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Rolling Back the Strong Yen under a Dollar Reserve Currency Regime

Dollar reserve currency regime will remain unchanged; long-term view needed in considering measures to counter the strong yen

Japanese report: 13 Dec 11

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Summary

- With S&P* downgrading its credit rating of US Treasuries in August 2011, confidence in the dollar, which serves as the world's reserve currency, appears to have been shaken. In this report, we examine the sustainability of the dollar reserve currency regime and the impact it has had on Japan's economy. We then offer proposals from the perspective of the foreign exchange system on what can be done to roll back the strong yen and deflation from which Japan has suffered for a protracted period.

**This report uses credit ratings assigned by S&P, which is not registered with Japan's Financial Services Agency pursuant to Article 66, Paragraph 27 of the Financial Instruments and Exchange Act. Investors should refer to the related attachment at the end for information on ratings assigned by unregistered rating agencies.*

- Given a global economic and financial structure where a substantial portion of current account and capital account transactions depend on the dollar, it is unrealistic to suddenly abandon the dollar just because confidence in the US currency has slipped. This is because if nations avoided using the dollar their foreign exchange transaction costs would increase sharply. Although transactions involving the euro are substantial, there are questions about its stability, for which no solution is yet in sight. In the case of the yuan, transaction volume is small, and capital account transactions are not liberalized. The yuan simply is not ready to replace the dollar at the present moment. Thus, we believe the dollar reserve currency regime will continue even as reduced confidence in the dollar entails its ongoing depreciation.
- Since the US is not fully fulfilling its obligations as a reserve currency nation, the sustained depreciation of the dollar is foreseen to continue. Given this outlook, the perpetuation of the dollar reserve currency system is not necessarily desirable for Japan with an economic structure that is vulnerable to a weaker dollar in both flow and stock terms compared to other nations. The excessive fluctuations associated with a floating exchange rate system not only directly worsen Japan's economy but they also have the indirect effect of restraining growth of nominal wages as exporting companies endeavor to maintain cost competitiveness in the face of a weaker dollar (a stronger yen). Such corporate behavior has produced a vicious cycle of sluggish domestic demand, deflationary pressure, and the further appreciation of the yen.

- If Japan is to roll back the overly strong yen, there will be a need to work toward the building of multilateral rules to control the excessive fluctuations of a floating exchange rate system. Also, it should prove effective if Japan actively takes part in the economic development of Asia (excl. Japan) and Europe to indirectly encourage the US as a partner to exercise the discipline of a reserve currency nation. Moreover, Japanese manufacturers seeking to make products whose selling prices do not fall and to develop marketing methods where selling prices need not be reduced will be highly significant.

Introduction

In August 2011, Standard and Poor's Ratings Services (S&P)*, a private credit rating agency in the US, downgraded its credit rating of US Treasuries from a top rating of AAA to AA+. This was the first time for S&P to downgrade US Treasuries since 1941 when it first began issuing credit ratings on them. Despite concerns that the downgrading would reduce confidence in US Treasuries and entail the eventual collapse of the dollar reserve currency regime, yields on US Treasuries did not increase following the downgrading and are continuing to trend at a low level. The US, however, has persistent current account deficits and a budget deficit of more than \$1 trillion. It does appear that confidence in the dollar, which has served as the world's reserve currency, has been shaken.

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In this report, we begin by examining the sustainability of the dollar reserve currency regime. A reserve currency denotes a leading international currency which exhibits such features as high liquidity, stable value, and acceptance as a common measure of value. A certain number of conditions must be met before a currency can become a reserve currency. The euro and the Chinese yuan, while viewed as candidates for the next reserve currency, currently do not meet all these conditions. Even if they did so, there is little likelihood that they would immediately replace the dollar as a reserve currency, given customary practice and the low transaction costs of using the dollar. Asia, which supports demand for dollars, is expected to remain a major source of demand for US Treasuries and other dollar-denominated debt assets as long as the region does not change its export-led and US-dependent economic structure. In short, we assert that there is good reason for believing that the dollar reserve currency regime will continue into the future.

Next, we state that the continuation of a floating exchange rate system centered on the dollar is not necessarily desirable for Japan. This is because of the way the US falling short in fulfilling its obligations as the reserve currency nation reduces confidence in the dollar and leads to its sustained depreciation. Moreover, the excessive fluctuations associated with a floating exchange rate system not only directly worsen Japan's economy but also have the indirect but still major adverse effect of restraining growth of nominal wages as companies seek to maintain export competitiveness. In addition, Japan has an economic structure that is vulnerable to a weaker dollar in both flow and stock terms compared to other nations. As a result, the depreciation of the dollar has a greater adverse impact on Japan than on other nations.

Finally, building on the historical record, we offer proposals on what Japan can do to roll back the overly strong yen. Specific steps that can be taken are the building of rules to control the excessive fluctuations of a floating exchange rate system or

contributing to the economic development of other nations to indirectly encourage the US to exercise the discipline of a reserve currency nation. It would also be desirable for Japan’s manufacturers to endeavor to build products whose selling prices do not fall and to develop sales methods where price reductions are not necessary.

1. Dollar Reserve Currency System Will Continue

1.1 Conditions for a reserve currency and for becoming a reserve currency nation

It is a rare person who does not know that the current international currency system is a floating exchange rate system based on the US dollar. The answers to such questions as why a reserve currency is needed or why the dollar continues to serve as a reserve currency are, however, still not well understood. Since these are important questions when considering the sustainability of the dollar reserve currency regime, we begin by analyzing the conditions for a reserve currency and for becoming a reserve currency nation.

Reserve currency system increases foreign exchange market efficiency

A reserve currency plays an important role in expanding international current account and capital account transactions. If we imagine the extreme case where no reserve currency exists and where there are separate forex markets for each currency pair, forex markets will be needed in the number that satisfies all possible combinations of currencies in circulation. Since about 200 currencies are currently being issued, nearly 20,000 forex markets (= 200 x 199 / 2) will be needed. Should that many markets exist, there will be some where currency transactions are few and where price determination is difficult. The consistent and efficient determination of all exchange rates will be an enormous challenge. On the other hand, if there is a key currency—that is to say, a reserve currency—for which exchange rates exist with all other currencies, consistent exchange rates can be determined for all currencies with approximately 200 forex markets (strictly speaking, the number of currencies -1) and through arbitrage transactions between non-key currencies. In this manner, fewer markets will be necessary when there is a reserve currency. Since transactions will converge on a key currency, foreign exchange transaction costs will be reduced, benefiting all nations using the reserve currency. The acceptance of a reserve currency is an efficient choice in our current world without a world government or a global central bank.

Six roles of an international currency

Not every currency is qualified to become a reserve currency. If a currency other than that issued by the nations involved is to be used for the settlement of international transactions, this currency must be highly liquid, have a stable value, and offer a common measure of value. In other words, it must be an international currency whose three basic currency functions (medium of exchange, unit of accounting, and store of value) are effective in international transactions. The reserve currency is the key currency among international currencies. According to Krugman (1984), an international currency performs six roles when its functions are divided between private and official sectors (Chart 1).¹

Role of an International Currency		Chart 1
	Private	Official
Medium of exchange	Vehicle	Intervention
Unit of account	Invoice	Peg
Store of value	Banking	Reserve

Source: Paul R. Krugman (1984), “The International Role of the Dollar: Theory and Prospect”, pp. 261–278 in “Exchange Rate Theory and Practice”, University of Chicago Press.

1. Paul R. Krugman (1984), “The International Role of the Dollar: Theory and Prospect”, pp. 261–278 in “Exchange Rate Theory and Practice”, University of Chicago Press.

Taking the dollar as an example, it is widely used for settlement and as a trade quotation currency (invoice currency) for transactions between two economies unrelated to the US. Also, transactions of such commodities as crude oil and gold are nearly always invoiced in dollars. In the official sector of central banks and other entities, foreign exchange reserves are frequently held in dollars since the dollar is highly convertible and since markets are not greatly influenced by large transactions involving the dollar. Some Asian and Middle Eastern economies have pegged their currencies to the dollar where they maintain a certain exchange rate between the home currency and the dollar through policy interest rate adjustment and currency market intervention.

Conditions for becoming a reserve currency nation

A reserve currency (international currency) that fulfills these roles must be one that is highly liquid and which everyone in the world can be confident about today and tomorrow. Unlike gold, paper currency does not have an intrinsic value corresponding to its face value. Thus, national strength and a deep financial market are some of the conditions demanded of a reserve currency nation issuing such a currency. While these conditions cannot be strictly defined, those appearing in previous studies include (1) an economy and international trade of sufficient scale, (2) strong military power and stable political power, (3) a deep and developed financial market, and (4) a currency whose value is stable and convertible (legal tender).

US as a reserve currency nation—from the Bretton Woods system to a floating system

It was the Bretton Woods system established after World War II that enabled the US to become the reserve currency nation that it is today. Under the Bretton Woods system, the dollar became the only currency convertible at a fixed rate of \$35 for an ounce of gold, and a gold exchange standard was established where currencies other than the dollar were tied to gold through the US dollar. The dollar acquired this status for such reasons as the US holding about 70% of all gold reserves at the time, its overwhelming economic and military power, and its position as a nation of current account surpluses and capital exports. In subsequent years, however, as its budget balance and balance of payments worsened, the US, which had supplied dollars far in excess of its gold reserves, ended dollar convertibility to gold in 1971. This development came to be known as the Nixon Shock, which led to the collapse of the Bretton Woods system. In 1973, the global economy moved to a floating exchange rate system with the dollar serving as the reserve currency, and this system has remained in place in the 40 years to date.

