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The Heisei Recession: An Overview

Koichi Hamada
Yale University

Abstract

The prolonged recession in recent Japan continues much longer than a decade. One observes exciting policy-related discussions over the diagnosis and the effective prescriptions to the problem. Gradually, academic economists have been accumulating scientific investigations into the nature and the causes of this "great" recession.

Economic theory faces a test of its applicability in the light of the novel situation, unobserved in the world economy at least after World War II, where the price is falling, the short-term interest approaches virtually the zero limit, and the demand for money is insatiable.

This paper in an attempt to relate current policy debates to economic theory and some empirical results. The causes of this long recession certain include real factors such as the slowing down of the capacity growth, and difficulty of the adjustment of the Japanese institutions to changing environment. At the same time, one cannot neglect the effect of abrupt monetary contraction in the early 1990s, and resulting collapses of asset bubbles, which triggered the inefficacy of financial intermediation.

However, since the most acute symptom of this recession is continuing recession, the first-hand remedies should be sought in monetary policy. The traditional interest policy or the policy to increase base money is limited. Purchase of long-term government bonds, and interventions in the exchange market are still effective policies to solve the situation. Moreover, inflation targeting or price-level targeting will be the most appropriate policy prescription in Japan where the liquidity trap persists because of a kind of liquidity trap.

The paper concludes with the political economy question. The reason why appropriate policies are not adopted is certainly because of the vested interests. Is the situation not, at least partly, attributable to the mere lack of understanding in simple economic logic on the part of politicians, of policy makers and even of economists?

The Heisei Recession * An Overview

Koichi Hamada
Yale University

I. Introduction

When the Emperor Akihito came to the throne in 1889, the new era was named “Heisei” in the hope that it would bring good luck to Japan. The present era is named after a Chinese classic, The Book of Five, and Heisei in this case means “Peace and Success.”¹ Betraying the hope for good luck, the Japanese economy is struggling to recover from a prolonged recession of more than a decade. This paper gives an overview of that recession and, from a primarily theoretical viewpoint, explores the causes of this long and frustrating process and proposes possible remedies for lifting the Japanese economy. It aims to connect the ongoing discussions on diagnoses of current chronic symptoms and prescriptions of possible remedies to a more scientific body of economic literature.

To readers who are familiar with Japan’s chronic record of unemployment and deflation, it may not be necessary to repeat in detail the historical course of events in Japan. The overall picture of the history of deflation and recession are, however, briefly summarized as follows (see e.g. Cargill, et al., 1997; Hoshi and Kashyap 2001).

Booms and bubbles flourished in the stock market as well as in the land market in the late 1980s². The Nikkei Dow-Jones Index peaked at ¥38,915 at the last session of the decade on December 28, 1989. The total land value of Japan was claimed to have been, at that time, four

¹ Shin-ichi. Goto (1990) indicates that the former era “Showa” was also taken from a Chinese classic, *The Document of Yao*, and it meant “Enlightening and Peace.” The long era of Showa turned out a very stormy era with Japan’s expansion into Asia, World War II, defeat, and a remarkable recovery from it.

² In the late 80s, being carried by a (company) hired taxi from Tokyo to a distant suburb, I remember the driver saying, “The city of Tokyo is glowing and dancing. Orders for hire taxies pile up any instant of time.”

times as large as the total land value of the United States. Whether or not these bubbles are reinforced partially by the international coordination of monetary policies is an interesting question, though it is outside the scope of this paper. International goodwill toward the United States was mentioned frequently and partly used as a pretext for continuing the (at the time) historic low discount rate (2.5%) policy from February 1987 through May 1989.

There was a worry about the danger of overheated asset markets even in the Bank of Japan (BOJ). It was not until the spring of 1989 that the monetary authorities changed their low interest rate policy. The BOJ reversed the gear in 1989 and raised the discount rate several times.³ The BOJ succeeded in containing the asset market bubbles. In fact, as will be seen, it succeeded too well, and, as an afterthought, created preconditions for deflation. The Nikkei Index in this century once fell to less than ¥9,000, a decline of more than 75%⁴. Land value fell as well, and it created a “balance sheet” problem for most economic agents to be discussed later.

The Consumer Price Index (CPI) became stable and after 1998 its increase rate became negative as indicated by Chart I-(3).⁵ During the land value crisis, extra funds of banks were siphoned into the Special Resident Finance Companies (Jusen), which collapsed in 1992. This triggered the long drama of financial collapses and their chain reactions. The Fiscal Consolidation Plan proposed by the Hashimoto Cabinet increased the rate of consumption tax from 3 to 5% in April of 1997. The timing of this increase was unfortunate since it occurred just before the outset of the East Asian Financial Crisis in summer of the year. Near panic followed when the Hokkaido Takushoku (Colonial) Bank and the Yamaichi Securities became bankrupt at the end of the year. As Paul Sheard argues, the decline in asset prices damaged the balance sheets of almost all economic agents, firms, banks (and other intermediaries) and households. There are many estimates for remaining non-performing debts at the end of 2002,

³ Yasushi Mieno, then the BOJ Governor, was the fire extinguisher, and hailed as the *Onihei* of the Showa era. *Onihei* is a popular detective, who is like a ‘Sherlock Holms’ of Japan in the Tokugawa period.

⁴ I happened to be at the main office of a securities company in Tokyo in the new year of 1990. The President made a new-year speech to employees, I heard, that the 1990s would be a decade under ‘lightening and whirlwind.’ He turned out to be too true.

⁵ If we take account of the increase in consumption tax raise in 1997, the CPI increase became negative since 1995.

ranging from ¥42 trillion to more than ¥100 trillion. No matter which of these estimates are correct, the burden on the financial intermediation process in Japan is overwhelming.

In order to cope with these problems, the BOJ that initially might have acted too strongly against asset bubbles, began to lower the discount rate. After a succession of policy changes for lowering discount rate, in February 1999, the short-term interest rate guided by the BOJ reached 0.15 %, and in March Japan's financial market entered the period of virtual "zero interest rate." Accordingly, the conventional method of controlling the monetary conditions through the imposition of short-term interest rates became ineffective. There was an interlude in the process of easing monetary policy when the BOJ diverged from this zero interest policy for about half a year beginning in August 2000. The Bank was often criticized as *gyakufunsha* (retro-firing of a jet). Nonetheless, in 2001 it initiated the policy of quantitative easing, the effect of which is still to be determined. Quantitative easing refers to monetary policy that is conducted through quantity index such as money supply rather than by interest rates. The government budget accumulated huge deficits while the government, particularly the Obuchi Cabinet (June 1998-April 2000) engaged in the Keynesian expansion policy to cope with several macroeconomic crises.

