account for about 20% of Japan's total gross, and about 1/3 of total net, external assets. If GPIF is thought of as a kind of SWF, its asset size far exceeds the world's largest SWF, ADIA of Abu Dhabi, whose estimated total asset value is US\$ 600-900 billion. And Japan's foreign reserves are next only to those of China (more than US\$ 2 trillion), with a wide margin to No.3 and below (Russia, India, Taiwan, and Saudi Arabia).

In addition, there are several public institutions that offer international loans and investment, such as the Japan Bank for International Cooperation (JBIC) and the Japan International Cooperation Agency (JICA). Since these institutions do not seek high yields, they do not conform with the definition of SWFs presented earlier. However, they meet one important requirement for SWFs, namely, they undertake loans and investment in support of Japan's strategic economic goals. JBIC's mission statement, for example, includes the following: "promoting overseas development and acquisition of strategically important natural resources to Japan"; and "maintaining and improving the international competitiveness of Japanese industries". These are clearly "national strategic considerations", and in this sense, JBIC can be considered as already acting like an SWF.

The total size of international assets held by JBIC and JICA well exceeds US\$ 100 billion, of which foreign currency-denominated assets are US\$ 40 billion. Since March 2009, JBIC has received several billion dollars of funds from FESA through yen-dollar swaps. This could be thought of as foreign reserves already being invested through an SWF.

As explained above, Japan is already within the top group in the world in terms of the size of external assets held by the public sector. Given this fact, the relevant question does not

seem to be whether an SWF should be established in Japan, but rather whether the decision making mechanisms and governance of these public external funds are appropriate and their investments are efficient. The sum of GPIF assets and foreign reserves (about 215 trillion yen) is as much as 40% of Japan's GDP, and more than the total Postal deposits (about 180 trillion yen). Hence, how they are invested is as important to the national economy as the debate on Postal Saving privatization. Indeed, improving the annual returns of these assets by one percentage point gains revenue of 0.4 % of GDP. This amounts to about 5% of central government tax revenue, and about 20% of consumption tax revenue (roughly equivalent to an increase of the consumption tax rate by 1%). In light of the dire fiscal situation in Japan, any possibility of raising returns on these funds should be urgently explored. In what follows, such possibilities for GPIF and foreign reserves are examined.

a) Government Pension Investment Fund (GPIF)

The statutory requirement for public pension fund management is to “aim for safe and efficient investment from a long-term point of view”. In the pension finance assessment of 2004, GPIF was required to achieve a 3.2% nominal return on its assets, based on various assumptions and forecasts for the prospects of pension finance and macroeconomic variables.⁶ In order to achieve this goal, GPIF set a “Basic Portfolio” as shown in Table 1, using its own estimation of expected returns, as well as variance and covariance of different classes of assets. The portfolio shares were chosen to minimize the risk to the overall portfolio (measured by its standard deviation), with the constraint that the portfolio's expected return would exceed 3.2%. In actual investment, GPIF allocates only a limited share to active investment, with the rest invested passively through links to market indices. All active investment and the large majority of passive investment are commissioned to outside fund managers. GPIF evaluates the performance of these fund managers regularly, and replaces them from time to time.

⁶ Pension finance is assessed every five years to evaluate the soundness of the public pension system and to estimate the required rate of return on the accumulated pension assets based on an updated set of assumptions for key variables. 3.2% is the sum of the estimated future increase in nominal wages (2.1%) and the real return on pension assets required to keep the soundness of pension finance (1.1%). Therefore, if the actual wage increase falls short of 2.1%, the nominal return on pension assets can fall below 3.1% accordingly. The required nominal return was revised up to 4.1% in the pension finance assessment of 2009, in which the expected wage increase and the required real return were raised to 2.5% and 1.6%, respectively.

Table 1 Composition of GPIF's Basic Portfolio (GPIF (2009))

	Domestic bonds	Domestic equities	Foreign bonds	Foreign shares	Short-term assets
Portfolio shares	67%	11%	8%	9%	5%
Acceptable deviations	+/- 8%	+/- 6%	+/- 5%	+/- 5%	---

Expected return (target return) 3.37%; risk (standard deviation) 5.55%

Putting bonds and equities together, the share of investment abroad is around 20%. Still, since the total volume of funds managed by GPIF is huge, external assets amount to 19 trillion yen, overwhelming most of the overseas SWFs. Despite this, the scale of GPIF's business operation is very small, with only 80 staff and no office outside of Japan.

GPIF's investment strategy is highly transparent, and detailed information is available on its website. Table 2 shows the data published by GPIF on its performance in the past. Up to and including FY2006, the actual outcome exceeded the target return adjusted by the actual rate of wage increase. However, the performance has deteriorated significantly and fallen far below the target over the past two fiscal years, due to share price declines amid the Global Financial Crisis as well as the yen's appreciation. Yet, the average performance over the past six years is still above the target return.