Dollar reserve currency regime will continue

S&P downgrading its credit rating of US Treasuries in August 2011 gave rise to concerns that reduced confidence in the dollar might entail the collapse of the dollar reserve currency regime. Yields on US Treasuries, however, did not increase (bond prices did not decline) following the downgrading and have actually declined (bond prices increased). Market participants are most likely thinking that the relative creditworthiness of the US remains high despite the downgrading and that the dollar reserve currency regime will continue since the US has the most liquid bond market. This report is also based on the view that there will be no immediate change in the dollar reserve currency regime.

Three reasons can be cited to support our view. First, no currency can be found that is capable of replacing the dollar as a reserve currency in the future. Future candidates are the euro and the yuan, but each is associated with issues that must be overcome before it can assume the current position of the dollar, and neither will find it easy to immediately replace the dollar as a reserve currency. Second, even if these issues can be overcome, further time will be needed in replacing the reserve currency because of inertia in currency choice. Third, Asia, which currently supports demand for dollars (purchases of US Treasuries), is anticipated to gradually move toward more flexible forex markets and liberalized capital account transactions. Hence, there will be no immediate change in their export-led and US-

dependent economic structure, and demand for dollars can be expected to continue in the growth region of Asia. In the sections to follow, we provide a closer examination of these three reasons.

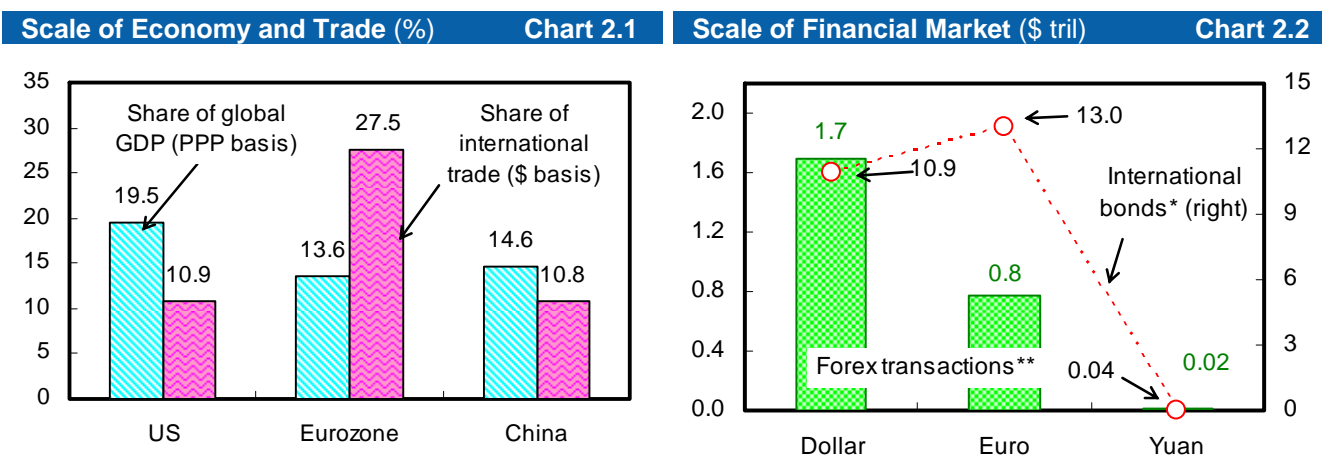
1.2 Possibility that the euro and yuan will become reserve currencies

The euro and yuan are qualified to become reserve currencies in terms of scale of economy and international trade and in terms of political and military power

In view of the conditions for becoming a reserve currency nation described above, the issues associated with the euro and yuan can be delineated as follows. Regarding the first condition, whether the economy and international trade are sufficiently large, both the eurozone and China satisfy this condition. These regions' share of world GDP (2010 purchasing power basis) was 13.6% for the eurozone and 14.6% for China compared to 19.5% for the US (Chart 2.1). Also, in the case of nominal trade volume (2009 dollar basis), the US and China have shares of more than 10% and the eurozone a share of nearly 30%. Regarding the second condition, whether the nation is a strong military power and stable political power, while a somewhat qualitative judgment, both the eurozone and China are comparable to the US in part and fall short in other parts. Taken as a whole, it is reasonable to think that the eurozone and China are nearly as influential as the US.

A deep and developed financial market a major issue for the yuan

As for the third condition, whether financial markets are deep and developed, while the euro satisfies this condition, it is a major issue for the yuan. Chart 2.2 offers a comparison by currency of daily foreign exchange transactions and the balance of international debt issuance (bonds issued overseas). According to the Bank for International Settlements (BIS), foreign exchange transactions were around \$4 trillion daily in April 2010. Of this amount, transactions involving the dollar totaled \$1.7 trillion and those involving the euro \$0.8 trillion.² In contrast, transactions involving the yuan came to only \$0.02 trillion, far less than transactions involving the yen (\$0.4 tril) or the South Korean won (\$0.03 tril). The situation is similar for international debt issuance. In June 2011, yuan-denominated bond issuance totaled \$0.04 trillion, far less than the corresponding figures for the dollar (\$10.9 tril) or the euro (\$13.0 tril). The yuan has yet to reach a stage where it can be called an international currency.



Source: IMF, United Nations, BIS; compiled by DIR.

Note: GDP based on 2010, international trade value based on 2009, forex transaction value estimated by DIR based on % share of forex transactions in April 2010, and international bonds as of June 2011.

* Outstanding balance.

** Daily avg.

2. Respective shares are 84.9% for the dollar, 39.1% for the euro, and 0.9% for the yuan. Since transaction amounts are counted twice for each currency pair (meaning that the sum of individual shares is 200%), we determined transaction amounts for each currency by multiplying total transaction amount by a currency's percentage share and by dividing the result by 200%.

To liberalize capital markets, more flexible exchange rate necessary

Despite an economy and international trade that are comparable in size with Europe and the US, China has fallen far behind in the internationalization of the yuan because of the restrictions it has placed on the inflow and outflow of capital. The backdrop to China's regulation of the movement of capital is its adherence to an independent monetary policy as it maintains a fixed and managed market system with respect to the dollar so as to draw in foreign demand (the so-called trilemma of international finance; in other words, free capital flow, independent monetary policy, and a fixed forex rate cannot materialize simultaneously). Should China continue to maintain an independent monetary policy, the liberalization of its capital market will inevitably cause China to adopt a more flexible exchange rate.

US achieved internationalization of the dollar in 10 years

China is committed to the liberalization of its capital market. For example, it has announced the goal of turning Shanghai into an international financial center by 2020. Questions might be raised about whether China can actually achieve the liberalization of capital in 10 years. However, given the fact that the US achieved internationalization of the dollar in 10 years, China's goal cannot be called impossible. According to Eichengreen (2010),³ before the Federal Reserve Act was enacted in 1913, US banks were prohibited from opening foreign branches or from dealing in bankers' acceptances (the acceptance by banks of time drafts drawn by exporters or importers for trade settlement), and the US did not have a central bank. As a result, the dollar lacked international liquidity. Following enactment of the Federal Reserve Act, US banks became able to establish foreign branches and to deal in bankers' acceptances, and the internationalization of the dollar progressed rapidly as the Federal Reserve Banks established in 1914 actively worked to develop the bankers' acceptance market. Dollar-denominated trade credit and international debt began to be actively issued in New York. Ten years later in 1924, the dollar came to exceed the pound sterling in terms of its share of the world's foreign exchange reserves.

China foreseen to gradually move toward more flexible foreign exchange market and liberalized capital account transactions

Given its export-led industrial structure, China proceeding rapidly to internationalize the yuan would give rise to the risk that the domestic economy would worsen through appreciation of the yuan. China has achieved rapid economic development as the world's factory since becoming a member of WTO in 2001. By 2009, China's ratio of exports to nominal GDP stood at 39.2% (UN figure), far higher than the corresponding figure for Japan (12.6%). Should the liberalization of China's capital market usher in rapid and excessive appreciation of the yuan, as was the case for the yen in the 1970s and 1980s, China's exporting industries would receive a major blow. The driving force of China's economy has not yet adequately shifted to domestic demand. In view of this situation, there is little likelihood that government authorities will promote internationalization of the yuan to the point of confronting such risk. The most probable scenario is China gradually increasing the flexibility of its forex market and gradually liberalizing capital account transactions while avoiding economic friction as much as possible.

No region fully satisfies the condition of a stable and convertible currency

The final condition for becoming a reserve currency nation, whether the currency has a stable value and is convertible, is not fully satisfied by either region at the present moment. Requirements for ensuring the stability of a currency are a stable domestic economy, stable prices, and the sound management of government finances. When the dollar became a reserve currency after World War II, the US had a current account surplus and was a net creditor nation. Currently, however, the US has a persistent current account deficit, and its budget deficit (single-year basis) has exceeded \$1 trillion for three straight years since fiscal 2008. With respect to the yuan, the free movement of capital must first be accepted if its convertibility is to be secured.

3. Barry Eichengreen (2010), "The Renminbi as an International Currency."

Expectations for the euro to become a reserve currency now a mere hope

The currency associated with growing concerns about its stability in recent months is the euro. Before the European debt problem turned serious, the euro was viewed as a currency that might replace the dollar as a reserve currency. The euro satisfies such conditions as size of economy and international trade, political power, and depth of financial markets for becoming a reserve currency. The euro already has a 26.7% share of the world's foreign exchange reserves (Apr-Jun 2011), and it is an international currency that is second only to the dollar (60.2% of foreign exchange reserves). However, as budget deficits expanded in the aftermath of the Lehman Shock, a change in administration in Greece in October 2009 was followed by the massive downgrade of its budget forecast for the same year, which led to the surfacing of the European sovereign risk problem. Yields have risen for the sovereign bonds of such large nations as Italy and Spain, and the situation has worsened to the point where there are doubts about the very survival of the euro. Expectations for the euro to become a reserve currency are now a mere hope.