During these years, academic as well as business economists, mostly Japanese and sometimes foreign, have been in heated debates over the causes of the Heisei Recession as well as over the remedies for coming out of the recession. Are the causes chronic due to the declining growth potential of the Japanese economy or cyclical due to the lack of demand? Should the remedies be sought in microeconomic policies, particularly with regard to structural reforms? Or should the remedies come from macroeconomic policies? In such cases, should we rely on fiscal measures like tax reduction and increased government spending? Or should we rely on monetary policy even though the conventional interest policy has already reached an impasse. In this paper, we try to bridge the day-to-day policy oriented, journalistic discussions to more objective and empirical discussions that are based on economic theory.

In this paper, I will examine the probable causes of Japan's continuing recession after the 1990s. Real factors are important (Section II), but the prolonged recession cannot be explained without account of monetary factors and monetary policy mistakes (Section III). In Section IV, I will

explore some possible remedies, in particular, in monetary policy. In the Epilogue, I will narrate some of interesting moments of my experience as a policy advisor to the Japanese Government during 2001 to 2003, and pose some of the questions regarding what prevents the adoption of desirable remedies. In other words, are the obstacles from resistance of those with vested interests or from ignorance of proper macroeconomic mechanism on the part of the policy makers as well as the public?

My conclusions are roughly as follows. In any national economies, real factors and monetary factors are behind the economies' actual performance. The Japanese economy is not an exception. Real factors such as aging population, competition from labor abundant neighboring economies, and convergence of technical skills to the international plateau certainly contributed to Japan's growth potential. Structural reforms, in particular, in the form of deregulation to improve private incentive mechanism are always needed, and, in the present situation, especially necessary in coping with changing domestic and international environments.

Nevertheless, inefficacy in microeconomic incentives cannot explain the continuing high rate of unemployment under deflation. One can never neglect the monetary aspect of the problem and the importance of monetary policy. Since deflation, which is intrinsically a monetary phenomenon, is one of the serious symptoms of the present situation, macroeconomic policies, particularly monetary policy must have a crucial role. Conventional monetary policy that uses short-term interest rates may be ineffective in the current "zero interest situation." Monetary policy, however, has effective channels through open-market purchases of long term government bonds, intervention in the exchange market, and the use of policies like inflation targeting that affect the inflationary (deflationary) expectations of the public.

With regard to the political economy aspect of the long recession, vested interests are certainly important factors in resisting necessary microeconomic reforms. At the same time, in macroeconomic issues, it is surprising to see the lack of understanding of macroeconomic mechanisms among politicians, bureaucrats, business economists and academics. In this sense, J. M. Keynes was right in stressing the importance of ideas in contrast to interests.

II. 'Real' Causes of the Heisei Recession

(1) The Supply Side Story

Let us start from the long run, 'real'⁶ causes of the current recession. Population growth declined substantially, and the labor profile is rapidly aging. It is difficult for Japan to improve its technical level by borrowing from foreign technology because it has reached a plateau in the international technical frontier. Moreover, the Japanese economic growth is affected by its competition with many Asian economies that possess ample supplies of labor. Accordingly, it is threatened by the possibility of "hollowing out."

A decline in population growth, growth theory tells us, lowers the natural growth rate declines, and accordingly the potential growth rate of the Japanese economy. In addition, the aging process itself will create a decline in growth rate. If the proportion of younger generation members is declining and expected to decline in the future, then the current younger generation may have to save more in order to secure good care from the future "younger generation." (See Hamada and Raut 2003).

The high growth era (Kosai 1981) of the Japanese economy in the 1960s and in the 1970s was facilitated by the process of borrowing technology abroad. During the 1980s, many westerners praised (or envied) Japan as "number one" and started to adopt and emulate Japanese technology in a part of manufacturing industries. The United States and others learned from Japanese experiences and they actually "came back."⁷ Currently, where some industries are leading the world in technology, and some service sectors like financial and banking sectors are lagging and slow to modernize because of inertia and remaining regulation, it is hard to rely on the momentum of borrowed technology.

Trade competition from labor-rich neighbor countries and growing opportunities for foreign direct investment (FDI) in those countries tend to work to reduce the real wage of Japanese

⁶ I use the jargon 'real' as used by economists, that is, real causes are 'non-monetary' ones.

⁷Ingrassia and White (1995) is exactly titled "Come Back."

workers. The effect of free trade on factor income is a rather straightforward lesson from trade theory. The factor price equalization theorem implies that real wages tend to converge if technology in partner countries is similar to technology in Japan. In practice, technology is different across the border. There still exists a gap in the average real wages between the special district Hong Kong and the main part of China. Even if adjusted for the purchasing power, the real wage of the former is six times as large as the latter. Thus free trade with labor-rich countries may reduce real wages in theory, but not likely in practice.

The real national income should be improved, however, by trade according to standard trade theory. In other words, though real wages may become negatively affected by increasing trade, national income will increase as a result of trade. The increase in FDI under the same technology will have favorable effects both on the national income and on the wage distribution.

The effects of increased productivity in other countries on the Japanese economy are somewhat different from the effect of freer trade. The effect of increased productivity, that is, the effect of an expanding production frontier is favorable to Japan unless it worsens the terms of trade for Japan. (Itoh and Kiyono 1987, Yano 1983). This exceptional case could occur when the comparative advantage in Japan's export industries is lost to developing countries. In other words, Japan may lose in national income levels when export items change their exporting status and become import items. (Hamada , forthcoming). This theoretical prediction is more or less ascertained by calibration models (for example, Abe and Urata 2002).

From these considerations, we can see that there are many probable reasons for the Japanese growth potentials to reach a refraction point.

The strongest case for real causes, or the strongest case for the supply side as the basis of this recession, was set forth by Hayashi and Prescott (2002). They note the fact that between 1988 and 1993 the weekly working hours of Japanese workers declined on average from 44 hours to 40 hours. Using the framework of an indivisible labor input by Hansen (1985), they claim that the decline of Japanese per capita income is mostly explained by the reduction of labor input. They argue that capital deepening continued during this "recession," and that the long

stagnation came from the supply side rather than the demand side. These observations may of course be consistent with the real business cycle view that capital deepening raised the wage-rental ratio.

