The sustainability of foreign borrowing in selected ASEAN countries

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論 文

THE SUSTAINABILITY OF FOREIGN BORROWING IN SELECTED ASEAN COUNTRIES

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I. Introduction

The East Asian developing countries displayed a good economic performance in 1991-95, supported by their sustainable foreign borrowings. Since 1996, however, they have faced an adjustment phase. Some ASEAN countries, especially those with large current account deficits, are currently feeling the great market pressure of currency depreciation, with the currency crisis of Thailand in July 1997 being the primary example.

Will those current account deficit-bearing ASEAN countries continue to depend on foreign borrowing in a sustainable way through the latter half of the 1990s? In other words, is the existing currency crisis and its prevailing pressure in the selected ASEAN countries serious enough to lead to a debt crisis[1]?

This article examines the sustainability of foreign borrowing among selected ASEAN countries in the latter half of the 1990s, and compares the current situation with the dramatic outbreak of the debt crisis in the early 1980s. Section II outlines some recent trends in the East Asian economies, including the adjustment phase since 1996. Section III presents a theoretical framework to analyze the sustainability of foreign borrowing and clarifies the conditions for sustainable borrowing. Section IV examines the sustainability of foreign borrowing among selected ASEAN countries, based on several empirical studies of macroeconomic environment in the world economy and their policy actions.

II. An Overview of the East Asian Economies

A. Good Economic Performance in 1990-95

In general, the East Asian economies performed well from 1991 through 1995. Table 1 shows that in most of the countries, growth rates actually accelerated from 1981-90 to 1991-95, while inflation rates showed a favorable trend during the same period. The high growth of the East Asian countries is said to have been achieved by highly favorable economic environments such as the strong appreciation of yen after 1985 and the adoption of policies conducive to growth, including sound macroeconomic policies and policies to improve the efficiency of resource allocation such as privatization of government-owned enterprises, deregulation of prices and interest rates, the liberalization of trade, the relaxation of restrictions on capital movement, and the promotion of export-oriented sectors. These

Table 1 Major Economic Indicators in Selected East Asian Countries

	1981—90	1991	1992	1993	1994	1995	1996
Gross Domestic Product (% change in real terms)							
Korea, Rep. of	9.1	9.1	5.1	5.8	8.6	9.0	7.0
Singapore	7.3	7.3	6.2	10.4	10.5	8.8	7.0
Taipei, China	8.8	7.5	6.8	6.3	6.5	6.0	5.7
Indonesia	5.8	8.9	7.2	7.3	7.5	8.2	7.8
Malaysia	5.2	8.7	8.0	9.0	9.1	10.1	8.8
Philippines	1.0	−0.6	0.3	2.1	4.4	4.8	5.5
Thailand	7.9	8.5	8.1	8.3	8.9	8.7	6.7
Inflation Rate (% change in CPI)							
Korea, Rep. of	6.4	9.3	6.2	4.8	6.2	4.5	5.0
Singapore	2.2	3.4	2.3	2.3	3.1	1.7	1.4
Taipei, China	3.1	3.6	4.4	2.9	4.1	3.7	3.1
Indonesia	8.5	9.4	7.6	9.6	8.5	9.4	7.9
Malaysia	3.2	4.4	4.7	3.6	3.7	3.4	3.5
Philippines	13.4	18.7	8.9	7.6	9.0	8.1	8.4
Thailand	4.4	5.7	4.1	3.4	5.1	5.8	5.9
Merchandise Exports (% change in f. o. b base)							
Korea, Rep. of	15.3	10.2	8.0	7.7	15.7	31.5	4.1
Singapore	12.1	12.1	8.5	17.0	25.8	21.5	6.7
Taipei, China	15.2	13.0	6.9	4.5	9.4	20.0	8.2
Indonesia	3.6	10.5	14.0	8.3	9.9	13.1	8.8
Malaysia	8.5	17.0	18.1	16.1	23.1	25.9	4.0
Philippines	5.4	8.0	11.1	15.8	18.5	29.4	17.5
Thailand	14.3	23.8	13.7	13.4	22.2	24.7	0.1
Current Account Balance (% of GNP)							
Korea, Rep. of	0.5	−2.8	−1.3	0.3	−0.1	−1.8	−4.9
Singapore	−0.2	11.2	11.1	7.3	15.9	17.6	15.3
Taipei, China	7.0	6.6	3.8	3.0	2.5	1.8	3.7
Indonesia	−2.4	−3.5	−2.1	−1.4	−1.6	−3.6	−4.1
Malaysia	−2.9	−9.2	−3.9	−4.6	−6.0	−9.0	−6.3
Philippines	−3.7	−2.2	−1.8	−5.5	−4.5	−3.3	−4.1
Thailand	−3.9	−7.8	−5.8	−5.2	−5.8	−8.3	−8.1
Total Debt Stock (% of GNP, end of year)	(1990)						
Indonesia	64.0	64.9	66.2	58.7	57.2	56.9	n. a.
Malaysia	40.1	40.7	36.8	43.8	44.0	42.6	n. a.
Philippines	68.7	70.5	60.7	64.9	60.8	51.5	n. a.
Thailand	33.2	39.0	38.3	34.9	34.4	34.9	n. a.