Weak budgetary discipline the main reason behind sovereign risk problem

When we seek to ascertain the factors responsible for the current European crisis in light of past foreign exchange regimes, a major reason is thought to be weak budgetary discipline that had existed for some time. To achieve currency unification and to maintain confidence in this unification, each nation must observe budgetary discipline. The eurozone endeavored to maintain such confidence through compliance with the Stability and Growth Pact that stipulated budget deficits of 3% or less of GDP and a debt to GDP ratio of 60% or less. Following the adoption of the euro, however, budget deficits exceeding 3% of GDP were recorded not only by Greece but also by such core nations as Germany and France in the first half of the 2000s, and the Stability and Growth Pact was not observed. Moreover, nations in violation of the agreement were not penalized as they should have been. If there were to be no real penalties, a framework for responding to budgetary crises should have been clearly decided (such as what entities would have what authority to solve the problem), but such decisions were not made. The problems of Greece merely provided the occasion of focusing the attention of market participants on the weak fiscal discipline of the eurozone.

EMS emphasized achievement of stable parity

The European Monetary System (EMS)⁴, established in 1979, continued for some 20 years until the euro was adopted. During this period, Europe never faced a major sovereign risk problem of the sort it is facing now. One of the reasons that can be mentioned is the importance member nations placed on the achievement of stable parity in managing their economies. The rule that the home currency must always have the confidence of markets became an incentive to restrain current account deficits and to maintain healthy government finances, which are not always easy goals to achieve in democracies. Once the single currency was adopted, however, member nations no longer needed to be as strongly committed to stable parity as before. Fiscal discipline began to unravel, as seen by the violation even by core nations of budget rules meant to be observed. With the assurance provided by the euro's launch, the nominal market interest rates of the bonds of eurozone converged on the interest rate for the bonds of Germany, where fiscal discipline was relatively stronger, and whether a nation was maintaining fiscal discipline came to be ignored.

History suggests that breakup of the euro will be avoided at all cost

The breakup of the euro is not desired by the core nations of Germany and France, and measures are likely to be taken to avoid such an outcome at all cost. The EMS

4. Under the EMS, the European Currency Unit was created, consisting of a basket of currencies, and parity and a permissible range of fluctuation were established between currency pairs. When member nations reached the top or bottom of the permissible range of fluctuation, they were required to intervene in currency markets. In addition, economies were to be managed with the objective of achieving stable parity.

and the preceding EC snake system⁵ were established to create a stable regional currency area with the intent of protecting European economies from the depreciation of the dollar ensuing from US behavior not befitting a reserve currency nation in the 1960s and 1970s (current account deficits and inflation).⁶ Given that the US is still falling short of fulfilling its obligations as a reserve currency nation, dissolving the euro achieved through a 30-year process and returning to the currency system of the 1970s is no longer a choice on the table.

Europe likely to maintain the euro while adopting strict fiscal rules

Thus, in the short term, through the supply of credit by the ECB and through orderly debt resolution, the sovereign risk problem is expected to be quelled even as euro member nations bear great pain. At the EU summit of 8 and 9 December 2011, plans were announced to bring forward to July 2012 the establishment of a European Stability Mechanism, also known as the European IMF, as well as to make use of the IMF. There are now prospects that a new fiscal austerity treaty will be concluded by 26 nations excluding the UK, where nations will be required to maintain balanced budgets or surpluses and where sanctions will be more easily applied when these obligations are not met. To restore confidence in the euro, it will be indispensable to adopt strict fiscal rules with greater transparency than before. Whether the confidence of markets can be regained as the new framework is implemented is a matter of keen interest. Should such activities win the favor of markets and should confidence in the euro be restored, expectations will once again rise that the euro is a candidate for becoming a reserve currency. These activities will even become a superb model when unifying the currencies of other economic regions.

1.3 Inertia in currency choice has strengthened further

As noted above, there is little likelihood that the euro or the yuan will fully meet the conditions of a reserve currency in the short term. Even if they meet these conditions, given the inertia of currency choice, more time will be needed before the current reserve currency is replaced (where the euro or yuan becomes more widely used than the dollar globally).

Effect of using something because everyone else does

Inertia in currency choice refers to the way time is required before parties to a transaction are willing to change their currency choices due to network effects and customary practice. Simply, it is an effect where something is used because everyone else does. Since currencies with large transaction volumes have low transaction costs, settling obligations with a reserve currency is beneficial for the counterparties of transactions. If settlement is to occur in another currency, some compelling reason will be needed, such as sufficiently low transaction costs or a change in the settlement terms of the counterparty. Even if such reasons exist, customary practices related to the transaction may hinder an immediate change in currency. For example, transactions of such commodities as crude oil, gold, and wheat are nearly always invoiced in dollars. Also, as the sizes of markets increase for different products through globalization, parties to transactions will also increase in number, and this will strengthen further inertia in currency choice.

In terms of volume of current account and capital account transactions, inertia in currency choice has strengthened further

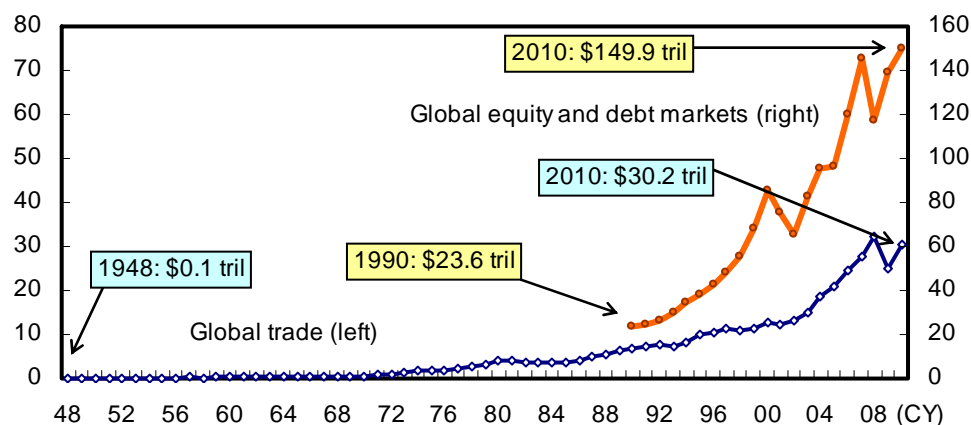
While it is not possible to directly observe how strong inertia in currency choice has become relative to the past, this can be observed indirectly by comparing the past and current volume of current account and capital account transactions. Chart 3 provides a time series of world trade volume and the market size of equity and bond transactions. World trade volume, which totaled \$0.1 trillion in 1948,

5. In this system, parity between currency pairs was determined for member nations, and the permissible range of fluctuation was determined to be one-half (2.25%) of the range of fluctuation with the dollar (a range of 4.5%) based on the Smithsonian Agreement.

6. Eiji Yamashita (2010), "Kokusai Tuka Sisutemu No Taisei Tenkan" (A regime transformation of the global monetary system), Toyo Keizai Shinposha (available in Japanese).

increased about 250 times to \$30.2 trillion in 2010. The market size of equity and bond transactions was \$23.6 trillion in 1990, which is as far back as available statistics permitted us to go, and this market grew more than six times to \$149.9 trillion in 2010. Also, the commodity market for such goods as crude oil and gold invoiced in dollars has a size of around \$20 trillion.

Scale of Global Trade Value and Equity and Debt Markets (\$ tril) Chart 3



Source: IMF, World Federation of Exchanges (WFE); compiled by DIR.
Note: Global trade: excl. services; equity market through 2001: WFE basis.

As noted, the US achieved the internationalization of the dollar in 10 years. Compared to then, market size has grown significantly. At the same time, World War I altered the economic structure, which led the way for the internationalization of the dollar. Since then, the inertia of currency choice has strengthened significantly.

1.4 Asian purchases of dollars a trend that will not suddenly change

Asia's increased presence as source of demand for dollars

One possibility that would shake the dollar reserve currency regime from the demand side is Asia, particularly China, reducing its purchases of US Treasuries to buy sovereign bonds in other currencies. The Chinese government shifted from a fixed exchange rate system to a managed float system (currency basket system) in July 2005 and has allowed the yuan to appreciate gradually against the dollar through the government's management of exchange rates. In the years since 2002, growth of trade surpluses increased upside pressure on the yuan. To control this upward pressure on the yuan, the People's Bank of China intervened to sell yuan for dollars, and China's foreign exchange reserves surged. Reserves that totaled \$0.22 trillion in 2001 (16.3% of nominal GDP) grew to \$2.85 trillion in 2010 (48.4%). As of September 2011, China's foreign exchange reserves equaled \$3.20 trillion. Of these foreign exchange reserves, about 70% are said to be held as US securities, with US Treasuries accounting for a large share of that.⁷ Thus, the actions that China takes will have a major influence on the dollar's future as a reserve currency.