Their arguments can be justified if one regards the historical outcome as the succession of equilibrium states between supply and demand, as many real business cycles (RBC) economists claim. If the supply side is dominant, then the possible remedies for this prolonged recession can be searched for among real or microeconomic possibilities such as tax-subsidy incentives, improved job matching, deregulation and structural reforms. It follows that the role of aggregate demand policies will be merely perfunctory except for the effect that monetary expansion may reduce the public debt burden without causing inflation (Andolfatto 2003).

The remaining questions to their results equal questions to the RBCs theory, that is the question if one can regard each market, for example, the labor market, is determined by the interaction of supply and demand. Hansen (1985) justifies that labor is buying a lottery ticket in the labor market so that, even taking account of chances of unemployment, equate the expected wage to the marginal disutility of labor (which also takes account of unemployment possibility.) This is logically a consistent claim. If that is the case, however, when mandatory working hours were shortened or working were at least discouraged, that would normally result in a smaller rate of unemployment rate and lower real wages. For, shortening of working hours would work as the mandatory work-sharing. The rate of unemployment did not decrease after the shortening hours, but increased after 1993. Also real wage rates kept increasing rather than decreasing until very recently. If the market-clearing story is right, why did the Phillips curve not become vertical? Hayashi and Prescott present a simple analysis from supply side that is robust enough to cope with criticisms, but there seems to remain the question if the analysis is compatible with data of unemployment and real wages.

Thus, nobody would deny that structural changes occurred in the Japanese economy during the last two decades of the twentieth century so much so that the capacity growth path tilted downward. The question is to what extent the downward shift in the capacity growth path is responsible for this long recession. Many observations seem to tell, in my opinion, that the role of demand was still substantial to the causes of the Heisei recession.

Accordingly, I primarily doubt that this long recession was an equilibrium situation. Wage rigidity, the zero ceiling of the interest rate and the financial effect of deflationary expectation through collateral values are all affecting the low employment, and low growth (see also Hamada 2002).

(2) Multiple Equilibria

Even if we regard the current recession as an equilibrium phenomenon, we cannot preclude another possibility, that is, the possibility of the emergence of a low equilibrium among multiple equilibria. In Japan, we find that many golf clubs and tennis courts prospered, but many of them were closed because of the recession⁸. When golf lovers expect the growth of future business opportunities and an increase in their income, they play golf. The employees of the golf club earn wages and spend them on shops in the town, which in turn increases the income of golf players. This is the optimistic, “high,” equilibrium. When golf lovers develop pessimistic prospects for the future, they stop appearing at the course, and the income of golf-course employees declines. This is the pessimistic, “low” equilibrium. Japanese economy may be regarded as having fallen into the trap of the low equilibrium.

If you visit Tokyo, you may be surprised by the long cues of taxis surrounding major hotels and train stations⁹. This was unthinkable during the bubble years in the 1980s, when people competed to hail a taxi or waited hours for a late-night taxi. Here again, people do not take taxis because they are insecure about employment and future income. When taxi drivers cannot earn income and spend less, and that may turn into some loss of income for their clients.¹⁰ The possibility of multiple equilibria show the importance of expectations to which

⁸ Some of the bankruptcies, in particular, of the golf courses are certainly associated with the failure of real estate management. We abstract from this aspect here.

⁹ Still, some foreigners watch the skyscrapers and city light of Tokyo and call the economy is a “golden recession.” They do not notice, however, that in parks just behind the main street, there are substantial numbers of “blue tents”, that is hatches for homeless people.

¹⁰ The readers may respond quite rightly that the long cue is not necessarily due to macroeconomic problems

we will pay more attention later.

(3) The Present Recession as Balance Sheets Problems.

Next we will turn to the question of why this refraction of growth potential gave the Japanese economy such severe shocks. I agree with Paul Sheard (cf. Sheard 1992) in that the prolonged recession was triggered by the imbalances, or dislocations in the balance sheets, that were caused by the reversal of expectations on the part of the public. As we have already seen, many real or microeconomic shocks occurred to trigger the reversal of trends as well as the expectations about them. We will see how monetary and macroeconomic shocks contributed to the reversal of trends and the reversals of expectations.

Once the trends do not continue as expected, the asset side of the balance sheet is harmed substantially and immediately. Asset present values are the discounted value of the future cash flow so that the values will be most seriously damaged when the reversal or the downward refraction of trends takes place. The credit (asset) side of balance sheets of almost all economic agents used to be inflated by the expectations of “right shoulder up” before the reversal of trends, but after the reversal of trends the value of the credit side will drastically be reduced. This in fact occurred in Japan in reaction to adverse real shocks as well as to deflationary monetary shocks.

Take the balance sheet of a firm, for a start. Under the old accounting rule (*shutoku genka kaikei*), assets were valued not by the current economic value but by the cost of acquisition. Therefore, the economic loss due to the reversal of expectations was hidden from the public. Now the accounting rule has been amended so that the market values of securities should be used. The loss became apparent. Whether the loss is hidden or apparent, the loss on the asset side should be adjusted by the reduction in equities of the firm or the (de facto, I mean payable) reduction in liability. The reduction of equities of the firm will create a reduction of an asset

but due to the legacy of past regulations in the taxi business and reluctant attitude on the management of taxi companies to change the inertia.

item of holders of the stock. The reduction in the payable liability will mean a non-performing loan, that is, a reduction of an asset-side item of other economic agents. Thus the chain of non-performing loans continues.

(4) Over-adjustment of Japanese Institutions

We should notice that the business environment, the system of entrepreneurial motivations, and government regulations all contributed to the malfunctioning of economic incentives in the Japanese society. Just as dinosaurs prospered so well because they adapted themselves to the environment, they disappeared from the globe so quickly when a different climate emerged. The Japanese organization adjusted well to the ever-growing environment. Not only production techniques were considered optimal at this time. Firms' organizations and banking systems were considered ideal as well. Once successful organizations started to be proud of their system, it was very difficult to adjust to the change in environment (See, with the marvelous application of this principle to the former Japanese army and Japan National Railways, Taichi Sakaiya 1996; also, for the rigidity of Japan's establishment, see Lincoln (2001).

Under the convoy system of banking, privilege for banks such as allocation of branch offices and the handling of foreign activities are *quid pro quo* associated with the amount of deposits banks collected. With regulated interest rates, banks are motivated to collect as much deposits as possible in order to win the game of deposit share expansion.

The Ministry of Finance (MOF), along with the Bank of Japan (BOJ), enjoyed the financial market that was under strong government control. Or more fair to say, large banks enjoyed the financial system that allowed them to enjoy extra rent because the competitive standard was set in such a way that it keep the weakest financial institutions to be barely alive. Officials from the MOF and BOJ enjoyed lucrative positions of "parachuting down (amakudari)."

