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Government Expenditure and the Balance of
Payments: Budget Deficit, Financial Integration,
and Economic Diplomacy

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Abstract

This paper studies the international and intertemporal implications of increased government expenditure. First, it reviews the conventional proposition that increased government expenditure raises interest rates, crowds out investment, and reduces growth. Then, it shows that this proposition does not necessarily hold in an open economy with integrated international capital markets. This creates a possibility of the strategic intertemporal macroeconomic policy, which minimizes the adverse effects of increased government expenditure on macroeconomic performance. In particular, a country can use economic diplomacy in such a way that government expenditure does not affect its interest rate and potential national income. It offers a new interpretation of the U.S. macroeconomic policy and economic diplomacy toward Japan in the 1980s and 1990s.

Keywords: government expenditure, balance of payments, financial integration, economic diplomacy, U.S.-Japan economic relations, twin deficits

JEL Classification: E6, F4

1. Introduction

The U.S. economy was characterized by the so-called "twin deficits" in the 1980s: the combination of a large budget deficit and a large current account deficit in the balance of payments. An increasing number of economists expressed concern about the adverse effects of the large budget deficit on the growth of the U.S. economy. They also worried about the external position of the U.S. economy because of the stronger dollar and the mounting deficit in the current account of the balance of payments. Morris (1985), for example, warned that the "twin deficits" if left alone would end with a hard landing of the U.S. economy: namely, the dollar would fall very sharply and, as the confidence in the dollar ebbed, a strong upward pressure on U.S. interest rates would lead to a recession in the United States.

The U.S. economic policy makers, therefore, faced the following challenge: how to deal with the problem of the budget deficit in the presence of the current account deficit at the same time. It is important to recognize, in this context, that the budget deficit and the current account deficit are closely related phenomena, particularly, with the financial liberalization and globalization of the 1980s. I will argue that the financial integration of international capital markets has made it possible for the U.S. policy makers to exploit the relationship between government expenditure and the current account, and to use economic diplomacy as an effective means to deal with the adverse effects of the budget deficit. The skillful use of economic diplomacy has enabled the United States to initially allow the budget deficit to expand and then reduce it without causing serious swings in the business cycle in the medium run and without adversely affecting its potential national income in the long run.

This paper studies the international and intertemporal implications of increased government expenditure, and presents a new interpretation of the U.S. macroeconomic policy and economic diplomacy toward Japan in the 1980s and 1990s. The conventional

idea is that a rise in government spending will raise interest rates, crowds out investment, and adversely affect economic growth. This relationship holds in a closed economy and suggests a substantial macroeconomic cost to the large government or the welfare state. However the financial integration of the world economy that took place in the 1980s has modified this conventional relationship at least in the medium run. It has created a new possibility of reducing the adverse effects of increased government expenditure through intertemporal macroeconomic policy in combination with economic diplomacy. Therefore, we need to reexamine the relationship between government expenditure, interest rates, and economic growth from the intertemporal as well as international perspectives.

The macroeconomic implications of government spending depend on whether the economy is an open or closed economy. They also depend on whether capital is free to move across borders. This paper argues that the conventional relationship does not necessarily hold in an open economy with integrated international capital markets at least in the medium run. It presents a theory of the strategic intertemporal macroeconomic policy, which uses economic diplomacy as an additional policy instrument and adopts an intertemporal approach to minimizing the adverse effects of increased government spending. I apply this theory to the recent U.S.-Japan economic relations and offer a new interpretation of the U.S. macroeconomic policy and economic diplomacy toward Japan in the 1980s and 1990s.

The rest of this paper is organized as follows: Section 2 reviews the conventional proposition that increased government expenditure raises interest rates, crowds out investment, and reduces economic growth. Section 3 shows that this conventional proposition does not necessarily hold in an open economy with integrated international capital markets. Developing this analysis further, section 4 shows that a country can use economic diplomacy in such a way that government expenditure does

not affect the interest rate and thus its potential national income. Based on this possibility, section 5 presents a theory of the strategic intertemporal macroeconomic policy which reduces the adverse effects of increased government expenditure. Section 6 argues that this theory offers a new interpretation of the U.S. macroeconomic policy and economic diplomacy toward Japan. Section 7 concludes this paper, pointing out a "fiscal externality" in the world economy and the need for international coordination of fiscal policies.