Asia accounts for about half of foreign holdings of US Treasuries

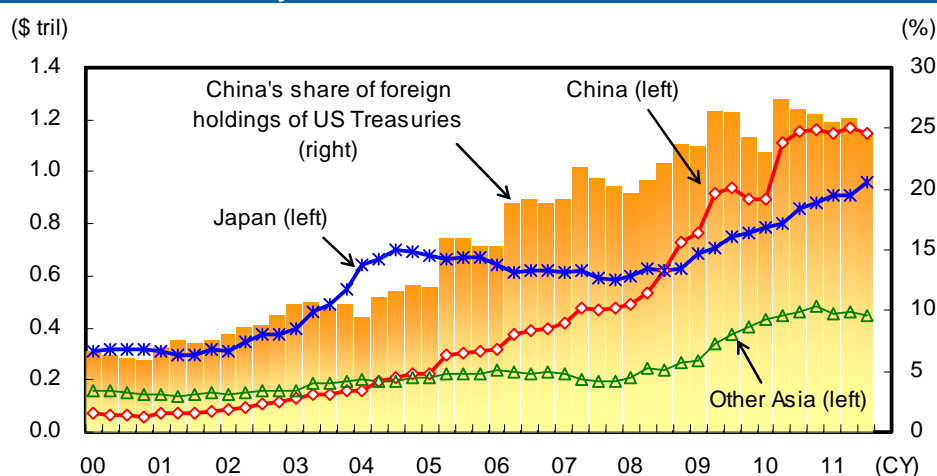
Chart 4 depicts Asian nations' holdings of US Treasuries and China's share of the foreign holdings of US Treasuries. In 2009 China surpassed Japan as the nation with the largest holdings of US Treasuries. In September 2011, such holdings by China reached \$1.15 trillion (24.6% of the foreign holdings of US Treasuries). The holdings of US Treasuries by Japan and other Asian economies (NIEs, Thailand, Malaysia, and the Philippines) comes to \$2.55 trillion, and Asia accounts for 54.8%

7. Wayne M. Morrison and Marc Labonte (2011), "China's Holdings of US Securities: Implications for the US Economy," Congressional Research Service.

of the foreign holdings of US Treasuries. The current account deficits of the US are financed by the funds of foreign economies, and nearly half of such financing is dependent on Asia.

US Treasuries Held by Asian Economies

Chart 4



Source: US Department of the Treasury; compiled by DIR.

Notes: 1) End-quarter basis.

2) Other Asia: NIEs, Thailand, Malaysia, and Philippines.

Ties with US economy must weaken if demand for dollars is to shrink, but such change will not be realized in short term

If China does not sell yuan for dollars when the yuan/dollar rate experiences upside pressure, China's purchases of US Treasuries will come to a halt by the amount that would be used for market intervention otherwise. As noted above, however, since China is expected to gradually move toward more flexible forex markets and liberalized capital account transactions, there is little likelihood that it will suddenly end its purchases of dollars. Also, China and other Asian nations have established strong ties with the US economy, and they have attained economic growth by relying on the purchasing power of the US economy. For example, 74.2% of China's trade surplus is against the US economy (2006-10 avg.). According to the Asian Development Bank (2008), about 70% of Asian exports in 2006 had final destinations outside of Asia, such as the US and Europe, with about 20% destined for the US.⁸ Regarding the invoice currency of exports, the dollar has an extremely high share for all nations. Should demand for dollars diminish in China and in other Asian economies, this will be prompted by a change in their export structures, such as weaker ties with the US economy. It is difficult to imagine such a change happening in the next few years. Hence, China and other Asian economies can be expected to remain major sources of demand for dollar-denominated debt assets, centering on US Treasuries.

Despite some loss of confidence, dollar reserve currency regime will continue

Here we provide a brief summary of the future outlook for the dollar reserve currency regime. Given a global economic and financial structure where a substantial portion of about \$30 trillion in trade transactions and more than \$150 trillion in capital account transactions depend on the dollar, it is difficult to envision nations suddenly abandoning the dollar just because confidence in the US currency has slipped somewhat. Should nations begin to shift away from the dollar under current circumstances, their foreign exchange transaction costs are likely to increase sharply. Although transactions involving the euro are relatively large, there are questions about its stability, for which no solution is yet in sight. In the case of the yuan, transaction volume is small, and capital account transactions are

8. Asian Development Bank (2008), "Emerging Asian Regionalism: A Partnership for Shared Prosperity." In the book, Asia includes the 16 economies of Japan, China, South Korea, Hong Kong, Taiwan, Singapore, Brunei, Cambodia, India, Indonesia, Laos, Malaysia, Myanmar, Philippines, Thailand, and Vietnam.

not liberalized. The yuan simply is not ready to replace the dollar at the present moment. It is also unrealistic to imagine some major event occurring in the near future that would alter the economic structure in the way World War I and II led to the internationalization of the dollar and to the decline of the pound sterling reserve currency regime. Currently, USD LIBOR is rising, and calm has returned to stock markets now that six central banks revealed plans on 30 November for coordinated intervention to strengthen the supply of dollar funds. These developments underscore that demand for dollars remains strong.

As will be discussed in detail in Section 2, the US is falling short in fulfilling its obligations as a reserve currency nation, and it is acting in ways that reduce confidence in the dollar. There can be no doubt that persistent current account deficits and massive budget deficits are factors sapping confidence in the dollar (corresponding to the depreciation of the dollar). Nevertheless, in our basic scenario we believe that the dollar reserve currency regime will continue even as reduced confidence in the dollar entails its ongoing depreciation. In the next section, we discuss Japan’s current situation and the issues it faces based on the assumption that the sustained depreciation of the dollar will continue.

2. Vicious Cycle of Japan’s Economy Produced by the Dollar Reserve Currency Regime

2.1 Privileges and obligations of a reserve currency nation

Possible continuation of vicious cycle where yen appreciation imposes deflation and further appreciation of the yen

Japan has long been plagued by a vicious cycle where the appreciation of the yen worsens the economy and generates (relative) deflation and where these changes result in the further appreciation of the yen. Should the dollar reserve currency regime remain in place even as the dollar continues to depreciate, there is strong concern that this vicious cycle will maintain its hold on the Japanese economy. This negative feedback loop is thought to be the outcome of three factors: the US not fully fulfilling its obligations as a reserve currency nation, the adverse effects of a floating exchange rate system with enormous volatility, and Japan’s economic structure that is vulnerable to the depreciation of the dollar. These factors will be examined in order in the paragraphs to follow.

Privileges of a reserve currency nation

First, we discuss the privileges and obligations of a reserve currency nation. When a nation becomes a reserve currency (international currency) nation, it gains the privilege of seigniorage that is unavailable to non-reserve currency nations.

Privileges and Obligation of World Reserve Currency Nation		Chart 5
Privileges accompanying seigniorage	Obligation accompanying seigniorage	
<p>Seigniorage in terms of current account transaction ⇒ For the cost of printing money, the key currency nation is able to buy goods and services from abroad at the face value of that money.</p> <p>Seigniorage in terms of capital account transaction ⇒ The key currency nation is able to make profits by borrowing money from abroad in its own currency and investing it to obtain a return which is higher than borrowing costs.</p>	<p>Stabilization of home currency ⇒ Stabilization of domestic prices, showing a surplus in the current account, and attaining equilibrium in the basic balance (current account balance and long-term capital balance).</p>	

Source: Compiled by DIR.

Seigniorage increases purchasing power

Seigniorage refers to the difference between the face value of paper money and the cost of its issue. If it costs Y500 to issue a Y10,000 bill, the difference of Y9,500 is seigniorage. While all nations benefit from seigniorage, since the currency of a reserve currency nation is used globally, it is able to use its own currency in nearly all foreign transactions and lending (in 2003, 99.8% of US exports were denominated in dollars). According to Arima (1979), the seigniorage of a reserve currency (international currency) nation has a recurring profit and capital gains aspect,⁹ and both aspects work to increase the purchasing power of the reserve currency nation.

Recurring profit

If the yen became a reserve currency, Japan would gain the following privileges in its foreign current account and capital account transactions (assuming that the cost of issuing a Y10,000 bill is Y500). Should Japan purchase goods and services with a value of Y1 million from abroad and pay for such goods and services in yen, Japan would gain income (value added) of Y1 million at a cost of Y50,000. As long as foreign nations accept yen, Japan would be able to continue such transactions, and its purchasing power would increase compared to being a non-reserve currency nation.

Capital gains

Next, let us assume that the foreign nation receiving Y1 million does not convert this amount into its home currency but uses it to buy bonds issued by Japan. In such a case, Japan would assume a liability toward this nation and would also receive Y1 million. Should Japan use this amount to invest in foreign risk assets and realize gains that exceed its interest payments, this excess amount would also increase Japan's purchasing power. Japan's recurring profit would vanish if the foreign nation refused to accept yen, but Japan would continue to benefit from capital gains as long as the foreign nation does not recall its yen-denominated claim. This example is similar to the actual behavior of the US. The US borrows money from abroad in dollars and makes foreign direct investments and equity investments. As a result, despite being the world's largest net debtor nation, the US income balance, the difference between the return rate and the interest rate paid, is a surplus.

A reserve currency nation must work to keep its currency stable

In exchange for gaining these privileges, a reserve currency nation must assume the obligation of keeping its reserve currency stable. Just as Japanese people engage in economic activities believing in the value of the yen, and just as the Bank of Japan works to keep prices stable, as long as the world engages in economic activities believing in the value of the reserve currency, the reserve currency nation must manage its economy so as not to undermine the value of its currency. Should this nation not fulfill its obligation and fail to contain inflation (meaning a decrease in real currency value) or should it increase its foreign borrowings as it glories in consumption year after year, other nations will at some point begin to doubt the value of the reserve currency, and they will stop using or holding it due to the risk they now feel in doing so. Specific obligations of a reserve currency nation are maintaining stable domestic prices, maintaining a current account surplus, and keeping the primary balance (the sum of the current account balance and the long-term capital balance) in balance.