Table 2 GPIF's Target and Actual Rate of Return (GPIF (2009))

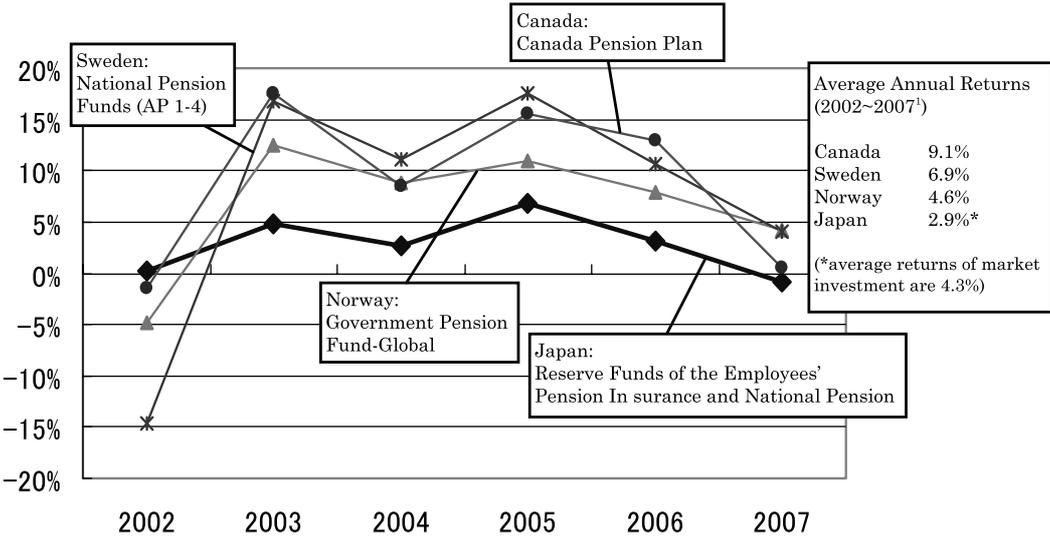
(in %)

Fiscal year	2003	2004	2005	2006	2007	2008	6-year average
Target real return	1.10	1.10	1.10	1.10	1.10	1.10	1.10
Actual nominal wage increase	-0.27	-0.20	-0.17	0.01	-0.07	-0.26	-0.16
Nominal target return	0.83	0.90	0.93	1.11	1.03	0.84	0.94
Actual nominal return	8.40	3.39	9.88	3.70	-4.59	-7.57	2.00

Compared with the investment performance of overseas pension funds, GPIF has shown lower average return and volatility, reflecting its conservative investment strategy (Figure 1). This does not mean that there has been a problem with GPIF's fund management. As noted above, GPIF chooses its portfolio to minimize standard deviation for a given target expected return, and this strategy is not inconsistent with efficient fund management. Given

the fact that GPIF already uses outside fund managers extensively, and that it is publishing fairly high-quality analysis and offering detailed explanations for its performance despite its limited human resources, there is no obvious reason to suspect that GPIF's investment is inefficient.⁷

Figure 1 Average Annual Returns of Selected Public Pension Funds
(Expert Committee on Reforms Addressing Globalization (2008))



Notes: April 2002-December 2007 for Japan and Canada, and 2002-2007 for Norway and Sweden.

However, even if GPIF's current investment strategy is efficient given its mandate, this does not mean that there is no room for improving its performance. To demonstrate this, GPIF is compared here with Singapore's GIC and Temasek, the two most representative Asian SWFs.⁸

- The total volume of funds under GPIF's management (US\$ 1.3 trillion) far exceeds the volumes managed by GIC (officially stated to be "more than US\$ 100 billion") and Temasek (US\$ 130 billion). This implies that the potential gain from improving GPIF's performance is large, justifying resource inputs for this purpose such as strengthening its staff. However, the actual GPIF staff numbers (about 80) are considerably fewer than those of GIC (more than 1,000) and Temasek (350), and there is a major difference with respect to

⁷ "Efficiency" here refers to GPIF's investment choice being on or near the efficient portfolio frontier.
⁸ Although GPIF's natural comparators are overseas public pension funds, detailed information on the Canadian, Norwegian, and Swedish public pension funds is already shown in the Second Report of the Expert Committee on Reforms Addressing Globalization (2008). Therefore, in this report, we compare GPIF with the two (non-pension) SWFs of Singapore.

overseas offices (GPIF none, whereas GIC seven and Temasek six). Also, GPIF is under a tight legal constraint on remuneration as an independent administrative unit (*dokuritsu gyosei hojin*), making it difficult to hire highly-skilled fund managers.