The MOF, for instance, thought their convoy system of banking administration was a valuable system even worth exporting to developing countries. Indeed, the Main Bank System has the

advantages that banks avoid the monitoring cost by delegating monitoring to the designated “Main Bank,” and that they can diversify risks by lending to a firm jointly. This system worked well under normal situations in the growing economy because defection of main banks from taking responsibility when a debtor went wrong was constrained by the worry of sanctions from peer members as the logic of repeated game indicates. The main bank of a firm honored the task of taking care of the non-performing firm because of the implicit sanction of losing reputation. Now, non-performing clients are so common that banks are inclined to risk the loss of reputation by defecting from the Main Bank norm. Rather than to keep their promise and to remain in the reputation games, to take the exit option has often become the best strategy.

Banks used to compete hard neither in terms of explicit interest rates they offer to depositors and to borrowers, nor in terms of the quality of service, but in terms of implicit services such as visiting clients more often to solicit more deposits. Those inefficient devices are now to cease. In sum, Japan’s banking system needs to modernize to explain more incentive devices. This could be done primarily by deregulation, but, in order to facilitate the process, we need the clearance of non-performing debt that hangs over as cloud over the rational management of banks.

(6) Principles of Handling the Non-Performing Loans

Economic theory, in particular the theory of asymmetric expectations, offers various lessons on the desirable handling of non-performing loans (NPLs). Some of them are too elaborate for policy makers to implement in the current situation in Japan. There are at least three basic principles:

(i) “Let Bygones be Bygones:”

Clearing the NPLs should be done under the present situation, and what was done in the past

should not influence the decision to be made in the future.¹¹ Therefore, the principle of the present value accounting of securities (*jikakaikei*) and the present value accounting of all the assets (*genson kaikei*) are the natural conclusions of this principle.¹² *Jika kaikei* was finally adopted but *Genson kaikei* is yet to come. There is strong political resistance to the adoption of these new systems.¹³ Political processes in Japan put too much emphasis on the past legacy rather than considering effective strategies for the future.

In fact, past failures often influenced current behavior. When a manager in a bank has lent to a client who is bankrupt, what will he (in Japan, seldom she) do? He may try to delay the revelation of the worrisome condition of the client, possibly until after his retirement. Moreover, he will finance additionally the same client in order not to make his bad performance known to the public. Thus, the ghost of the past can influence the present and the future. This “rolling over” of inefficient loans to disturbed debtors is called *oigashi*, follow-up loans, in Japanese. This is in fact like the Ponzi game. In the case of the Ponzi game, only the borrower knows that she is cheating. In the case of *oigashi*, not only the borrower but also the lender knows that the borrower is in trouble. In other words, it is the case of the consented Ponzi game. Sakuragawa develops its theoretical analysis. To what extent financial problems are caused by this phenomenon of *oigashi* is an empirical question yet to be answered. But in the case of small and medium companies, governmental assistance seems to function as *de facto* roll over.

(ii) Criteria to Continue Business

The second principle was to determine whether to continue or to stop the operation of production or business activities when a firm is in excessive debt. Whoever studies the most

¹¹ In the finale of the first act of *Die Fledermaus* by Johann Strauss, they sing “Happy are those who forget what has been done and cannot be undone.” Human nature cannot often follow this.

¹² Mitsuhiro Fukao says, “It is no worrying about the horse-race tickets once the horse lost.”

¹³ A politician told me, “The current situation is exceptional for our economy. Isn’t it better to evaluate asset values at a normal time before to avoid extreme pessimism?”

elementary course of microeconomics knows that a firm should produce if and only if the short run marginal (or average) cost is smaller than the marginal revenue. Even if a firm incurs loss in the past, production or business activity will be useful so long as its marginal revenue exceeds the short run cost.

The problem of financial distress occurs when those firms that are earning short-term profit are prevented from continuing to operate. They cannot continue because the burden from the debt incurred in the past, or because banks are too cautious to lend to them. In spite of the pressure not to abandon small and medium firms, banks are under pressure to screen potential borrowers. Accordingly, there are possibilities for financial distress (Hoshi and Kashyap 2001). Chapter XIII of the bankruptcy law in the United States sets the stage for those firms to recover.

Japan's legal infrastructure for bankruptcy and reconstruction are rather complex in that several different procedures coexist. From the present standpoint, I may point out the two features that need to be improved.

First, as is the case in most bankruptcy laws in general, the decision to decide whether and how to operate the business activities and the decision to distribute the payments to various degrees of creditors should be separated. The Bebchek, Aghion, Hart and Moore (BAHM) proposal of transforming the debt into homogeneous equity claims should be seriously considered in Japan as well. As far as I know, there is an attempt to draft a bankruptcy law along the BAHM proposal, but it was not brought to a legislative process.

The essence of this proposal lies in the fact that it makes use of the market mechanism by making interested parties to trade claims as a process to find the most suitable persons to operate the firm. Those who bid the highest for future business activities would be the most efficient operator of the organization and accordingly should be given the chance to operate the firm activities. This leads to our third principle.

(iii) Choose as the manager of the firm whoever considers herself to be the most prepared to manage.

The clearance of the NPLs should not be done just for accounting purposes. To count NPLs accurately or sweeping NPRs swiftly serves, indeed, an important informational purpose by giving transparency to agents involved, but does not by itself improve economic performance of problematic firms. When NPLs are collected, designated and redistributed, the situation of the firm does not change. Only when they are bundled, combined or screened, sold and owned by the most effective entrepreneurs that are recognized by the market, the management of the firm will improve. From this perspective, the clearance of Japan's NPLs stays at the initial accounting level. In contrast to The Resolution Trust Corporation (RTC) in the United States that finally succeeded in the resolution of the Savings and Loans crisis, the Japanese system, which is coincidentally called "Resolution and Collection Corporation (RCC:Seiri Kaishu Kiko)", operates mostly at the stage where it collects delinquent debts.

(iv) The Importance of Structural Reforms

It becomes clear, more and more, that the present recession is generated by various factors: Real as well as nominal, microeconomic as well as macroeconomic, domestic as well as international, and private-sector oriented as well as government policy oriented. In a sense, we live in an environment where budget constraint are defined in both real and nominal terms, and economic activities are interrelated in the general equilibrium way. What happens in one market cannot but affect the other.