US has not fully fulfilled obligations as reserve currency nation

The actions that the US took under the Bretton Woods system cannot be described as fulfilling the obligations of a reserve currency nation. Influenced in part by the Vietnam War, the US recorded primary deficits averaging \$1.7 billion per year between 1958 and 1964. In 1960, US gold reserves excluding statutory reserves fell below the \$4.1 billion in short-term debt assets held by foreign governments. This situation provoked questions about whether the dollar was overvalued relative to gold as well as the speculative purchases of gold, and it unleashed a gold rush

9. Toshinori Arima (1979), "Seigniorage and International Monetary System," Shiga University research paper.

where the market price of gold rose.¹⁰ While the US and European governments worked to maintain an official exchange rate of \$35 for an ounce of gold, a dual price system was adopted in 1968 where the market price of gold was allowed to diverge from its official price, and the gold exchange standard effectively collapsed. The US balance of payments deficit worsened further in 1969 when the Nixon administration came to power, which turned its attention to domestic issues. As European nations repeatedly sought to exchange dollars for gold, the US declared in 1971 that it would end the dollar's convertibility to gold, a development known as the Nixon Shock. Maintaining the Bretton Woods system proved difficult when the dollar's convertibility to gold was no longer guaranteed, and a transition to the current floating exchange rate system was made in 1973.

Downward pressure on dollar continues to smolder

After the transition to a floating exchange rate system, the US persisted in recording current account deficits to the present, and its budget deficits have ballooned in recent years. With the Bretton Woods system, the US repeatedly recording current account deficits would have led to the outflow of gold, and the US would have been unable to meet its convertibility obligation. Current account deficits were therefore unsustainable. Such concerns, however, fell to the wayside under a floating exchange rate system without an obligation to convert dollars to gold. As long as non-reserve currency nations continued to use the dollar, there was little to threaten the sustainability of a dollar reserve currency regime. As noted above, even if non-reserve currency nations lose some confidence in the dollar, it is not realistic for them to engage in large current account or capital account transactions in a currency other than the dollar. Also, most nations with economic structures highly dependent on the US economy would find it hard not to use the dollar (or such a choice would be infeasible). Hence, under the current international currency system, it is difficult to check the US even when it is not fully fulfilling its obligations as a reserve currency nation, and an asymmetrical relationship exists between the reserve currency nation and non-reserve currency nations. While the US meets the conditions for a reserve currency nation in terms of its economic size and developed financial market, its persistent twin deficits are eroding confidence in the dollar. In this context, downward pressure on the dollar continues to smolder, and its sustained depreciation is expected to endure as long as the US does not change its behavior.

2.2 Adverse effects of a floating exchange rate system

Shortcomings of a floating exchange rate system

When the transition was made to a floating exchange rate system, there were hopes that exchange rate fluctuations would automatically adjust the economic conditions of nations and that they would be able to focus on domestic issues without being distracted by currency problems. With the passage of time, however, it became evident that a floating exchange rate system was not an ideal system that only reflected the price shocks of the real economy but that the system itself could produce financial shocks or that peoples' expectations could unduly act upon price formation. Market exchange rates can, in the short or medium term, greatly and sometimes sharply deviate from levels that can be adequately explained by the real economy (purchasing power parity).

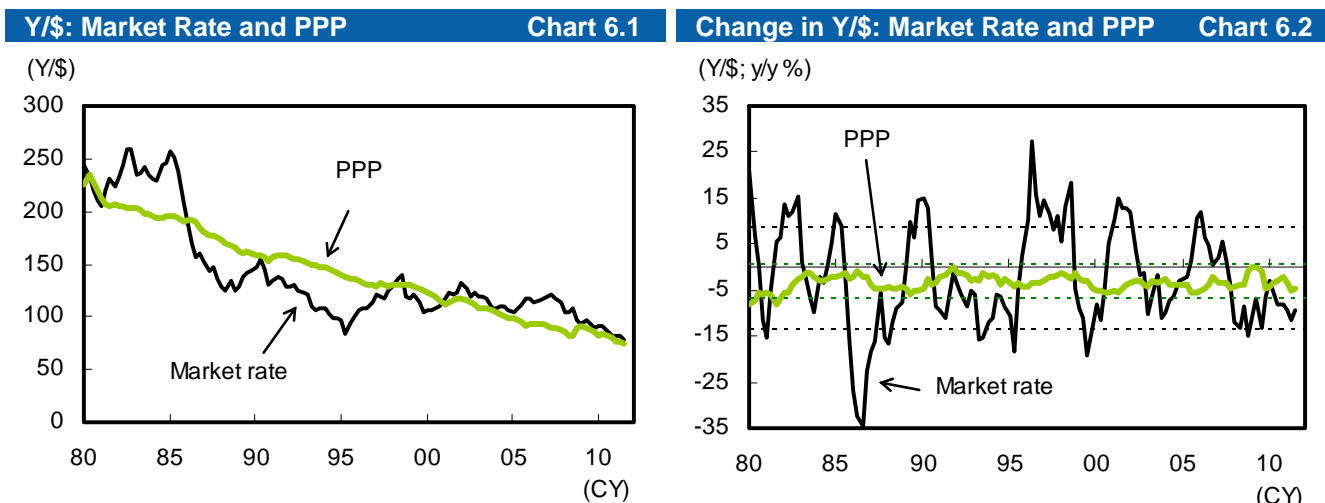
Market exchange rates and PPP

It will be beneficial at this point to examine the market yen/dollar rate and purchasing power parity (PPP), which nearly fully explain the movement of nominal effective exchange rates (charts 6.1 and 6.2).¹¹ PPP assumes that exchange rates are determined so that the purchasing power of nations equalizes to realize one price for identical products in the long term. Specifically, rate of change

10. Takao Sase (1995), "Amerika No Kokusai Tuka Seisaku; Buletonuzzu Taisei No Kaiko To Tembo" (US currency policy; retrospective and perspective of Bretton Woods system), Chikura Shobo (available in Japanese).

11. The nominal effective exchange rate is a weighted average of the exchange rate between two currencies weighted by trade volume, and it expresses the general external price of the yen.

in PPP corresponds to the difference in the inflation rates of the trade goods of respective nations (strictly speaking, our discussion concerns relative PPP since it employs growth rates rather than price levels). In charts 6.1 and 6.2, as a proxy variable for the prices of trade goods, the Domestic Corporate Goods Price Index is used for Japan and the Producer Price Index for the US.¹² Our discussion below of PPP will assume PPP as measured by trade goods.



Source: Bank of Japan, US Bureau of Labor Statistics; compiled by DIR.

Notes: 1) Purchasing power parity (PPP) estimated for the period from Jan-Mar 1970 to Jul-Sep 2011 based on the following equation:

$$\ln(Y/\$) = 5.086 + 1.163 \times \ln(\text{Japan's Domestic Corporate Goods Price Index} / \text{US Producer Price Index}).$$

Not a big difference was seen when PPP was estimated based on consumer prices or unit labor cost.

2) Horizontal dashed lines denote "average \pm standard deviation" for PPP and market rate, respectively.

Market exchange rates considerably more volatile than PPP

First, we can see in Chart 6.1 that PPP does portray the trend of market exchange rates. Thus, theory proves to be applicable in the long term. These two statistics rarely coincide, however. In the mid-1980s to 1990s, the yen appreciated to a level far above PPP. Next, we can see in Chart 6.2 that the year-on-year rate of change differs considerably for PPP and market exchange rates. Standard deviation, which expresses the degree of variability of the rate of change, is 11.1% for market exchange rates and a much more stable 3.6% for PPP (from Jan-Mar 1980 to Jul-Sep 2011). Factors thought to influence the differences in the inflation rates of trade goods include the growth rate of wages and the production structure (input ratios for labor, intermediate inputs, and capital) of the trade goods sector, and the rate of technological progress. These factors change gradually at the macroeconomic level, and the movement of relative prices is moderate. Market exchange rates, however, change in accordance with such indeterminate factors as the occasional news that sways forex markets, differences in nominal market interest rates, and the outlook for relative inflation rates. As a result, they can at times swing widely. Also, since a floating exchange rate system by its nature increases future uncertainty, volatility is magnified by the inability to fully hedge currency risk.¹³

Yen appreciating upward from PPP adversely impacts Japan's economy

Market exchange rates deviating from PPP as measured by the prices of trade goods would distort the allocation of resources and income and adversely impact the real economy. Companies generally manage production activities by

12. Due to statistical limitations, an ideal trade-good price index does not exist. Also, the PPP level indicated in the chart is not absolute. It will differ according to the statistics or estimation period used. The Consumer Price Index or unit labor cost of the manufacturing sector could also be used as price indices, and a similar trend is revealed by PPP derived from such statistics.

13. Ronald I. McKinnon and Kenichi Ohno (1997), "Dollar and Yen: Resolving Economic Conflict between the United States and Japan," MIT Press.

considering the optimum input of people and goods so as to generate as much profit as possible. Should the yen appreciate suddenly, companies must rethink the optimum allocation of people and goods to correspond with the new environment. Since a certain amount of time will be needed to respond appropriately, higher costs and other inefficiencies will be experienced during the period responses are inadequate, which will entail lower corporate profits, lower household income, as well as lower GDP. The yen has appreciated sharply on a regular basis since the 1970s, and each instance is thought to have had an adverse impact on Japan's economy (Chart 6.1).