2. Government Expenditure and Macroeconomic Performance

The conventional idea is that although increased government spending raises national income in the short run, it crowds out private investment through higher interest rates and therefore adversely affects economic growth in the long run. To see this, consider the following simple model of a closed economy:

$$y_t = c(y_t) + i(r_t) + g_t \quad (1)$$

$$m_t = m(y_t, r_t) \quad (2)$$

$$y_t^p = y^p(i_{t-1}) \quad (3)$$

where y represents real national income (GDP), c real private consumption, i real private investment, g real government expenditure, r the real interest rate, m real money supply, and y^p the potential level of real national income, which depends on the past investment. All variables in this paper represent *real* variables. I make the following standard assumptions: $0 < dc/dy < 1$, $\infty < di/dr < 0$, $0 < dy^p/di < 1$, $m_y > 0$, and $m_r < 0$.

I distinguish between the short-, medium-, and long-run equilibrium as follows: The short-run equilibrium refers to the economy at the beginning of period t where y_t and r_t are jointly determined by equations (1) and (2). In the short run, national income

can deviate from its potential level. This corresponds to the standard IS/LM model. The medium-run equilibrium refers to the economy at the potential level of national income at the end of period t ($y_t = y_t^p$) where the interest rate (r_t) is determined by equations (1) under the condition of $y_t = y_t^p = y^p(i_{t-1}) = y^p(i(r_{t-1}))$ where r_{t-1} is given. The long-run equilibrium refers to the *stationary* economy ($y=y^p(i)=y^p(i(r))$) where the real interest rate (r) is determined by equations (1) and (3).

The important characteristics of this model are the following: The model has two endogenous variables y and r in the short run, two endogenous variables r and m in the medium run, and three endogenous variables y^p , r , and m in the long run. National income (y) is determined by the demand side or equation (2) in the short run, while it is determined by the supply side or equation (3) in the medium and long run. Real money supply (m) is exogenously given in the short run, while it is endogenously determined by equation (2) in the medium and long run, given $y=y^p$ and r . The presumption here is that the price will adjust so that real money supply will satisfy equation (2) in the medium and long run. Finally, the real interest rate (r_t) can differ from r_{t-1} in the medium run, while the real interest must be constant in the long run.

Now, with the closed economy model of equations (1)-(3), it is straightforward to prove the following proposition:

Proposition 1 (Closed Economy): An increase in government spending raises national income and the interest rate in the short run. However, it raises the interest rate further and crowds out private investment in the medium run. Therefore, it reduces the potential level of national income in the long run.

This proposition has an important policy implication for the countries that set the welfare state as a national goal. It implies that the pursuit of the welfare state will increase government expenditure and raise interest rates. It will therefore crowd out

private investment and reduce the potential level of national income in the long run.¹ This has been the typical macroeconomic situation in which many European countries found themselves in the 1970s and the 1980s. It also applies, perhaps to a lesser extent, to the economies of the United States and Japan in more recent years.² Proposition 1 thus leads to the following policy prescription:

Corollary 1 (Policy Implication of Proposition 1): A country must control government expenditure associated with welfare programs if it wants to avoid a crowding-out of private investment and a fall in the potential level of national income in the long run.

The point is that if the implementation of many welfare programs compromises economic growth, it will put the very foundation of the welfare state at risk.

Proposition 1 represents the conventional view on the relationship between government expenditure, interest rates, and economic growth. A new development in the 1980s, however, has created a need to modify the conventional view. The financial liberalization and globalization, which have advanced very rapidly since the early 1980s, led to the integration of international capital markets. Capital began to move freely across borders. This new development has forced economists to reexamine macroeconomic events and policy issues from international and intertemporal perspectives.³

¹ Welfare programs also affect economic growth because they undermine self-reliance and the incentive to work (OECD, 1994). They also encourage free-riding behavior and becomes an income support system with special interests making any effective reform very difficult (Roberti, 1989).