From this standpoint, I would like to emphasize both the crucial importance and the irony of structural reforms (*kozo kaikaku*). Whoever is impressed by the meticulous production system of Japan's leading industries like electronic and automobiles must be perplexed by the rigidity or inefficiency in services industries. An important point is that the source of efficiency comes from government actions itself. The irony is that the Koizumi Cabinet is undertaking the politically difficult task of dismantling regulations that the government itself is imposing on the public. The heroic attempt is supported by policy rhetoric despite the resistance of politicians who are benefited by regulation rent or of bureaucrats who enjoy the regulation rent themselves. The Koizumi Cabinet is pursuing a heroic task and it is now a rare occasion that the nation may

benefit from deregulation in part generated by those who regulate¹⁴. Even if a part of the program were to succeed, that will be great. It is one sided to underrate the benefit of structural reforms on the grounds that macroeconomic policies are more responsible as cures as well as causes of this long recession.

Nevertheless, structural reforms cannot cure deflation that is by itself a monetary problem. Structural reforms work sector by sector, but cannot address aggregate price level of aggregate unemployment. Since the present stagnation is closely associated with deflation, we need to discuss the role of macroeconomic policies.

III. Macroeconomic Policies as the Causes of Recession.

In assessing the monetary aspects of causation of recent long recession, we inevitably come into the discussion of macroeconomic policy. I consider that as long as deflation is making this recession more difficult, a part of the present recession should be attributable to the past inadequate monetary policy, and that remedies should be sought in a broader category of monetary policy instruments rather than spending policies by the government.

(1) The Role of Government Spending and Tax Policies

First, start with the effect of the fiscal policy. The government relied very often, probably too often, on the Keynesian type of public expenditure expansion. Whenever the Japanese economy showed signs of a down turn, the government adopted the expansion of government expenditures on roads and railroads, or reduced the tax except for Ryutaro Hashimoto tried the policy of recovering the primary balance of the budget. Ichiro Obuchi, an LDP Prime Minister, who followed, reduced taxes in several stages. These measures to encourage aggregate demand did not succeed, and the multiplier of government expenditure was evaluated as around 1.2 to 1.3 (Hori. *et.al.* EPA). Instead, it left a monumental stock of governmental debt that

¹⁴ There is a subtle difference on the issue dependent on whether one is a bureaucrat or a politician. Bureaucrats have almost always vested interests to keep the authority related to regulations. Politicians have vested interests to regulations that benefit their constituency.

reaches more than four thirds of the level of national income.¹⁵

Presumably, a large accumulation of government debt would usually create the fear for possible monetization of the government debt in the future, depreciate the currency and raise the current price level. At least, this is the story that the “Fiscal Theory of Price Level” tells. The theory assumes that the government and the central bank have nothing left but to inflate the economy to escape the impasse leaving the public to accept such behaviors of the government and the central bank. Somehow, the BOJ has tremendous credibility so that the price level is declining and the yen exchange rate is kept high.¹⁶ (To my surprise, some economists will argue that deflation is a good thing. Deflation is no cause of structural problems and structural problems will be more acute under deflation so that they will be eradicated under it. Under deflation constructive destruction a la Schumpeter can take place more easily.

(2) The Role of Monetary Policy.

Accordingly, the role of fiscal policy is limited. Also, the main symptom of the current state of the economy is deflation, and deflation makes the recovery of aggregate demand difficult. Government expenditure has little effect on inflation unless it is backed by monetary policy. Therefore, the main instrument must be monetary policy.

(i) Definition of Deflation

The universal worldwide definition of “deflation” is a continuous decline in the general price

¹⁵ A substantial part of the Japanese government debt is held by government institutions, and some say that the net government debt is not 4/3 of GDP, but 2/3 of the GDP. Still, a major part of the government’s holdings is financed by the funding through the postal savings deposits that is a form of debt of the (still public) postal saving system. The net debt can be still enormous if one takes account of it.

¹⁶ This applies to the United States case where the expectations of a large future government debt do not deter the deflation worry.

level. According to this definition, deflation is a monetary phenomenon at least to the extent that this concept is about the general price level, that is, the exchange rate between goods (services) and money. In Japan, “*defure* (deflation)” implied something different, that is, a combination of falling prices with stagnation of the economy. Therefore the word *defure* was used rather restrictively, because falling prices are not sufficient, but they must be accompanied by unemployment or recession.

This old mixed definition of *defure* implied real stagnation of the economy as well as monetary aspect of falling price. Therefore, it is not a pure nominal or monetary definition. The *defure* so defined was no longer a monetary phenomenon. The Government, the Economic Planning Agency (EPA), and the BOJ used the term in this mixed sense and often claimed that Japan was not suffering from deflation, because, though price was falling, output was not declining.

It is important to define the state of falling prices independent of recession or stagnation. In Spring of 2001, the Cabinet Office (the virtual successor of the EPA) changed the definition of *defure* in such a way that deflation means the state of falling price.¹⁷ Now, the monetary nature of deflation is clear, and monetary policy can be seriously considered as a weapon against inflation.

(iii) Costs of Deflation

It is easy to explain the cost of inflation but difficult to explain the cost of deflation to the public. For those who have secure jobs and income, personally deflation seems to be an increase in real purchasing power.¹⁸ However, deflation is usually associated with a high level of or an increase in the unemployment rate, one is not guaranteed of continue enjoying a high real wage since one may be unemployed.

¹⁷ As soon as I joined the government in January of 2001, I started emphasizing the need to appeal to monetary policy because deflation was a monetary phenomenon. Because of the old mixed definition, there was some confusion, and Kazumasa Iwata, then Director General of Economic and Fiscal Division of the Cabinet Office, now the MOJ vice governor changed the definition used by the Cabinet Office.

¹⁸ Yutaka Harada has pointed out to me that central bankers, bureaucrats, and economists often belongs to this category of professionals so they may have the instinct to like deflation.

If the current state of the economy is in the money-neutral equilibrium, as the classical school of economists conceived, as the real business cycle (RBC) economists often seem to assume, then money will be neutral, in fact, can even be super neutral. Therefore, inflation and deflation are purely monetary phenomena, and, at the same time, monetary policy cannot change real variables. Since most post-Lucas economists tend to agree that such a money neutral state is the long-run macroeconomic equilibrium, in the long-run monetary policy would change nothing in the long run. Deflation would be harmless in such a world since it would not change real allocation of resources. Needless to say, the question is how long is the long run, and we know that Japan cannot be regarded as in the long run.