Exporters did not change selling prices denominated in invoice currencies when the yen appreciated, and they responded by increasing cost competitiveness

When we review the behavior of Japan's exporters, we can see that many set product prices in invoice currencies, and, for the most part when the yen appreciated they did not increase such prices in order to maintain price competitiveness. Chart 7.1 illustrates the trend of the export prices of exporting industries (general machinery, electrical machinery, transportation equipment, and precision instruments) on an invoice currency basis and a yen basis as well as the trend of the nominal effective exchange rate. If changes in exchange rates are not passed through to selling prices, there will be no change in export prices on an invoice currency basis. Export prices on a yen basis, however, will change in accordance with forex rates. We can see in the chart that the movement of export prices corresponds fairly closely with these conditions. It is also evident from the chart that very little of the changes in exchange rates was passed through to product prices. In other words, Japanese exporters chose to bear the cost of yen appreciation themselves (on the Japan side). Specifically, they increased productivity or reduced manufacturing costs so as to secure profits.

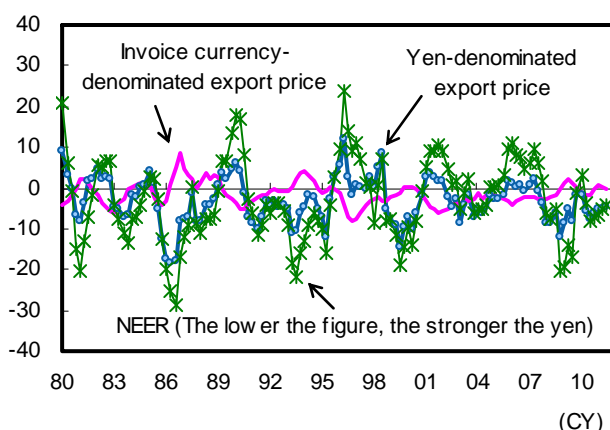
Compared to other developed nations, nominal wages improved less than labor productivity of Japanese manufacturers

Chart 7.2 offers an international comparison of the unit labor cost of manufacturers (nominal employee compensation / real GDP; ULC below). The ULC of manufacturers expresses the domestic production cost of trade goods. While costs include raw materials, such goods can be readily obtained by any nation through trade with foreign markets. Thus, differences in the production costs of the trade goods of nations are closely approximated by differences in labor costs, given the difficulty of the cross-border movement of labor. Chart 7.2 reveals that, when compared with nominal wages rising along with growth of labor productivity in other developed nations, nominal wages did not keep up with growth of labor productivity in Japan. Even as Japan achieved high labor productivity, it held growth of nominal wages below that for labor productivity, which enabled its ULC to fall. In other developed nations, nominal wages increased more than labor productivity in all periods, and ULC rose. Since 1990, while the labor productivity of Japan's manufacturers has grown at about the same pace as that of other developed nations, the growth rate of nominal wages has been less than one-third of the corresponding rate for these nations. Such corporate behavior is believed to have suppressed domestic demand, generated deflationary pressure, and induced further yen appreciation.¹⁴

14. Keiji Kanda, Hitoshi Suzuki, "Meaning of Weaker Yen in Terms of REER," 1 Dec 2010, DIR.

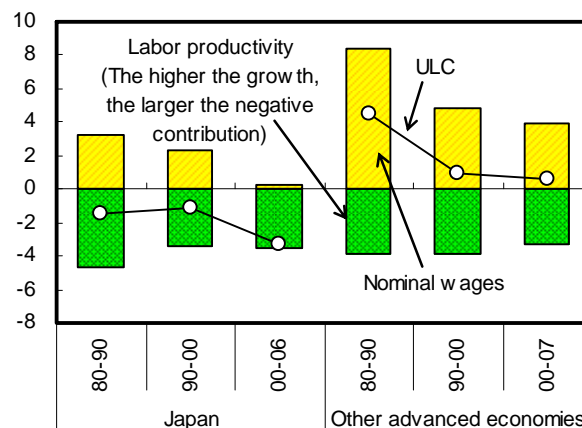
Export Prices for Export-oriented Industries and Nominal Effective Exchange Rate (y/y %)

Chart 7.1



Manufacturing ULC (% change): Japan vs. Other Advanced Nations

Chart 7.2



Source: Bank of Japan, EU KLEMS database; compiled by DIR.

Notes: 1) Yen-denominated and invoice currency-denominated export prices: average with 2005 weightings of export-oriented industries (general machinery, electrical machinery, transportation equipment, and precision instruments).

2) NEER: nominal effective exchange rate.

3) ULC: unit labor cost; manufacturing; per person and per hour.

4) Other advanced economies' ULC: avg of 16 countries (Australia, Austria, Belgium, Denmark, Finland, France, Germany, Italy, South Korea, Luxembourg, the Netherlands, Norway, Portugal, Sweden, the UK, and the US); Portugal: through 2006.

Relationship between PPP and market exchange rates goes both ways

What should be recalled at this juncture is that PPP essentially determines forex rates according to relative inflation rates. However, when forex rates deviate from PPP and undergo excessive shifts, such changes will alter PPP. That is to say, the relationship between PPP and market forex rates goes both ways. When the yen diverges greatly from PPP and appreciates sharply as occurred after the 1985 Plaza Agreement or in 1995, the allocation of resources and income becomes distorted to the same degree, the economy worsens, and PPP shifts toward the strong yen as companies work to reduce costs. This relationship between PPP and market exchange rates can serve to counter the reasoning behind criticisms repeatedly made by foreign authorities regarding Japan's currency intervention. It is claimed in such criticism that the appreciation of the yen since the Lehman Shock does not necessarily mean that the yen is strong since Japan's current real effective exchange rate corresponds to its long-term average. However, the current correspondence between the market exchange rate and its long-term average on a real basis is merely the result, and no consideration is given to the extent to which deflation and a strong yen have exhausted Japanese companies and households in the meantime.

Should expectations take hold that the yen will appreciate over the long term, wages and capex will be curtailed

Over a period of about 40 years since the 1970s, Japanese companies have repeatedly experienced the sharp appreciation of the yen. Just lately the yen recorded its all-time high in the postwar period. Moreover, confidence in the dollar has fallen due to the persistent current account deficits and massive budget deficits of the US. This history has the potential of causing companies to develop enduring expectations that the yen will remain strong over the long term. Should such expectations take hold, exporting companies may become reluctant to increase wages or to make capital expenditures in view of their long-term impact on earnings.¹⁵ As a matter of fact, in the mid-2000s when growth of the US economy and the yen carry trade resulted in a persistently weak yen, Japanese companies

15. While expectations for a strong yen are a positive factor for importing companies, since Japan has a trade surplus, it is highly probable that the net effect is negative. Also, goods that can be exported have high value added and are very competitive internationally. Since sectors producing such goods are the driving force of Japan's economy, investments and wages stagnating in these sectors will adversely affect the broader economy.

recorded strong earnings but they held down the rise of nominal wages. Capex also did not increase as much as initially expected, and concerns that companies would shift operations overseas and that Japan's industries would be hollowed out continued to smolder, as indeed they do now.

Simulation with a macroeconomic forecasting model

The yen appreciating 5% against the dollar would reduce real GDP by about 0.3%

It is not a simple matter to factor in the above observations and to calculate the degree to which Japan's economy has worsened because of a strong yen. A simulation with a macroeconomic forecasting model reflecting Japan's economic structure, however, should provide a certain point of reference.

Chart 8 provides an estimation of how Japan's economy would be affected by the yen appreciating 5% against the dollar using DIR's medium-term macroeconomic forecasting model.¹⁶ Figures in the chart indicate the deviation from the situation where the yen does not appreciate (standard scenario). The yen appreciating 5% against the dollar would reduce real GDP by around 0.3% from the second year forward. The deviation from the standard scenario is the greatest in the fourth year when it reaches -0.34%. In terms of demand components, yen appreciation against the dollar would reduce real exports with a lag, and this effect would spread primarily to capex. In addition, the yen's appreciation would lower import prices and stimulate import demand, and real imports would increase compared to the standard scenario. The worsening of the economy would ease the macro supply-demand balance, unleash deflationary pressure, and the unemployment rate would rise. While long-term interest rates would fall, the budget balance would worsen as tax revenues contract due to the worsening economy.

Impact on Japan's Economy of Y5 Appreciation against \$ (deviation from standard scenario; %; %pt)								
Chart 8								
	Real GDP							
	Private final consumption	Private housing investment	Private capital investment	Government final consumption	Public fixed capital formation	Exports	Imports	
1st year	-0.09	-0.07	0.00	0.00	0.10	0.14	0.00	0.45
2nd year	-0.27	0.01	-0.13	-0.52	-0.05	0.43	-1.15	-0.08
3rd year	-0.30	0.01	0.02	-0.58	-0.01	0.46	-0.87	0.16
4th year	-0.34	-0.01	0.08	-0.28	-0.01	0.50	-0.48	1.05
5th year	-0.28	-0.03	0.03	-0.13	0.00	0.40	-0.19	1.16
	GDP deflator	GDP gap	Unemployment rate	CPI	Long-term interest rate	Current balance	Fiscal balance (central & local governments)	
	(% of nominal GDP)							
1st year	0.08	-0.06	0.01	-0.02	-0.02	0.06	0.00	
2nd year	0.01	-0.17	0.04	-0.08	-0.09	-0.21	-0.07	
3rd year	-0.05	-0.18	0.05	-0.13	-0.10	-0.18	-0.10	
4th year	-0.12	-0.19	0.06	-0.17	-0.10	-0.23	-0.09	
5th year	-0.17	-0.16	0.06	-0.20	-0.07	-0.19	-0.06	

Source: Compiled by DIR based on DIR medium-term macroeconomic model.