² Tanzi and Schuknecht (1995) and Kawai and Onitsuka (1996) provide some empirical evidence that support Proposition 1.

³ Frenkel and Razin (1992) present a general theory of intertemporal macroeconomics in an open economy.

3. Government Expenditure and the Current Account

Next I consider the macroeconomic effects of increased government expenditure in an open economy with integrated international capital markets. The purpose here is to examine how the financial developments of the 1980s have modified the conventional relationship stated in the previous section. The first implication of integrated international capital markets is that the capital account and therefore the current account of the balance of payments could substantially deviate from zero in the medium run. That is, in the fundamental equation of the balance of payments ($ca_t + ka_t = 0$), it has become possible for the current account and the capital account to have the following relationships:

$$ca_t = -ka_t \ll 0 \quad \text{or} \quad ca_t = -ka_t \gg 0 \quad (4)$$

where ca represents the current account and ka the capital account. Double inequalities indicate a substantial deviation from zero. Since financial liberalization and globalization started in the early 1980s, the U.S. current account imbalance has risen and reached 4 percent of GDP. It was less than 1 percent of GDP before 1980.

The second implication of integrated international capital markets is that arbitrage should link the interest rates of industrialized countries. In particular, international arbitrage should establish a parity between interest rates and the exchange rate and equalize real interest rates across countries. It is straightforward to prove that real interest rates will be equalized if the *purchasing power* parity holds in the international goods markets and the *interest rate parity* holds in the international capital markets. In other words, if the world economy has both highly integrated international goods and capital markets, the real interest rates of all countries would converge to a common world interest rate. In this case, we could treat the interest rate

of each country as given by the world interest rate.

Now consider the following simple model of a *small* open economy:

$$y_t = c(y_t) + i(r_t) + g_t + ca(y_t, y_t^*, e_t) \quad (5)$$

$$m_t = m(y_t, r_t) \quad (6)$$

$$y_t^p = y^p(i_{t-1}) \quad (7)$$

where e represents the real exchange rate and y^* the foreign real national income. We make the following assumptions: $ca_y(y, y^*, e) < 0$, $ca_{y^*}(y, y^*, e) > 0$ and $ca_e(y, y^*, e) > 0$. A rise in e represents a depreciation of the exchange rate, which increases the current account. The last condition corresponds to the Marshall-Lerner condition. Now assume the potential level of GDP ($y = y^p$) and integrated international capital markets ($r = r^*$ where r^* represents the world interest rate) so that the exchange rate (e) and real money supply (m) become the endogenous variables in the medium and long run. Then, an increase in government spending (g) will lead to a fall in the current account (ca) by the same amount through appreciation of the exchange rate (e). Therefore, in the case of a small open economy with integrated international capital markets, increased government expenditure will not result in the crowding-out of private investment. Here, unlike the case of a closed economy, an increase in government spending will not adversely affect economic growth.

To sum up, in the small open economy of equations (5), (6), and (7), we have the following relationship under the conditions of $y = y^p$ and $r = r^*$:

$$d(ca)/dg = ca_e(.) de/dg = -1 \quad (8)$$

where the change in the current account is produced through a change in the exchange rate. The same condition (8) also holds in the short run because y must remain constant

in equation (6) given $r = r^*$ and $m = \text{constant}$ in the short run. Therefore, from this relationship, it is straightforward to derive the following proposition:

Proposition 2 (Small Open Economy): With integrated international capital markets, a rise in government spending leads to a fall in the current account through appreciation of the exchange rate in the short and medium run. It does not affect the interest rate and therefore potential national income in the long run.

This proposition implies that a country can increase government spending without a higher interest rate and the crowding-out of private investment in the short and medium run. The financial integration of international capital markets has, therefore, changed the validity of the conventional relationship.