- Unlike GIC and Temasek, GPIF's investment does not include so-called "alternative investments" such as real estate, private equity, commodity, and hedge funds, and centers on index-based investment in listed shares and government bonds.
- As a result, GPIF's investment returns are substantially lower than those of GIC and Temasek. GIC's target real return is 5% and Temasek's average nominal return since its foundation in 1974 has been as high as 18%. However, GPIF's very conservative investment strategy implies that when market conditions worsen, the extent of losses should be relatively small.⁹

The comparison above suggests that there is substantial room for improving GPIF's performance if more human and other resources are allocated to it and the scope of its investment is expanded.¹⁰ In light of this, the Expert Committee on Reforms Addressing Globalization and the Liberal Democratic Party's National Strategy Project Team both published their GPIF reform plans (ECRAG (2008) and NSPT (2008)). The essence of their plans is to "Divide GPIF into smaller units and introduce more active and professional (i.e., SWF-like) fund management".

These plans go well beyond a reorganization of GPIF and imply a fundamental reconsideration of the philosophy underlying public pension fund management. In entrusting pension fund management to GPIF, the government (Ministry of Health, Labour and Welfare) is not seeking high-risk/high-return investment, but rather, safe investment as long as returns consistent with the long-term sustainability of pension finance are obtained. That is, it is not the government's intention to improve pension finance through active investment, and it wishes to avoid a major loss from risky investment that could disrupt the pension system. In contrast, those who propose pension investment reform see GPIF's more aggressive risk taking as an important source of pension finance.

So far, there are no indications that the government has changed its pension fund management philosophy, and thus the reform plans have no chance of realization without a degree of political leadership. In the meantime, however, pension finance is further worsening, and GPIF's target return was raised to 4.1% in the assessment of 2009. As shown in the next

⁹ Note, however, that depending on the way the market deteriorates, even a conservatively-managed fund can suffer a major loss. For example, during the recent Global Financial Crisis, the shock spread from the collapse of foreign share prices to the yen's appreciation and to the drop of domestic share prices, each of which adversely affected GPIF's investment return.

¹⁰ For example, if GPIF expanded its investment scope to alternative assets, its efficient frontier might shift upward.

Chapter, this is likely to require a major shift in GPIF's investment strategy.

b) Foreign Reserves (Foreign Exchange Special Account, or FESA)¹¹

The bulk of external assets held by FESA is explained by past foreign exchange market interventions (selling yen and buying mostly US dollars), and interest income on funds thus acquired. When dollar-buying interventions are made, FESA issues short-term yen bills to obtain the yen to sell. Therefore, both dollar assets and yen debts are built up at the same time. For the dollar assets to be available for interventions in the opposite direction at any time, they need to be invested in highly liquid assets.

An outline of how FESA invests its foreign reserves is given in Ministry of Finance (2005), according to which the basic principles are: a) giving the highest priority to safety and liquidity, and seeking highest possible returns within this constraint; and b) avoiding any disruptive impact on financial and foreign exchange markets. Details of FESA's investment are not made public, but it is believed that the bulk of assets are bonds and deposits, and the share of US dollar assets is very high. In November 2008, the Ministry of Finance disclosed the maturity structure of FESA-held foreign securities as well as the breakdown between government and non-government bonds. The portions of securities with maturities below one year and above 5 years are each slightly above 25%, and that between 1 and 5 years is somewhat less than 50%. The share of government bonds is about 70%, the rest being non-government bonds (such as agency bonds). In July 2008, a Fund Management Office was established in the International Bureau of the Ministry of Finance in order to improve reserve management, but little is known about its activities.¹²

Because of the nature of foreign exchange intervention, FESA is bound to have a currency mismatched position on its balance sheet. The sheer size of the balance sheet means that an appreciation of one yen per dollar causes a trillion yen of capital loss. However, despite the yen's appreciation trend over the past several decades, FESA has been able to transfer profits to the national budget thanks to interest rate differentials in favor of external assets (see Box I).

As stated earlier, foreign reserves are to be invested paying utmost attention to safety and liquidity, and it is argued that the reason for this is that investment of foreign reserves, which by nature are accompanied by debt, should be much more prudent than that of SWF

¹¹ Japan's foreign reserves are held by FESA and the Bank of Japan, with BoJ accounting for about 10% of the total. In this Report, we discuss only those held by FESA.

¹² The Division to which this Office belongs had 16 staff, which was raised to 18 when the Office was established. The Office's staff includes one fund management expert recruited from the private sector. The Ministry has explained that the establishment of the new Office does not signify that the Ministry's fundamental reserve investment policy has changed.

funds which are by and large net assets.¹³ However, if it is true that a large majority of reserve assets are in US dollars, this is not a prudent portfolio at all from the point of view of currency risk diversification, unless the benchmark currency is the US dollar. Using the US dollar as benchmark may be risk-averse if one is interested only in keeping the reserve assets' dollar value stable for future interventions. But this strategy is not risk-averse for Japanese taxpayers whose interests FESA should ultimately represent.