In sum, deflation is a monetary phenomenon, but, since money is not neutral, deflation can matter seriously. For the recent few years, Japan has experienced situations where the national economy grew in real terms but not in nominal terms. Imagine a CEO of a company who reports at the shareholders meeting that our revenues and profits declined in nominal terms but grew in real terms adjusted by such and such price indexes¹⁹. There are many reasons why money is not neutral in the current Japanese economy, or why it does not stay in a long-run equilibrium. First, nominal wages were sticky despite falling price levels until the end of the 1990s, when nominal wages started to decline. Thus not until recently, real wages and the factor share of labor kept increasing. Nominal rigidity of wages is an important factor in observing the flat Phillips curve. Second, there is a strict lower boundary to the nominal zero boundary, that is, the zero level.²⁰

Third, many economic agents are under the phenomenon of debt overhang. As explained in the account of the whole malfunctioning, many households obtained debt that remained the same in value, often with high interest payments during the bubble. This gave those

¹⁹ To cite a familiar or serious example to academics, Non Profit Organizations (NGOs) and foundations that depend on interest income will not be able to conduct regular activities if nominal interest incomes are close to zero. Will they say, “We accumulated a real appreciation of the fund in terms of the general purchasing power, why not spend it? This logic would not prevail, because it almost sounds like what was called “takohai”, paying dividends not out of revenue but from existing asset as if an octopus eats its own legs.

²⁰ Mitsuhiro Fukao points out that the Geselle’s proposal to requiring stamps on money can avoid this lower boundary. This is of course right but I wonder how society can cope with the difficulty and confusion such a device should cause.

household burdens of increase real values of debt. This is a part of the Fisher effect. Then the readers may wonder about the Pigou effect, that is, what happened to the economic agents that held the nominal assets as counterparts of liability just mentioned. One tentative answer is that those households who have liabilities are active and spending households while those who have credits are old and less active households. Another hypothesis is that the debtors count on the accumulating debt even though they may be unable to pay, but that lenders may count on the possibility of default. Anyway, this needs to be clarified by careful empirical research.

Fourth, related to the above, the (Fisher-) Kiyotaki-Moore effect comes in. In the world where information is asymmetric, lenders need collateral in case borrowers cannot deliver. Once deflation and deflationary expectations progress, the values of assets like land and stocks collapse and so do the collateral values. This was particularly serious in the Japanese economy where bank lending relied on collateral rather than ex-ante screening of businesses.

Incidentally, we may note here that banks are still learning how to price loans to risky enterprises. In the consumer loan market, the rate of interest stays usually within the range of the high teens (percent) and occasionally reaches its non-criminal limit of about 29% or the legally enforceable limit of 20%. For financing merchandise purchases by credit cards, the loan rate comes down to the low teens. For bank loans mostly accompanied by collateral, the rate of interest for bank loans hardly exceeds 3%. It is well below the lower limit of consumer loans. Even though consumer loan companies have better lists of customers with their degree of risks, still the above fact seems to show that banks are not succeeding in pricing the risks properly.

(iv) Instruments of Monetary Policy

Basically, deflation is a monetary phenomenon in the sense that the relative price of money is appreciating and that ultimately the relationship between money and goods (services) should be taken care of in order to stop deflation. The Federal Reserve Bank carefully considers how they can avoid the Japanese trap the Japanese monetary authorities went into when they tried to halt bubbles. The FRB recognizes the failure of the Japanese monetary policy but it is sympathetic that the BOJ must have found it difficult to find the danger at that time.

After the zero interest rate policy was taken, there were traditional and untraditional ways of expanding money supply to cure deflation. The BOJ did not recognize that at first, or pretended not to recognize it, but, after the failure of reversing the zero-interest policy in 2000, the BOJ started the quantity-oriented monetary policy. The quantitative easing *ryoteki kanwa* policy could have used three channels of traditional monetary instruments, that is, increases in reserves by financial institutions at the BOJ account, increased purchases of foreign assets, and interventions in the exchange market with the cooperation of the MOF. In addition, there are fewer conventional tools, the announcement of the price or inflation target and operations in assets other than JGBs. The BOJ emphasized the first traditional channel, is rather reluctant to exploit the second channel, and certainly cooperated with the MOF for the third channel. For the unconventional channel, the BOJ Governor came close to announcing in 1999, “the BOJ will continue its zero-interest policy until the concern for deflation stops,” and it also started to purchase unconventional assets for traditional central bank operations: stocks held by banks and Asset Based Securities (ABSs?).

Let us check each channel of monetary policy, and ask why some did not work as expected and why some of them are still hopeful avenues of approach if properly implemented.

The first channel is the control of banks reserves, or the control of the deposits by financial institutions at the BOJ account. The basic reason that it did not work is that the first channel is a kind of remote control on the part of BOJ. The increase in the reserves of financial institutions at the BOJ adds to the level of the high-powered-money or base money, it does not increase by itself the amount of the money balance the public holds. The trouble comes from the fact that the increase in base money does not realize in the increase in money supply, --- $M(1)$, $M(1) M(3)$ or whatever concept you may choose. There is a continuous decline in the money supply multiplier (Figure II). In a parallel fashion, regardless of the money concept you may choose, the income velocity of money has substantially declined as indicated in Figure III.

To understand these phenomena, we have to come back to the basic understanding of our economic behavior. Declining money supply multipliers are related to the private non-financial sectors’ choice between cash and deposits and to the financial institutions’ choice

between reserves and lending. By a simple manipulation of the formula for the money supply multiplier, we see that the multiplier declined because economic agents increased their preference for cash and because financial institutions held more in reserves relative to their lending. This naturally came from deflation and the resulting interest rate that approaches zero approximately. The public does not commute to banks to earn infinitesimal levels of interest rates. The low interest rate is not the only disincentive to hold deposits. The worry for the pay-offs and the bankruptcy of banks will deter the public to deposit their cash holding. They may choose to install a house security system rather than to go to banks and deposit there for safety.²¹ Banks have difficulty in finding profitable firms under deflation that can earn profits to justify loans with very low interest rates and without collaterals. (Iida, Harada, and Hamada, 2003).

On the other hand, the low velocity, or a large Marshallian k , comes from the liquidity preference, that is, the preference between (broader) money and other securities. So long as the level of nominal interest rate for government bond approaches such a low level, the liquidity trap story about the bond holder's worry about the future's high interest rate literally works. Again with a very low interest due to deflation, monetary aggregates such as $M(1)$ or $M(2)$ has a weak connection to the nominal income and accordingly to the price level. Then, the cash-in-advance constraints are hardly binding in this zero-interest situation. There is little doubt that the Keynesian liquidity trap story holds in the zero-interest situation.²² I agree with most of the points that are raised by Auerbach and Obstfeld (2002). Their treatment of cash-in-advance constraint seems, however, to be aloof from the current state of the Japanese economy.