Proposition 2 also implies that fiscal policy has become less effective as a means of stimulating the economy. In fact, it is easy to see in the above model that $dy/dg = 0$ in the short run, given $r=r^*$ and $m=\text{constant}$. In an open economy with integrated international capital markets, the effect of government spending will appear in the current account, which will offset the increased aggregate demand produced by the initial government spending. That is, it does not produce a Keynesian multiplier effect on output. Therefore, the financial liberalization and globalization of the 1980s have made fiscal policy less effective as an instrument of stabilization policy.⁴

4. Economic Diplomacy as Macroeconomic Policy

The above discussion has established a close link between government expenditure and the current account, which has been strengthened by the financial integration of the world economy. Now this link exists not only in a home country but

⁴This, of course, is the well-known implication of the Mundell-Fleming model.

also in a foreign country. Moreover, a home country's current account deficit is a foreign country's surplus. These relationships, combined together, create an international linkage between government expenditures, and make economic diplomacy as an important instrument of macroeconomic policy. For example, if a country can induce the other country to reduce government spending through economic diplomacy, then it will become possible for the country to increase its government spending without causing a higher interest rate and thus reducing its potential national income. In short, a foreign country's government expenditure becomes an important instrument of macroeconomic policy through economic diplomacy.

Let me elaborate on this point further, using a simple two-country model of the world economy. Consider the following model of the world economy, which consists of the United States and Japan:

America:
$$y = c(y) + i(r) + g + ca(y, y^*, e) \tag{9}$$

Japan:
$$y^* = c(y^*) + i(r^*) + g^* + ca(y^*, y, e^*) \tag{10}$$

where $e^*=1/e$. Here I have omitted m and m^* as well as y^p and y^{p*} equations and also time subscript t for simplicity. They are, however, implicit in the model. In the medium run, with integrated international capital markets, the world interest rate ($r^*=r$) and the exchange rate (e) essentially become the two endogenous variables of the model.⁵

As one country's current account surplus is the other country's deficit in the two-country model, we can derive the following two fundamental equations from the above model:

⁵ To be precise, m and m^* also are endogenous variables of the full model. However, they are not essential for the present purpose.

$$ca(y, y^*, e) = -ca(y^*, y, 1/e) \quad (11)$$

$$y + y^* = c(y) + c(y^*) + i(r) + i(r^*) + g + g^* \quad (12)$$

Now we have $y=y^p$ and $y^*=y^{p*}$ in the medium run, and $r=r^*$ with integrated international capital markets. From these equations, it is easy to see that equation (11) determines the equilibrium exchange rate, while equation (12) determines the equilibrium world interest rate in the medium run.

The important implication of this model is that two countries can "swap" their government expenditures ($dg = -dg^*$) without affecting their interest rates in both the short and medium run and therefore potential national incomes in the long run. For example, the United States can reduce its government spending without affecting the interest rate and potential GDP if Japan increases its government spending by the same amount. Conversely, the United States can increase its government spending without affecting the interest rate and potential GDP if Japan reduces its government spending. This is because swapping government expenditures ($dg = -dg^*$) will leave the rest of the equations unchanged so that we have $dr/dg = de/dg = dy/dg = 0$ under the condition of $dg = -dg^*$. Consequently, the following proposition holds for a large open economy:

Proposition 3 (Large Open Economy): In the short and medium run, with integrated international capital markets, if a country can induce the other country to reduce (increase) government spending through economic diplomacy, it can increase (reduce) its own government spending without affecting the interest rate and potential national income.

It is important to recognize, however, that this proposition holds only in the short

and medium run. In the long run, the current account must be in balance: that is, $ca = 0$ must hold as the long run average. Therefore, the same proposition must hold as proposition 1 in the long run. This simply reflects the fact that a country cannot keep accumulating current account deficits or capital account surpluses indefinitely. Therefore, we have the following proposition:

Proposition 4 (Large Open Economy): In a large open economy, a rise in government spending leads to a rise in both national incomes and the world interest rate in the short run. However, it raises the interest rate further and crowds out private investment in every country in the medium run. Therefore, it reduces growth of the world economy in the long run.

This proposition implies that even in an open economy with integrated international capital markets, controlling government spending will be important for maintaining economic growth in the long run. This proposition should not be surprising once we recognize that the world economy as a whole is a closed economy. Therefore the proposition 1 that applies to a closed economy should also apply to the world economy as a whole. However, there is one important difference: The effects of increased government spending in one country will now spill over to other countries in an open economy. This creates a "fiscal externality" in the world economy. I will return to this point in section 7.