Those who are concerned about the risk stemming from FESA's huge currency mismatch position have contended that a substantial part of FESA's external assets should be sold back to the market to unwind the position. The act of position unwinding may have the same effect as yen-buying intervention, so one can argue that the authorities should not take such an action unless this type of intervention is deemed necessary (e.g., because of a sharp drop in the value of the yen). However, Taniuchi (2008) noted that in other developed countries, a much lower level of foreign reserve holding has not caused any major policy problems, and that there is no strong empirical evidence that sterilized intervention is effective. He concluded from this that Japan does not have to hold large foreign reserves, and proposed that FESA's position be unwound through gradual sales of external assets to 1/5 of the current level. Although it is difficult to say for certain whether (sterilized) unwinding will have no unintended intervention effect on the exchange rate, efforts should be made to search for ways to unwind FESA's position minimizing such an effect.¹⁴ If the level of foreign reserves declines sufficiently through unwinding, there will be less or no need to discuss whether an SWF should be established using foreign reserves.

When assessing Taniuchi (2008)'s proposal, one cannot avoid asking the difficult question of what is the appropriate level, or range, of foreign reserves for Japan. It is relatively easy to argue that the current level exceeding US\$ 1 trillion is very large relative to the standard yardsticks for measuring reserve adequacy, or relative to the authorities' past intervention behavior (see Box I). However, it is much more difficult to show to what level the reserves should be reduced. Taniuchi himself does not show any convincing basis for his proposed "1/5 of the current level".

On the other hand, Ito (2007) proposed that an investment fund be established outside of FESA, and a part of foreign reserves be moved to the fund for active investment. The source of this investment fund will be, first, FESA's net interest receipts (= interest receipts from external assets - interest payments on yen debts) that are to be transferred to the fund as its

¹³ See, for example, Utsumi (2008) for this argument.

¹⁴ Examples of unwinding that may minimize market impact include: a) FESA's bilateral transactions with government-related agencies that need to convert their yen funds into foreign currency; and b) regular (e.g., weekly) sales of small amounts of dollars to the market, regardless of the movements of the exchange rate. We will further consider the first type of unwinding above in the next Chapter.

net assets (as in SWFs). Second, Ito (2007) assumed that about US\$ 300 billion of foreign reserves would be excessive, and proposed that this amount be also transferred to the fund for active investment, along with the matching yen debt.¹⁵

FESA's foreign currency assets are under various constraints arising from intervention policy as well as diplomatic and other considerations related to the countries that issue the currencies in question. In particular, since Japan's foreign exchange market intervention has traditionally been conducted through an exchange of the yen and the US dollar, and this is expected to continue in the future, the authorities seem to strongly believe that the US dollar should remain dominant in reserve assets. Furthermore, there are several other obstacles to the active management of foreign reserves by the Ministry of Finance, such as asymmetry regarding the investment outcome (MoF is criticized if they suffer a loss, but not particularly praised if they succeed in earning high returns), and tight constraints on remuneration and staffing. In light of these, if it is desired to reduce FESA's risk or to earn higher returns on foreign reserves, either scaling back FESA's balance sheet through unwinding, or establishing an investment fund outside of FESA, seems unavoidable.

3) Raison D'etre of SWFs

In discussing the direction of reform of GPIF and FESA, it is necessary to recall that the objectives of SWFs are not just higher returns, but also asset allocation that is consistent with each country's national strategies. Specifically, when GPIF or a foreign reserve investment fund (as proposed by Ito (2008)) manages its funds, an important consideration can be how to strengthen the resilience of the Japanese economy to major macro risks. Apart from whether or not a framework is established with an SWF stamp on it, the spirit of an SWF can be introduced within the existing institutional framework by raising awareness of national strategic considerations.

What is meant by "major macro risks" does not include the risk of a global financial crisis like the one faced today, as this type of risk cannot be fully diversified through international investment. Macro risks envisaged are Japan-specific risks, or those global risks that affect Japan particularly negatively. Examples of the former include the risk of a major earthquake in or near the Tokyo metropolitan area or the risk of a sustained and substantial fall in Japan's economic growth due to population ageing. Examples of the latter are global energy or food crises, which would affect Japan very badly because of its high dependence on imported fuel and food.