Given the slowing down of money supply multiplier process, and given the reduction in the income velocity of money, the current policy of the BOJ to control the high powered money or

²¹ Once I was surprised to read in a newspaper that a Sumo-Wrestler was robbed of almost a million of yens at his bedside. Now common people may store cash in the form of *tansu yoking*, deposits in your home vault.

²² Cash holding and demand for a broader category of money is satisfied. This is the case Milton Friedman's optimal quantity of money (Friedman, 1969). was realized, though with so many undesirable side effects!

the base money is like steering the economy with a remote control from a great distance. What the BOJ is aiming may be an ineffective way of monetary control²³.

The second channel for monetary policy is to increase the base money by Japanese Government Bonds (JGBs) by open market operations. Under the zero interest regime where the short term rate is close to zero, the power of this policy is weakened with respect to the short-term JGB. The operation in the long term bonds have more promise, but long term rate may hit the floor soon. At least the government should try buying more aggressively the long-term JGBs in order to test the limit. Many people worry about the case that the long-term rate will rise because of the emergence of inflationary expectations. As long as the BOJ wishes to keep expansionary stance, it will be a problem because the buying operation to lower the long-term rate can continue.²⁴ The real problem will occur when the BOJ has to fight inflation and to contract the money supply.

The open market purchase policy of JGBs has another attractive nature, as . Kikuo Iwata (2001) and others point out. First, if the open market operation stops deflation or deflationary expectations, then it is worth trying under the current deflation. On the other hand, if it does not create any inflation or inflationary expectations, then the government can keep purchasing JGBs so that the government can alleviate its accumulate debt burden. By the open market purchase of JGBs, one can kill two birds, deflation problems and debt problems with one stone. Thus if the open market operation cannot cure inflation then we can have free lunch, that is, resolution of government debt problems without causing inflation.²⁵

The third channel through which monetary policy can work is through the intervention in exchange market where the BOJ, legally acting as the representative of the MOF, engages in

²³ It may sound too cynical, but, the BOJ behaved as if it chose the most ineffective instruments in order to convince the public how ineffective monetary policy was.

²⁴ Skeptics of easier monetary policy worry the capital losses to be incurred by JGB holders such as banks and the BOJ itself. I do not worry about the loss of the BOJ because it will be compensated under these circumstances. These losses will be serious, I would like to note, only when the BOJ has to contract monetary policy for the fear of future inflation.

²⁵ My former colleague, Yutaka Harada, argues that those who do not understand this logic must have forgot or distrust the method of proof by contradiction they learned in elementary geometry.

purchase of dollar denominated assets and not disable it by sterilization in the domestic market. After the adoption of zero-interest policy, sterilization may not affect so much the macroeconomic performance, but before that sterilization could offset the effect of exchange interventions. The fairly close relationship between the ratio of base money between the United States and Japan, and the yen/dollar exchange rate is seen in Figure 4 (Terai *et. al.*, 2003).

Compared with the time before the Plaza Accord in 1985, the Japanese yen was around ¥240 to a dollar. The yen went up about three times to the peak of ¥80 to a dollar in April 1995. At present in 2003, the yen moves around ¥120 to a dollar, and still the yen experienced 100 percent revaluation from the pre Plaza period. The real exchange rate also went up substantially as well. Though the yen in pre-Plaza might not have been reflecting the equilibrium exchange rate, the readers should be aware that the Japanese economy was exposed to tremendous exchange rate shocks during these years

Many observers point out the effect of inexpensive imports from China and other Asian countries on the Japanese price level. What matters is not the question of the relative prices, but deflationary impact from the conspicuous appreciation of the yen. Therefore, it would not be too farfetched to say that Japan should aim for an exchange rate of ¥180 to a dollar, and make every effort to convince its neighboring countries that depreciation of the yen can be beneficial to neighboring countries because it will recover the Japanese economy.

Japan is not the only country that worries about deflation, and the worry of deflation seems to lurk in various parts of the world. As is well known by the “beggar thy neighbors effect,” the policy to depreciate its currency for recovery may affect other countries in an unfavorable way through exchange rates. Eisuke Sakakibara warns that anti-deflationary measure taken by the Japanese monetary expansion and yen depreciation may trigger the process of competitive devaluation (*The Financial Times*, June, 2003). He would be right if the world is in an inflationary situation, but the world is now concerned about future deflation. Competitive devaluation is logically the best way to save these countries from simultaneous deflation.²⁶

²⁶ I would like to add, though, I admire Sakakibara’s management of the yen when he was the Vice Minister of Finance in the late 1990s. He was among the few policy makers who understood monetary mechanism

(iii) Unorthodox Monetary Instruments.

Next, turn to the unconventional policy. Many studies emphasize the merits of inflationary targeting or price level targeting (Krugman, Posen, etc.). Devices to link the targeting to the exchange rate management are also discussed (Svensson, 2000). As already explained, the inefficacy of monetary policy comes from the slowing down of both the money supply multipliers and the velocity of money. Both of them are aggravated by deflationary expectations. Therefore, changing the deflationary expectations is crucial for Japan's recovery. I believe that inflation targeting will be one of the most effective ways of affecting inflation. As Auerbach and Obstfeld (2003) indicate, if there is a change of belief that at a certain time Japan will halt deflation and reverse the course of its price level, then deflation will actually end. In the opera, "L'elisir d'amore (The Elixir of Love)" by Donizetti, a man who bought an ordinary bottle of Bordeaux obtains the heart of his aspiring sweetheart, just by believing that what he has is a potion of love. Accordingly, the government should start sending credible signals that it will stop deflationary policies. If the signals are sufficiently credible then deflation will be stopped.

Recently, in particular under the new governor of the BOJ, Toshihiko Fukui, the BOJ engaged in some unorthodox monetary policies such as buying stock held by banks and buying the exchange traded fund (EFT), the real estate investment trust fund (REIT) and other asset-backed securities. The problems of these unorthodox policies include, of course, the possibility of moral hazard in engaging in operation of specific stocks and securities. The merits include the fact that the public understands the BOJ's commitment to fight deflation and that the BOJ diversifies the portfolio from excessive holding of JGBs.²⁷ One cannot help, however, harboring the impression that the perspective of the BOJ is still limited to neighboring territories, i.e., banking sectors, rather than the national economy as a whole. The

of an open economy at that time.