5. A Strategic Intertemporal Macroeconomic Policy

The propositions in the preceding sections imply that the financial integration of international capital markets that took place in the 1980s has made economic diplomacy as an important instrument of macroeconomic policy. Before the financial

integration of international capital markets, increased government expenditure would have crowded out private investment and reduced growth (Proposition 1). However, the international financial integration has made it possible for a country to increase government spending without crowding out private investment and reducing economic growth (Proposition 2). This is because the country can finance its budget deficit with the inflow of foreign capital at least in the medium run. Moreover, the international financial integration has created an international linkage between government expenditures.

Now, in this new international economic environment, the policy makers can develop a strategic macroeconomic policy in the following two stages: Suppose that country A ends up with a huge budget deficit for one reason or another.⁶ In the first stage, in an open economy with integrated international capital markets, country A can avoid higher domestic interest rates and lower private investment if it can induce country J to reduce its government spending. In the second stage, country A can reduce its budget deficit without causing an economic recession if it can induce country J to expand government spending through economic diplomacy. If this scenario works, then country A can prevent its budget deficit from adversely affecting its macroeconomic performance in the short, medium, and long run. In other words, country A can increase its budget deficit without crowding out private investment in the first stage. Then It can reduce its budget deficit without an economic slowdown in the

⁶ Persson and Svensson (1989) present a theory of public debt in which the incumbent policymaker uses public debt to influence the policy choices of future government. They argue that a conservative government such as the Reagan administration in the 1980s had a strategic bias toward budget deficits, while a liberal government would have the opposite bias toward budget surpluses. Also, Alesina and Tabellini (1990a, 1990b) argue that the alternating governments who disagree over the composition of public spending tend to create a budget deficit. This is because both governments perceive the same incentive to restrict next period's public consumption by borrowing more in the current period. In this case, there will be a bias toward larger budget deficits, whichever government is in power.

second stage. Such macroeconomic policy is "strategic" because it uses economic diplomacy as an essential policy instrument.⁷ It is "intertemporal" because it comprises a two-stage policy program.

6. The U.S. Economic Diplomacy toward Japan

The theory of strategic intertemporal macroeconomic policy provides a new interpretation of the U.S. macroeconomic policy and economic diplomacy toward Japan in the 1980s and 1990s.⁸ The United States started pressuring Japan to implement financial liberalization and globalization in the early 1980s. It was the same time when the United States was expanding its budget deficit and Japan was consolidating its fiscal position (Frankel 1984). This resulted in a sizable appreciation of the dollar and a large U.S. current account deficit. In the second half of the 1980s, the United States pressured Japan to "open up" its markets beyond capital markets.⁹ In 1989, with the Structural Impediments Initiative talks, the United States pressured Japan to increase government spending by 430 trillion yen (then equivalent to over 3000 billion dollars) during the 1990s. It was followed by the 1993 Economic Framework talks under the

⁷ This scenario implicitly assumes asymmetry of economic knowledge and diplomatic skills between the two countries. This seems to have been the case for the bilateral economic relationship between the United States and Japan in the 1980s and 1990s. It is another question, however, if such asymmetry will continue to exist in the future.

⁸ Most of the assessments of the international adjustment and financing during the 1980s lack the intertemporal and strategic perspectives that I have presented in this paper. See, for example, Bergsten ed. (1991).

⁹ Opening Japan's markets has multiple purposes: First, it helps increase American exports. Second, it helps stop further strengthening of the yen that followed after the Plaza Accord. Third, most importantly from the viewpoint of this paper, it accelerates the convergence of the real interest rates between the two countries. Recall that the equalization of real interest rates requires the international integration of not only financial markets but also goods markets (section 3).

Clinton Administration, which set an explicit goal of reducing Japan's current account surplus from 3 percent to 1-2 percent of GDP by 1996.¹⁰ These actual developments correspond very well to the strategic intertemporal macroeconomic policy described in the previous section.