If these shocks occurred, they would damage the economy, which in turn would magnify

¹⁵ Kawamura (2008) also presents a comprehensive analysis of various issues that may arise when an SWF is established using FESA funds.

the strain on public finance which is already high. Japanese share prices would plummet, and so would government bond prices as concerns about fiscal sustainability soared. If the shock was really big, it is not inconceivable that the statutory support for the public pension from the national budget might be ceased, and even the collection of pension contributions from the public might have to be suspended temporarily. The yen would be put under pressure of depreciation, and the need to conduct yen-buying intervention might arise. Whether GPIF and the foreign reserve investment fund could maintain their asset value under this kind of major economic and financial market stress is of critical importance. Therefore, when choosing portfolios due consideration should be paid to how to insure GPIF and foreign reserve asset value against such macro risks.

4. Study Group's Conclusions and Policy Recommendations

1) Possible SWFs for Japan

The fact that the available information on FESA's portfolio is limited makes it difficult for this Group to make concrete assessments and recommendations for FESA. To promote constructive reform, it is essential that FESA strengthen its transparency by disclosing more about its investment strategies. The Ministry of Finance has taken major steps toward transparency of foreign exchange interventions over the past decade. However, there still is a substantial gap with other developed countries when it comes to the disclosure of information on foreign reserve assets. The Group also believes that the Ministry of Finance, as the agency in charge of intervention and foreign reserve management, should lead the debate on the appropriate size of reserves for Japan, including by expressing its own views on how much is needed and how to adjust the actual amount to that level.

Even under such limited information, it can safely be assumed that: i) FESA has a huge currency mismatch position; ii) its position is biased toward US dollar assets, especially US government and agency securities; and iii) for several reasons it is difficult for FESA to modify such a position fundamentally. Under such circumstances, a possible option for improving the management of foreign reserves is a reform along the lines of Ito (2008) that proposes setting up an investment fund outside of the Ministry of Finance using some part of foreign reserves. Such a framework would free investment decision making from various constraints FESA is facing, thereby making it possible to diversify reserve assets away from the US dollar into a wider range of currencies, instruments, and geography. This in effect would establish a "special zone" for external asset management, and the experience obtained therein would benefit investment of other publicly-held assets as well.¹⁶

However, even if this kind of investment fund is established, FESA will continue to have a sizable currency mismatch position. Granted that dollar assets may be needed in the future for intervention, the appropriateness of such a position is still highly questionable from the point of view of managing risks of the Japanese economy as a whole. Therefore, there is a need to explore the possibility of unwinding FESA's position substantially. Two critical ques-

¹⁶ Needless to say, this option would reduce the amount of annual transfers from FESA to the government budget. Given the very difficult budget conditions, the resulting decline in budget revenue would be seen as a serious blow. However, if the funds thus set aside could earn higher returns than FESA is currently earning, the net effect on the national budget should be eventually positive.

Another important point to note is that the profits earned by FESA from interest rate differentials are a reward for taking currency mismatch risks. Such risks materialize from time to time in the form of the yen's appreciation vis-à-vis the US dollar, and it is estimated that FESA has accumulated a sizable capital loss due to the recent appreciation of the yen. In order to ensure FESA's financial soundness, the existing as well as expected capital losses should be covered by building up sufficient reserves and provisions within FESA. Only after that should any transfer of FESA's profits be made to an outside investment fund.

tions in this context are how to conduct a large quantity of dollar sale (and yen purchase) transactions without disrupting the foreign exchange and other markets, and how much unwinding should be conducted. These questions are again taken up later in this section.

Turning to GPIF, the Group considers that GPIF can, and should, raise the share of foreign assets. GPIF is now formulating a new Basic Portfolio that is consistent with the revised target return of 4.1%. Given the current and expected future state of the Japanese economy, it would be very unrealistic to expect that such a return could be achieved by investing primarily in domestic bonds as before. This implies that GPIF will have to raise the share of assets with higher expected returns, especially foreign assets.¹⁷

In formulating GPIF's future investment strategy, it is also important to pay attention to major macro risks Japan is facing. The public pension system is closely linked to the national budget, and hence to the national economy as the budget's revenue source. Therefore, pension funds should be managed in such a way as to hedge risks to the budget and the economy. In this regard, any portfolio that is heavy on yen bonds and domestic shares is risky. The share of external investment should be raised, and when choosing from external assets, the weight of index-based investment should be reduced, and specific target assets should be chosen with a hedge of Japan's individual macro risks in mind. This can be done, for example, by raising GPIF's exposure to firms in, or currencies of, countries exporting natural resources or food. To increase the availability of such assets, the scope of GPIF's investment can be broadened to include "alternative assets" if necessary, such as real estate and commodities.

To be successful, the reform of GPIF's investment strategy should be accompanied by the following supplementary policy actions.