2.3 Japan's economic structure especially vulnerable to sustained dollar depreciation

Japan highly exposed to the dollar

Japan is not the only nation that would be adversely affected by the prospect that declining confidence in the dollar would engender the sustained depreciation of the US currency or by the impact this prospect would have when combined with a highly volatile floating exchange rate system. Japan, however, is highly sensitive to the yen appreciating against the dollar owing to an economic structure that is especially vulnerable to the dollar's depreciation.

16. Hitoshi Suzuki, Mikio Mizobata, and Keiji Kanda, "Japan's Medium-term Economic Outlook, June 2011," 3 July 2011, DIR.

Share of dollar-denominated goods in Japan's exports high compared to other major nations

For example, a significant proportion of Japan's export prices are denominated in dollars, and Japan's exporting businesses are easily affected by the depreciation of the dollar.¹⁷ Chart 9 offers a comparison of the structural shares of invoice currencies for major nations. In the case of exports, only 42.2% of Japan's exports are denominated in the home currency, a figure that is far lower than for other nations. In contrast, the share of dollar-denominated exports is 47.4% for Japan, a high figure compared to other nations. Only 6.5% of Japanese exports are denominated in euros. Since most of Japan's foreign currency-denominated exports are priced in dollars, the depreciation of the dollar has a considerable impact on Japan. As noted above, Japan's exporters have set product prices in invoice currencies, and when the dollar depreciated (the yen appreciated), they did not increase product prices in invoice currencies to maintain price competitiveness (they reduced export prices in yen terms). For the reserve currency nation of the US, the sustained depreciation of the dollar is increasing the competitiveness of US exporters. Also, since a large proportion of trade by eurozone nations consists of eurozone trade, the dollar depreciating against the euro does not have as large an impact for the eurozone as the dollar depreciating against the yen does for Japan.

		Exports denominated in			Imports denominated in		
	CY	Dollar	Euro	Home currency	Dollar	Euro	Home currency
Japan	2011	47.4	6.5	42.2	72.1	3.2	23.2
US	2003	99.8	-	-	92.8	-	-
Canada	2001	70	-	23	-	-	-
UK	2002	26.0	21.0	51.0	37.0	27.0	33.0
Germany	2004	24.1	61.1	61.1	35.9	52.8	52.8
France	2003	33.6	52.7	52.7	46.9	45.3	45.3
Italy	2004	-	59.7	59.7	-	44.5	44.5

Source: Annette Kamps (Aug 2006) "The Euro as Invoicing Currency in International Trade", ECB Working Paper 665; Linda S. Goldberg & Cédric Tille (Dec 2008), "Vehicle Currency Use in International Trade," *Journal of International Economics* 76 (2); Ministry of Finance; compiled by DIR.

Note: Japan based on Ministry of Finance, US based on Goldberg, and other based on Kamps.

Yen appreciation will narrow dollar-denominated trade deficit but have adverse effects on broader economy

The proportion of Japan's imports denominated in dollars is higher than that for other nations, and this share is far larger than that of Japanese exports denominated in dollars. For this reason, Japan has a deficit in the portion of its trade balance that is denominated in dollars, and the argument might be made that the yen appreciating against the dollar would be positive for Japan's economy. Japan's nominal export volume was Y67.8 trillion, and its nominal import volume was Y62.4 trillion in FY10. When these figures are multiplied by their corresponding shares of dollar-denominated trade and are netted against each other, Japan's dollar-denominated trade balance is found to be a deficit of Y12.9 trillion. While the appreciation of the yen may be beneficial when all conditions are fixed, in reality the fluctuation of exchange rates will cause many economic variables to change, such as reducing exports or lowering prices. A simulation with our aforementioned forecasting model factoring in these effects indicates that Japan's trade surplus would contract and that the benefits of yen appreciation are limited.

17. The point we wish to underscore in our report is that Japan's exporters responded to the appreciation of the yen (the lower price competitiveness of exports) through cost competition and capital expenditures as discussed above. When the yen appreciates, the foreign prices of yen-denominated exports will also rise (foreign importers will have to make payment by the yen, which is procured by their devalued currency). For this reason, the price competitiveness of Japanese exports will decline. What the invoice currency is merely concerns how quotations are stated; such prices are not a concern of discussions on the macroeconomy.

Foreign portfolio assets denominated in foreign currencies also easily influenced by dollar depreciation

Japan is the world's largest net creditor nation, and its external assets are also affected by the depreciation of the dollar. As of end-2010, Japan's foreign portfolio assets (denominated in foreign currencies and yen) totaled Y273 trillion. Of this amount, Y113 trillion was denominated in dollars. Meanwhile, Japan's foreign exchange reserves amounting to Y89 trillion are thought to be mainly denominated in dollars. Dollar-denominated portfolio assets and currency reserves together total Y202 trillion, which account for 71% of foreign currency-denominated portfolio assets and foreign exchange reserves (Y284 tril). While the dollar assets held by Japan can be viewed as preparation for the external payments that will accompany growth of imports as Japan becomes a hyper-aged society, dollar assets may also be converted into yen, or external transactions may be carried out in currencies other than the dollar. Thus, there can be little doubt that Japan's external assets are adversely affected by the dollar's depreciation. Clearly, Japan has an economic structure that is easily influenced by the dollar's depreciation both in terms of flow, such as exports, and in terms of stock, such as external assets.

The discussion in Section 2 can be summarized as follows. Since the US is not fully fulfilling its obligations as a reserve currency nation, positioning the sustained depreciation of the dollar as our basic scenario cannot be avoided. In addition, the excessive volatility of a floating exchange rate system has not only directly worsened Japan's economy, but it is also thought to have produced a vicious cycle of sluggish domestic demand, deflationary pressure, and the further appreciation of the yen on account of exporters' strong tendency to restrain the growth rate of nominal wages so as to maintain price competitiveness.

3. Long-term Measures for Dealing with a Strong Yen

3.1 Curbing volatility of the floating exchange rate system

We have argued that the current dollar reserve currency regime will likely be maintained if the sustained depreciation of the dollar continues, and also that the responses of Japanese companies to the shortcomings of a floating exchange rate system in the midst of the dollar's weakening trend have led to a sluggish economy and the further appreciation of the yen. If our analysis is correct, what are the strategies that Japan should embrace?

Treating the symptoms will not solve the vicious cycle between a strong yen and deflation

It should be evident from the past that the vicious cycle between a strong yen and deflation cannot be broken by treating the symptoms through stimulative fiscal and monetary policies and currency market intervention. Also, while it will be important to view a strong yen positively and to increase foreign direct investments, if prospects for a stronger yen cannot be dispelled, it will be difficult to expect significant returns from investments and to maintain a positive view about the future of Japan's economy. Companies do not base their investment decisions solely on current investment costs. They balance such decisions with future expected returns. While a strong yen does lower investment costs, if the yen continues to appreciate, future expected returns will diminish. The benefits of a strong yen are most clearly realized in situations where it is possible to anticipate that the yen will depreciate in the future.

Building a system to curb adverse effects of a floating exchange rate system

To break the vicious cycle between a strong yen and deflation, the key perspective needed is how to deal with the sustained depreciation of the dollar. While it may take some time, long-term measures that address the strong yen are required. As a first step, it will be beneficial to build a system to curb the adverse effects of a floating exchange rate system. As noted above, a floating exchange rate system not only reflects the price shocks of the real economy but it also can at times undergo extreme fluctuations as it reflects various financial shocks and the expectations (forecasts) of market participants. From the viewpoint of restraining as much as

possible disturbances ensuing from the expectations (forecasts) of market participants, it will likely prove effective if national authorities provide indicators or rules that will serve as a reference for market participants and to implement such indicators or rules. Taking the extreme case of a fixed exchange rate system, since market participants always understood what the authorities believed desirable exchange rates to be, it is quite plausible that the uncertainties of economic transactions were reduced. The basis of our proposal is to draw out the benefits of a floating exchange rate system while lessening future uncertainties.

No one knows desirable exchange rates under the current floating exchange rate system

In the current floating exchange rate system, currency authorities do not state what they believe desirable exchange rates to be, and there is no shared method for determining desirable exchange rates. The common understanding of national authorities is likely no more than intervening when exchange rates reach levels that they believe they cannot accept. Since intervention appears to be based on sentiment, market participants will not have accurate answers to such questions as what authorities believe desirable levels are or what they base their thinking on. Consequently, market participants must engage in foreign exchange transactions guided by such factors as the announcements of the authorities, news, and short-term interest rate gaps.

Nations should commit to monetary policies where PPP is referenced in determining exchange rates

Given this situation, it might be beneficial to work toward the development of international rules where (1) nations (major currency nations) develop trade-good price indexes based on uniform methods and (2) the US and non-reserve currency nations are mandated to intervene in currency markets when market exchange rates deviate by a certain degree from their respective PPPs. Moreover, (3) the US should work toward achieving a balanced primary balance, maintain stable prices, and manage its budget with restraint. The key point of our proposal is having national authorities and market participants share the same thinking about what desirable exchange rates are. No doubt other methods exist for determining optimum exchange rates. PPP, however, is supported in empirical terms and is easy to calculate, so it readily holds the attention of market participants. There will likely be considerable room for examining the degree of commitment to be made, such as how much deviation will be allowed. The crucial point will be to reduce excessive exchange rate volatility to lessen its adverse impact on the real economy and to achieve a situation where economic agents are able to respond to changes in exchange rates.