The U.S. economic diplomacy to "open up" Japan's financial market started in the early 1980s. In 1983, U.S. Treasury Secretary Regan and Japanese Finance Minister Takeshita agreed to eight specific measures regarding financial market liberalization in Japan. They set up an *ad hoc* Yen/Dollar Working Group to monitor progress in implementing those measures. The measures fell into the following four categories: (1) Liberalization of Japanese barriers against the inflow and outflow of capital, (2) internationalization of the yen, (3) more favorable treatment of U.S. financial institutions wishing to conduct business in Japan, and (4) deregulation of domestic Japanese capital markets, allowing more interest rates to be market-determined rather than fixed by the government. According to Frankel (1984), the United States got almost all it asked for, at least in the first three categories.

In the Structural Impediments Initiative talks that started in 1989, the United States requested Japan to increase government spending by 430 trillion yens (over 3000 billion dollars) during the 10 years beginning 1991. Most people in Japan viewed this demand as an attempt to reduce the current account imbalances by increasing Japanese imports through the Keynesian multiplier effect on national income. However, with integrated international capital markets, an increase in government spending (dg^*) results in the corresponding decrease in the current account ($-d(ca^*)$) through a yen appreciation. In other words, the decline in the current account will offset the increase in the effective demand initiated by government spending. Therefore,

¹⁰ Bergsten and Cline (1985), Cline (1989), Bergsten and Noland (1993), Tyson (1992) offer supporting arguments for the U.S. trade policy.

increased government spending would not produce the desired Keynesian multiplier effect.

Moreover, the decline in the Japanese current account means the corresponding increase in the U.S. current account (in the two-country model). This implies that the U.S. effective demand will not decline even if the United States reduces its budget deficit by the same amount. If the United States tries to reduce its budget deficit by itself, it will bring about a U.S. economic slowdown. However, if the United States can induce Japan to expand government spending through economic diplomacy, it will be able to cut the U.S. budget deficit by the amount of increase in the U.S. current account or the amount of increase in the Japanese government expenditure. The United States can achieve this without causing a higher interest rate and an economic slowdown.

I believe that this is the true reason why the United States has insisted on the expansion of the Japanese government spending and the reduction of the U.S.-Japan current account imbalance. That is, the real problem for the U.S. policy makers was not the large U.S. current account deficit itself, but the fact that the large current account deficit made it more difficult for the United States to reduce its budget deficit. In other words, the real problem for the United States was not its trade deficit with Japan *per se*, but it was the domestic political and economic difficulties it would face if it attempted to reduce its budget deficit. Reducing the current account deficit by pressuring Japan to expand its government spending provided the United States with the most convenient means to reduce the U.S. budget deficit without causing a U.S. economic slowdown.

This resolves the puzzle why the United States insisted on the reduction of the current account imbalance, although the U.S. demand was apparently nonsense from the viewpoint of pure economic theory. Economic theory tells us that a current account deficit is a problem only if it is unsustainable in the long run. Few economists thought

that the U.S. current account deficit had reached an unsustainable level. Therefore, the U.S. current account deficit posed no serious problem from a theoretical point of view. Moreover, the current account deficit was desirable in the sense that intertemporal welfare maximization required medium-run current account imbalances. In fact, the United States would have suffered from higher interest rates and slower economic growth in the 1980s if it had prevented foreign capital from financing its budget deficit and its current account deficit from rising.

Nevertheless, the United States started to demand strongly the reduction of the U.S.-Japan current account imbalance in the late 1980s and the expansion of the Japanese government expenditure in the 1990s. Why? There seem to have been both political and economic reasons. First of all, raising taxes or cutting expenditures would have been politically undesirable in the 1980s for the reasons of domestic politics. The U.S. policy makers therefore had to adopt a policy of initially allowing the budget deficit to expand, while minimizing its adverse effects. They could accomplish this, first by liberalizing international capital markets in the 1980s and then by inducing Japan to expand government spending in the 1990s. Second, demanding Japan to open its markets and reduce its trade imbalance with the United States was more popular among American voters than raising taxes and cutting expenditure. This strengthened the political support for demanding Japan to reduce the trade imbalance by expanding its government spending. At the same time, it helped persuade Japan to accept the demand to expand government expenditure in order to avoid protectionist moves in the U.S. Congress. Third, a reduction of the U.S. current account deficit by expanding the Japanese government spending would help reduce the U.S. budget deficit without adverse effects on the U.S. economy. Therefore, it made perfect sense for the U.S. policy makers to demand that Japan reduce its trade imbalance by expanding government expenditure in the 1990s.