- a) The reasons why a major reform of GPIF is needed should be clearly explained to the public in order to obtain their understanding and support.
- b) GPIF's fund management capacity should be substantially strengthened.
- c) A framework for evaluating investment performance over the medium to long term should be established. As a more active investment strategy is introduced and the share of external assets increases, the volatility of returns may increase substantially. The

¹⁷ The set of expected nominal returns used for the current Basic Portfolio was: domestic bonds 3.0%; domestic shares, 4.8%; foreign bonds, 3.5%; foreign shares 5.0%, and short-term assets, 2.0%. Under this set of expected returns, the target return of 3.2% was achievable with as much as two-thirds of the total being invested in domestic bonds. At this point, the set of expected returns GPIF will use for its new Basic Portfolio is not publicly disclosed. However, if the same set was used, more than 30 trillion yen of portfolio reshuffle would be needed from domestic bonds to domestic and foreign shares to achieve the new target return of 4.1%. In reality, a return of 3.0% cannot be expected from domestic bonds in the coming years. But if the expected return of domestic bonds is reduced, an even larger shift of portfolio would be needed. See Box II for more on the implications of GPIF's new target return.

resulting occasional losses may attract media attention, and expose GPIF to sharp criticism. However, such volatility is a price that has to be paid in order to improve investment returns over a long period of time. GPIF should not be judged by its short-run performance.

If, for argument's sake, GPIF introduced a reform along the line proposed in this Report, and adjusted its portfolio by selling yen government bonds (JGBs) and buying external assets, since GPIF's total asset size is huge, even a small adjustment in percentage terms could have a very large market impact, on both the JGB and foreign exchange markets.¹⁸ In particular, news that GPIF was starting to sell JGBs could affect government bond prices very substantially, given the large uncertainty surrounding the government's plan (or lack thereof) for reducing budget deficits and outstanding public debt.

In view of this, and also in view of a similar market impact that might arise from FESA's position unwinding discussed earlier, the following transactions would present a practical option:

- a) GPIF and FESA conduct a bilateral yen-dollar trade (GPIF selling yen, and FESA selling dollars), using the prevailing market exchange rate;
- b) GPIF's payment of yen is made by transferring JGBs to FESA, and FESA's payment of dollars by transferring US Treasury securities to GPIF.
- c) GPIF liquidates dollar securities it receives from FESA on the market, and uses the proceeds to diversify into external assets it desires to hold; and
- d) FESA continues to hold JGBs it receives from GPIF until their maturity. As the maturity date of each issue arrives one by one, FESA gradually downsizes its balance sheet, using the yen funds from maturing JGBs for retiring short-term yen bills.

The transactions outlined above would achieve GPIF's portfolio reshuffle and FESA's position unwinding in one sweep, with neither of the players having to go to the market and hence minimizing the transaction's market impact. As noted earlier, while there can be a consensus on the need to reduce the size of Japan's foreign reserves, it seems difficult to pin down an appropriate level for them. If so, a practical approach may be to start from a GPIF portfolio shift toward external assets, with that being allowed to determine the amount of FESA's position unwinding.

¹⁸ If the share of external assets is to rise from the current 20% to 30%, a portfolio adjustment of roughly 10 trillion yen will be necessary. As explained in footnote 17, the increase in GPIF's target return implies that the share will have to rise substantially.

In addition, this Group believes that other reform measures proposed by the Expert Committee on Reforms Addressing Globalization (2008), such as changing GPIF's governance and organization, should be implemented. Having the largest economy and financial markets, Japan should also have a first-rate system of public pension fund investment.

It is easy to point out risks and problems in the recommendations made above.¹⁹ Since in the end there is an inevitable tradeoff in asset management between risks and returns, no reform proposal can please all with different risk-return preferences. Starting from the recognition that the status quo is highly problematic, the relevant question is how the cost of reforms compares with the cost of not introducing reforms.

The question of which risk-return combination to choose rests, in the final analysis, with public opinion. However, this question has not been presented in a transparent way to the general public or discussed in an open forum like the Diet which represents public opinion. Because of the sheer size of Japan's "SWFs in a broad sense", improving their performance could make a difference of several trillion yen per year. The scale of the impact is similar to that of substantially changing the consumption tax rate, a highly controversial and hotly debated issue. A similar debate is needed on public fund management as well, and this Report is presented as a possible platform for that.

2) International Capital Flows and SWFs—the Role of Japan

Another action Japan can take, this time in a global context, is to participate actively in international discussions on SWFs. Japan is unique in that it is a G7 country, has been running large current account surpluses, and its public sector is holding large external assets. This suggests that Japan can play a bridging role between developed and emerging market countries.