²⁷ The BOJ may consider that the resulting avoidance of excessive monetization of JGBs is a merit because it discourages further debt financing of government expenditures. But in the light of the fact that deflation adds to real burden to the government, I regard that this logic is dubious.

conditions in the national economy will be better served by intensifying the conventional monetary instruments such as JGB purchases and exchange market interventions supported by the device to influence the public's price expectations like the inflation targeting.²⁸

Concluding Remarks

The paper discussed the causes of this long recession in Japan. Both real and monetary, and both microeconomic (structural) and macroeconomic causes are interwoven. Its symptoms were triggered by sudden collapses of asset values that have been caused by complex real as well as monetary reasons. Ineffective incentive mechanism, imbedded in the long successful growth period, was one of the important reasons. The state of insufficient financial intermediation was one of the symptoms and made monetary policy less effective.

Thus structural or market reforms are necessary, indeed. Within a medium term, however, reforms cannot solve the macroeconomic problem that is most clearly seen in continuing deflation. Figuratively, structural reforms would be like surgeries in various parts of a body. Macroeconomic policy, in particular, could work on the whole body to regulate the over-all physical conditions. For example, deflation would be anemic and could be primarily treated by over-all internal therapy. Proposing to rely solely on structural reforms and to neglect macroeconomic policies would be like proposing surgeries without taking account of the overall condition of the body. Thus, my main message is that structural reforms are necessary but that the need for structural reforms never exempt the duty of monetary authorities to conduct proper policies against deflation.

References

Abe, Kazutomo and Shujiro Urata, eds. (2002), China's Entry to the WTO and the Future of Trade Among Japan, China and Korea, Nihon-Keizai-Hyoron-Sya, Tokyo.

²⁸ The newly started BOJ seems to be concerned with serving *hors d'oeuvre* rather than main dish of traditional monetary policies.

Andolfatto, David (2003), "Monetary Implications of the Hayashi-Prescott Hypothesis for Japan," February 2003, <http://www.sfu.ca/%7Edandolfa/Japan.pdf>.

Auerbach, Alan and Maurice Obstfeld (2003), "The Case for Open-Market Purchases in a Liquidity Trap," University of California, Berkeley, mimeo.

Bernanke, Ben (2000), "Japanese Monetary Policy: A Case of Self-Induced Paralysis?" in Ryoichi Mikitani and Adam Posen, editors, Japan's Financial Crisis and Its Parallels to U.S. Experience, Special Report 13, Washington, D.C.: Institute for International Economics.

Cargill, Thomas, Michael Hutchison and Takatoshi Ito (1997), The Political Economy of Japanese Monetary Policy, Cambridge: MIT Press.

Eggertsson, Gauti and Michael Woodford, "The Zero Bound on Interest Rates and Optimal Monetary Policy," International Monetary Fund and Princeton University, mimeo.

Friedman, Milton (1969), Optimum Quantity of Money and Other Essays, Chicago: Aldine Publishers.

Goto, Shin-ichi (1990), Showa Kinyu-shyi (Financial History of Showa), Tokyo: Jijitsushin-sha

Hamada, Koichi (2003), "China's Entry into the WTO and Its Impact on the Global Economic System," in Papers by Advisors to Director General Mike Moore, WTO (forthcoming).

Hamada, Koichi (2002), "Nonperforming Loans Versus Economic Recession," The Japanese Economy, Vol. 30, No. 1, January-February 2002, pp. 8-21.

Hamada, Koichi and Lakshmi Raut (2003), "Aging and Elderly Care in an Open Economy," Yale University, mimeo.

Hansen, Gary (1985), "Indivisible Labor and the Business Cycle," Journal of Monetary Economics, pp. 309-327.

Hayashi, Fumio and Edward C. Prescott (2002), "The 1990s in Japan: A Lost Decade," Review of Economic Dynamics, pp. 206-235.

Hoshi, Takeo and Anil Kashyap (2001), Corporate Financing and Governance in Japan: The Road to the Future, Cambridge, MA: The MIT Press.

Iida, Yasuyuki, Yutaka Harada, and Koichi Hamada, (2003) "Shinyo Josu no Henka wa Ikani Setumeidekiruka (How can the changes in Credit Multiplier be Explained)," ESRI Discussion Paper.

Ingrassia, Paul and Joseph White (1994), The Fall and Rise of the American Automobile Industry, New York: Simon and Schuster.

Itoh, Motoshige and Kazuharu Kiyono (1987), "Welfare-Enhancing Export Subsidies," Journal of Political Economy, 95 (1), February 1987, pp. 115-37.

Iwata, Kikuo (2001), *Defure no Keizaigaku* (Economics of Deflation) Toyokeizai, Tokyo.

Kosai, Yutaka (1981), The High Growth Era of Japan, Nihonhyoron-sha.

Krugman, Paul (1999), "It's Baaack: Japan's Slump and the Return of the Liquidity Trap," Brookings Papers on Economic Activity, pp. 137-205.

Kuttner, Ken and Adam Posen (2001), "The Great Recession: Lessons for Macroeconomic Policy from Japan," Brookings Papers on Economic Activity, Issue 2, pp. 93-160.

Lincoln, Edward J. (2001), Arthritic Japan: The Slow Pace of Economic Reform, Washington, D.C.: Brookings Institution Press.

Motonishi, Taizo and Hiroshi Yoshikawa (1999), "Causes of the Long Stagnation of Japan During the 1990s: Financial or Real?," Journal of the Japanese and International Economies Volume 13, pp. 181-200.

Noguchi (2001), *Keizaigaku wo Shiranai Ekonomisutotachi* (Economists Who Do Not Know Economics) Nihon-Hyoronsha.

Sakaiya, Taichi (1996), *Soshiki no Seisui* (Wanes and Webs of an Organization), PHP kenkyujo.

Sheard, Paul (1992), International Adjustment and the Japanese Firm, Australia: Allen & Unwin.

Svensson, Lars (2000), "The Zero Bound in an Open Economy: A Foolproof Way of Escape from a Liquidity Trap," National Bureau of Economic Research Working Paper 795, October 2000.

Terai, Akira, Yasuyuki Iida, and Koichi Hamada, (2003), "Kawase Reto o Tsujita Kinyu Seisaku no Hakeyu Keiro ni tsuite (On the Efficacy of Monetary Policy Through the Exchange Rate Market)," mimeo, ESRI.

Yano, Makoto (1983), "Welfare Aspects of the Transfer Problem," Journal of International Economics 15.