7. Concluding Remarks

Most of the popular economic problems that concern both the United States and Japan revolve around trade issues. They include overshooting of the yen/dollar exchange rate, Japanese distribution system, access to the Japanese market, industrial groups called Keiretsu, and industrial policy.¹¹ These issues are important. However, a more important issue for both countries concerns the long-run effects of government spending on macroeconomic performance. The point is that the expansion of government spending will crowd out investment through higher interest rates and adversely affect economic growth.

As Krugman (1994) has pointed out, the main source of economic welfare is productivity growth: "Productivity isn't everything, but in the long run it is almost everything. A country's ability to improve its standard of living over time depends almost entirely on its ability to raise its output per worker." This proposition is true whether we are talking about a closed or an open economy and whether we are talking about liberalized or regulated international capital markets. The important issue is therefore how to promote growth through economic policy. In this context, macroeconomic policy becomes particularly important because of the recognition that an increase in government spending will crowd out private investment and deter economic growth.

The appropriate macroeconomic policy, however, depends on whether it is a closed economy or an open economy and whether it has an integrated international capital market. In a closed economy, the appropriate policy is straightforward: Control government expenditure so that it will not raise interest rates, crowd out investment, and deter economic growth. In an open economy with integrated international capital

¹¹These issues are discussed in Krugman ed. (1991).

markets, however, macroeconomic policy becomes more complicated because of its intertemporal and international implications.

The major question that the U.S. policy makers faced in the 1980s and 1990s was how to minimize the potentially adverse effects of the huge budget deficit on growth. The right answer turned out to be as follows: First, liberalize and integrate international capital markets so that the United States can borrow capital from abroad, particularly from Japan, to finance the U.S. budget deficit without causing higher domestic interest rates and crowding-out of investment in the 1980s. Second, persuade Japan to expand its government expenditure so that the United States could swap budget deficits with Japan in the 1990s. This scenario of strategic intertemporal macroeconomic policy could initially allow the U.S. budget deficit to expand and then reduce it without serious adverse effects on the growth of the U.S. economy.

A question arises, however, whether this scenario of strategic intertemporal macroeconomic policy would bring benefits to the Japanese economy. First of all, the fundamental fact about Japan is that its population is aging rapidly and welfare-related expenditures are expected to rise in the next few decades. Finding ways to control government expenditure is almost certain to become a major economic and political issue in Japan. Moreover, fiscal policy has become ineffective in stimulating the economy with integrated international capital markets. Therefore, it is difficult to argue that Japan should substantially expand government spending in the 1990s, despite the fact that the country remains trapped in a prolonged recession. The main message of this paper is that policy makers must consider the international and intertemporal implications of their macroeconomic policy actions. I wonder if Japanese policy makers have been fully aware of the implications of the strategic intertemporal macroeconomic policy.

Finally I would like to point out a "fiscal externality" problem and the resulting

need for international coordination of fiscal policies. It is true for both closed and open economies that increased government spending will adversely affect economic growth in the long run. However, there is an important difference between the two cases: In a closed economy, the adverse effects of increased government spending will appear within that economy. This gives the government an incentive to be careful about its own fiscal policy and its effects. In an open economy, however, the impact will spill over beyond the border so that the country can "export" the adverse effects of its increased government spending to other countries. It creates a "fiscal externality" in the world economy. Each government has less constraints in an open economy than in a closed economy to expand government spending. This in turn implies a greater need for fiscal policy coordination among countries as the world economy is becoming more and more open and integrated. The problem here is the same as that of the "prisoner's dilemma" game: In an open world economy it is often in the interest of each government to expand government spending for the reasons of domestic politics. However, if they all do so, it would raise the world interest rate, crowd out investment, and reduce growth of the world economy. Further investigation of this problem is the task of future research.

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