In the G20 Summit November last year, then-Prime Minister Aso announced that Japan would make US\$ 100 billion of credit available for the IMF from its foreign reserves. A formal agreement on this was signed in February this year. While views may differ as to whether foreign reserves should be used for this kind of loan, this Group considers that the fact that Japan took a major initiative in the area of international financial cooperation is noteworthy. If Japan's initiative can be further developed, with the participation of countries with large foreign reserves or SWFs, into a lending framework for the IMF like the existing General Arrangement to Borrow (GAB) or the New Arrangement to Borrow (NAB), that

¹⁹ For example, if GPIF trades with FESA at the current market exchange rate, FESA is likely to suffer a considerable accounting loss. This is because the yen FESA buys back is much more appreciated than when most of the past interventions were made. The need to record a loss may discourage FESA from engaging in this type of transaction. However, this is just bringing out the losses that already exist in FESA's balance sheet, and not a situation of losses actually being caused by the transactions.

would be an important step toward the creation of a new international monetary system that involved both developed and emerging market countries. Indeed, based on the London Summit agreement, discussions are under way to expand NAB membership to the G-20 member emerging market countries.

As has become clear from the recent experience of Global Financial Crisis, the pattern of capital flows in the past where the savings of emerging markets are sent to London and New York and come back to emerging markets as investment is not enough to ensure stable development of the global economy. Expanding capital flows between emerging markets and Japan in both directions, and thereby stimulating domestic demand of both, will be an important task going forward, now that the global economy has lost its major driving force, US excess consumption. Japan should attract more of the investment of emerging markets through SWFs, and Japan's savings should be utilized to build emerging markets' infrastructure and to help them conserve energy, making use of Japan's superior environmental technology. Through this process, it is desirable to strengthen the functions of Tokyo, Hong Kong, and Singapore as international financial centers.²⁰

In the meantime, if the International Working Group (IWG)²¹ becomes a permanent entity and engages in setting important standards, Japan should actively support its activities, while requesting formal membership as a country having SWFs in a broad sense. This will be necessary not only for Japan, but also for better management of the global economy and financial system.

²⁰ See Yoshikuni (2009) for more on this point.

²¹ IWG is a group of 26 countries with SWFs, which was established in 2008 to agree on a set of principles that reflect their investment practices and objectives. The outcome of the discussion was published later in 2008 as the "Santiago Principles". Japan is not a member of IWG, but participated in the drafting of the Santiago Principles as a country on the receiving side of SWF investment.

Box I Appropriate Level of Foreign Reserves

Measured with the standard yardsticks used for assessing the level of foreign reserves, Japan's reserves of US\$ 1 trillion amount to 15 months of 2008 monthly imports and more than 700% of end-2008 short-term external debt, far exceeding the usual benchmarks of 3 months and 100%, respectively. However, these benchmarks are set for emerging and developing countries to assess their vulnerability to balance of payments crises, and thus their applicability to Japan is questionable. Although there are no standard yardsticks or benchmarks for developed countries' reserves, the following points may be worth noting.

- Comparison with the past record of interventions: Since 1991 to date, the largest yen-buying intervention made by the Japanese authorities within a year was of the order of 4.2 trillion yen (about US\$ 45 billion valued at today's exchange rate), which occurred during November 1997-June 1998. The cumulative total of yen-buying intervention since 1991 is somewhat less than 5 trillion yen. Over the past 5 years, no intervention has been made, either yen selling or buying. Therefore, if the past is a good guide, even 1/10 of the current reserves might be a sufficient level. However, it can be argued that what matters is not the past record, but how large the future risk is that may necessitate yen-buying intervention, and what volume of dollar funds will likely be needed when such a risk materializes. There is no way of assessing these that convinces all, and the judgment is left to the authorities.²²
- Comparison with other major countries' reserve holdings: US \$70 billion, ECB \$64 billion, UK \$99 billion, Switzerland \$75 billion, Germany \$147 billion, France \$128 billion, etc. Those countries which hold more than US\$ 200 billion of reserves are China, Japan, Russia, India, Taiwan, Korea, and Brazil (in the order of the size), and Japan clearly stands out among developed countries. This observation also supports the view that even 1/10 of the current level might be sufficient. However, it should be noted that during the recent financial crisis, many developed countries faced an urgent need to supply dollar liquidity in their domestic markets, and some of them had to borrow dollars from FRB for that purpose. This episode demonstrates the potential usefulness of dollar reserves outside of their usual use of defending the

²² Another important source of debate is how effective intervention is. Although there is no firm consensus on this, most of the past empirical research has concluded that a sterilized intervention (i.e., intervention that does not accompany changes in monetary policy) does not have a major and/or lasting effects on the exchange rate. This view seems to have substantially reduced incentives among developed countries to hold large foreign reserves.

exchange rate. Still, in the case of Japan, this additional reserve holding motive won't be enough to reverse the conclusion that the current volume of reserves is excessive.