Can commitments be made?

Naturally, it will not be easy to reach such an agreement in our complicated global political community. In particular, nearly 100% of the international trade of the US, the reserve currency nation, is denominated in its own currency. If the US decides that the gradual depreciation of the dollar is in its national interest, it may not agree to a commitment that would restrict its own monetary policy. Other nations also tend to give priority to domestic conditions rather than exchange rates in implementing monetary policy. Their stance appears to be one where they will steer monetary policy to deal with domestic issues but where they will not steer exchange rates as a general rule. Japan intervenes in currency markets by sterilizing its intervention. Since a strong yen is a significant economic issue for Japan, it may not be exceptionally difficult for Japan to subscribe to the commitment we have described.

Given present strong economic ties, stable exchange rates will benefit all nations

The economic structure of our present-day world is one where globalization has strengthened ties between nations and brought business cycles into closer synchrony. Given such an economic structure, the excessive volatility of forex rates accelerating the economy of one nation and braking that of another will magnify the fluctuations of the world economy. If such a factor impairing the global allocation of resources can be tempered, this would contribute to the further development of the world economy. What all nations are seeking to achieve is

stable and sustained economic growth. Committing to stable forex rates even if some independence of monetary policy is lost is certain to bring enormous benefits to all nations. If a certain nation thinks only of itself and depreciates its currency when the domestic economy worsens, this will unleash a round of competitive devaluations whose effects will circle back to the disadvantage of this nation. This adverse potential will grow only greater with the globalization of the world economy. Major currency nations should conceive the international currency system according to such a global perspective, and Japan, burdened as it is with a strong yen, should promote such a strategy.

3.2 Indirectly encouraging the US to stabilize the dollar

Becoming actively involved in the debt problem and the financial crisis of the eurozone and in the economic development of Asia are steps that would indirectly encourage the US to be more disciplined about managing its reserve currency.

Becoming actively involved in the debt problem of the eurozone

Hopes are being placed on the euro as a reserve currency of the future. Should the European debt problem be successfully solved, such a possibility should strengthen again. Under current conditions, however, funds are unlikely to flow toward the euro, and there is little incentive for the US to fully fulfill its reserve currency obligations. Now that S&P has downgraded the credit rating of US Treasuries, President Obama is working to restore budgetary discipline in the midst of Congressional gridlock, and such efforts appear to be drifting off course. Also, the US's persistent current account deficits remain unsolved.

To encourage the US to act more like a reserve currency nation, Japan as a partner ought to become more actively involved in the debt problem of the eurozone. There is a strong likelihood that a considerable amount of funds will be needed to put the debt problem to rest. Japan assuming the risk of a provider of funds in this process would contribute to the stability of the world economy in the short term, leading to a more stable dollar in the medium and long term.

Increasing the presence of Asia as a source of final demand to reduce dependence on the dollar

From the perspective of foreign exchange, it will be important for Japan to participate in the growth of Asian trading partners. As noted above, the dollar is the invoice currency of a sizable portion of Japan's exports, a situation that holds true for exports to Asian trading partners. Of Japan's exports to Asian trading partners, 48.6% are denominated in dollars, nearly the same as the percentage of exports denominated in yen (49.3%). According to Ito, Koibuchi, Sato, and Shimizu (2009),¹⁸ the large percentage of exports to Asian trading partners being denominated in dollars is explained by (1) major export products such as electronic devices/components being generally denominated in dollars, (2) the region of final demand or the entities of final demand being the US or the foreign affiliates of US companies, and (3) the low cost of dollar exchange transactions or the low cost of hedging dollars. Asia as a trading partner of Japan continues to be more a production platform than a source of final demand. Based on our reasoning, should Asian nations achieve further economic development and shift to more domestic demand-led economies, it is possible that their strong ties to the US will change. The growth of Asian economies will help expand Japan's economy and increase the presence of Asia as a source of final demand in the world economy. What form the structure of Asia's invoice currencies will take in this process is difficult to foresee. Even so, the possibility will arise of the dollar losing some of its share of invoice currencies. In Asia, transactions involving local currencies are small and related foreign exchange costs high. Given this situation, it is quite possible that transactions will shift from being invoiced in dollars to being invoiced in yen. Such

18. Takatoshi Ito, Koibuchi Satoshi, Sato Kiyotaka, and Shimizu Junko (Jun 2009), "Inboisu tuka no kettei yoin to ajia kyotsu tuka basuketto no kadai" (Conditions to become an invoice currency and hurdles for a single Asian currency basket), Research Institute of Economy, Trade, and Industry (available in Japanese).

a development will be another way to encourage greater discipline by the US as a reserve currency nation. To accelerate growth and development of Asia, Japan will need to develop an Asian strategy closely tied with the region (economic partnerships with Asian nations) that accelerates the reciprocal movement of people, goods, and money.

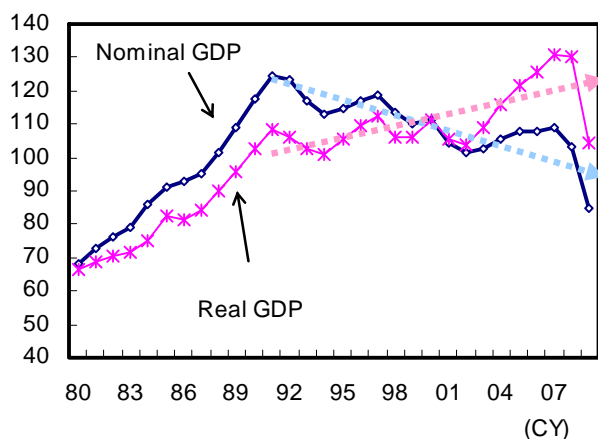
3.3 Changing the nature of sales of Japanese manufacturers

To break the vicious cycle between a strong yen and deflation from the side of corporate behavior, efforts on the part of Japanese manufacturers to make products whose selling prices do not fall and to develop marketing methods where selling prices need not be reduced will be highly significant.

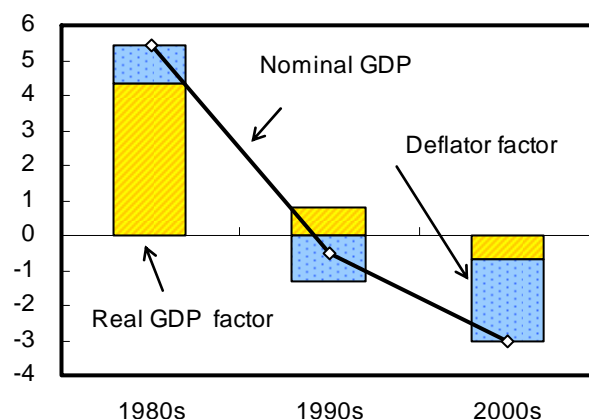
Nominal GDP of Japanese manufacturers has trended downward after peaking in 1991

As has been described above, in the face of the dollar’s ongoing depreciation against the yen, Japanese exporters worked to reduce costs in order to maintain price competitiveness (charts 7.1 and 7.2). As a result, real GDP, the statistic we usually follow, has managed to increase, but nominal GDP has decreased. Chart 10.1 compares the trends of the real and nominal GDPs of Japan’s manufacturing sector (1980 to 2009). While real GDP has risen and fallen, it was on an uptrend to 2009 when the effects of the Lehman Shock became pronounced. In the case of nominal GDP, it had already peaked in 1991 and has been on a long-term downtrend since then (dashed blue line). Despite Japan experiencing its longest postwar expansion between 2002 and 2007, for which the manufacturing sector was the driving force, the sector’s nominal GDP (nominal value added generated by the manufacturing sector; solid blue line with box markers) barely escaped tracing a long-term downtrend (dashed blue line).

Japan’s Manufacturing Industry GDP (¥ tril)
Chart 10.1



Japan’s Manufacturing Industry GDP (% change in period)
Chart 10.2



Source: Cabinet Office; compiled by DIR.
Note: GDP data: 2000 basis; 2000s: 2001 to 2009.

At the macro level, manufacturers have had a loss structure since 1990

GDP is a statistic derived by excluding intermediate inputs from total production. In conceptual terms, it is similar to the gross profit of companies. Real GDP also has a quantitative meaning. Hence, when we consider the earnings structure of the manufacturing sector since 1990 at the macro level, it is possible to say that firms reduced selling prices (GDP deflator) to increase sales volume (real GDP) but in so doing they created a loss structure where sales amounts (nominal GDP) decreased (Chart 10.2). As long as sales amounts are declining, it is not feasible to increase the allocation of income to employees for Japan as a whole, and tax revenues would also drop. These will become factors that worsen sluggish domestic demand, deflationary pressure, and the budget deficit problem. Despite individual

companies acting rationally to maximize profits, the expansion of Japan's economy did not necessarily follow.

Companies are agents who reduce costs and increase value added and the prices of products with the view of maximizing profits. What is desired of individual companies is to invest in research and development to create products that are differentiated from other companies and nations and to steadily build a business structure through branding and marketing so prices need not fall even when the yen appreciates. In macro terms, this would mean not only an increase in real GDP (volume) but also an increase in nominal GDP (volume x price), which corresponds to sales amounts. If such behavior by the corporate sector can be promoted through government and private-sector efforts, it will be possible for companies to shift to a profit structure from the previously mentioned loss structure. This in turn will have the potential of breaking the vicious cycle between deflation and a strong yen, which constitutes a macro phenomenon.

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