- Profitability of reserve holdings: In the past, FESA has almost always benefited from the interest rate differentials in favor of external assets (i.e., asset returns > yen debt costs), while it has suffered from the persistent trend of the yen's appreciation. The total return on reserve holdings can be calculated taking both of these factors into consideration. As shown in the table below, the past interventions turned out to be profitable regardless of when they were made. Indeed, FESA has been transferring hundreds of billion yen to the government budget each year since the 1980s (more than 1 trillion yen every year since 1997), and the cumulative total of these transfers is about 20 trillion yen. If this trend continues in the future, there is no need to compress FESA's balance sheet through unwinding. However, no-one can tell whether the trend will continue.

Profitability of reserve holdings (%)		
	FB rate	Call rate
Past 25 yrs	47.9	22.6
20 yrs	84.0	66.0
15 yrs	92.7	90.5
10 yrs	27.8	28.1
5 yrs	14.7	15.2

Notes: The number shown next to "Past 25 years", for example, shows the total rate of return on dollar funds obtained from interventions made 25 years ago (Q1 1984), assuming that they were invested in long-term dollar bonds till Q1 2009. "47.9%" implies that 100 yen sold 25 years ago has provided FESA with a net gain of 47.9 yen today, using the exchange rate of Q1 2009. Since the rates on financing bills (FB) that FESA issues for funding yen-selling intervention were artificially kept below market levels until the late 1990s, alternative hypothetical funding costs of interbank call rates were also used. Profitability is positive even in this case.

- Future profitability of reserve holdings: This all depends on the future course of the Japanese economy. The dominant view seems to be fairly pessimistic, in light of Japan's rapid population ageing, a decline in economic vigor and competitiveness,

and a fall in economic growth. Under this view, yen interest rates will remain low while the yen's exchange rate will weaken, and FESA's dollar-long and yen-short position is likely to remain profitable. However, one can argue that such a view must have already been incorporated into the current yen exchange rate, so that the dollar-long position will not be advantageous unless the Japanese economy stagnates in the future more than is currently expected.

Box II Implications of GPIF's New Target Return

As noted in the main text of this Report, there is no obvious reason to suspect that GPIF's current investment framework is inefficient. If so, the increase in the target return from 3.2% to 4.1% cannot be achieved without taking more risks, and this is likely to require a substantial increase in the share of risky assets in GPIF's asset portfolio.

One counter-argument to this is that what GPIF should achieve is not a 4.1% nominal return, but a 1.6% real return (= 4.1% minus the expected wage increase of 2.5%), and thus, if the actual rate of future wage increase falls short of 2.5%, a nominal return lower than 4.1% by the same percentage as the shortfall in the rate of wage increase can achieve the goal set for GPIF. The basis of this argument is the fact that future pension payment obligations are linked to the level of wages pension members earn when they are working. GPIF takes this factor into account when it evaluates its own investment performance (see Table 2 in the main text).

However, even in real terms, the new target is higher by 0.5 percentage point than the previous one, so that the fact remains that GPIF will have to take on more risk. More importantly, the counter-argument above misses an important point that makes pension finance vulnerable to low rates of wage increase. The current pension system is designed to keep the replacement ratio (= pension receipts after retirement divided by wage rates before retirement) at around 50% for the "model household". The current replacement ratio for this type of household is above 62%, and it is necessary to reduce this ratio gradually to 50% in order to ensure sustainability of pension finance. This downward adjustment of the replacement ratio, which is called "macroeconomic slide", is achieved by keeping the growth rate of nominal pension payments below that of nominal wages. Under normal circumstances, the wedge between the two is supposed to be about 0.9 percentage points.

However, there are exceptions to the "macroeconomic slide". When the rate of wage increase is 0 ~ 0.8%, and the full application of the slide would make nominal pension

growth negative, the nominal pension payments are kept constant (i.e., partial application of the slide). And if the rate of wage increase is negative as in recent years, there will be no macroeconomic slide, and the nominal pension payments fall at the same rate as the fall of nominal wages. In either case, the downward adjustment of the replacement ratio is delayed, worsening pension finance. Indeed, the replacement ratio was supposed to fall to 50.2% by FY2025 in the pension finance assessment of 2004, but this was delayed to FY2038 in the assessment of 2009.

As part of the 2009 assessment, an estimate was made for several cases in which the rate of nominal wage increase fell short of 2.5%. In one case where the future rate of nominal wage increase was assumed to be 0%, a startling estimate was given that *even if GPIF was able to earn 4.1% on its investment* (that is, even if GPIF earned a 4.1% real return), the pension assets under GPIF's management, which are supposed to last until the next century, would be totally depleted by 2042. Given such a major vulnerability of the pension system to the risk of low inflation, it is clearly not the case that GPIF can be complacent about the 4.1% target return, counting on wage increases remaining lower than 2.5%.

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