Sources: Asian Development Bank, "Asian Development Outlook 1997 and 1998." Oxford University Press, 1997. IMF, "International Financial Statistics." World Bank "Global Development Finance 1997."

policies and favorable economic environments enabled the East Asian economies to strengthen economic growth by attracting foreign direct investment and by expanding exports.[2]

While growth rates rose in 1990-95, current account deficits expanded during the same period, especially in some South East Asian economies, most notably Malaysia and Thailand. The rapid increase in imports and investments to sustain production of export goods seemed to play a major role in this. At the same time, those countries experienced massive foreign private capital inflows.[3] During the period from 1991 to 1995, foreign inflows could finance their foreign exchange gap and investment-saving gap in a sustainable way, since they did not cause significant increases in the debt-export and debt-GNP ratios.

B. Adjustment Phase After 1996

After 1996, the East Asian countries have faced an adjustment phase. Table 1 shows that export growth sharply slowed down and growth rates moderated in 1996. The slowdown is said to a temporary and cyclical phenomena, driven largely by the collapse in the market for computer chips, some slowing in industrial growth in 1996, the yen depreciation (which improved Japan's competitiveness), and the tighter monetary and fiscal policies that most East Asian countries took in 1996 in an attempt to cool their overheated economies.[4] However, the performance in 1996 poses an important question regarding growth prospects: How likely is it that the experience of 1996 will foreshadow a more difficult future? This point will be examined in the context of the sustainability of foreign borrowing in Section IV.

The current account deficits have been further exacerbated by the sharp slowdown in export growth in some Southeast Asian countries since 1996. Especially in Thailand, the larger current account deficit gave rise to exchange market pressures and tumbling foreign exchange reserves, and led to a currency crisis.[5] On July 2, 1997, Thailand finally allowed its currency, the baht, to "float" by abandoning the substantially fixed exchange rate system. The baht immediately nosedived, and started a chain reaction of the devaluation in the Philippines, Malaysia, and Indonesia. On August 5, the Thai government finally announced that it had reached agreement with the International Monetary Fund on a tough program of economic and financial reforms to be implemented in return for a $15 billion package of loans.[6]

III. The Concept of Sustainability of Foreign Borrowing

A. Significance of Foreign Borrowing

Foreign borrowing is an accepted part of economic development. Access to foreign savings permits countries to invest more than they can save and to import more than their export earnings would allow. If the additional investment and imports are put to productive use, they should yield sufficient returns to pay the interest, dividends, and principal on the initial foreign inflows. Under these circumstances, continuing foreign borrowing and growing external debt can be sustainable and consistent with development.

Most developing countries have borrowed extensively from abroad and now carry substantial debts to foreigners. Much developing-country borrowing could potentially be explained by the incentives for "intertemporal trade".[7] Low-income countries generate insufficient savings of their own to

take advantage of all profitable investment opportunities; they must borrow from abroad. In capital-rich countries, on the other hand, the most productive investment opportunities have already been exploited, but savings levels are relatively high. Savers in developed countries can obtain more attractive rates of return, therefore, by lending to finance investments in the developing world. When developing countries borrow to undertake productive investments that they would not otherwise undertake, both they and the lenders reap gains from trade. Borrowers gain because they can build up their capital stocks in spite of limited national savings levels. Lenders gain because they earn higher returns on their savings than they could earn at home.[8]

While the above reasoning provides a rationale for developing-country foreign borrowing and debt, it does not imply that any and all loans from developed to developing countries are justified. Loans to finance unprofitable investments or imports of consumer goods may result in debts that borrowers cannot repay. In addition, faulty government policies that abnormally depress the national savings rate may lead to excessive foreign borrowing. The conditions for the sustainability of foreign borrowing must be taken into account.

B. Constraints on Foreign Borrowing[9]

Any discussion of sustainability starts with the dynamic constraints on foreign borrowing. We can show these constraints in terms of the two-gap model. Foreign inflows can finance one of two possible gaps in an economy: (i) the foreign exchange gap, equal to imports less exports of goods and non-factor services or (ii) the gap between investment and domestic savings.[10]

If the foreign exchange gap is binding, then foreign inflows help growth by increasing imports. In any period, the increase in debt due to this inflow is

$$dD/dt = (M-E) + iD, \qquad (1)$$

where D is the stock of debt at any time, dD/dt is the change in the stock, $M-E$ is imports less exports of goods and non-factor services, and i is the average interest rate paid on all foreign inflows, including loans, equity and grants. Similarly, the increase in debt due to the inflow to finance the investment-saving gap is

$$dD/dt = (I-S_d) + iD, \qquad (2)$$

where I is investment and S_d is domestic savings.

Because economies grow with time, it is more useful to rewrite these constraints in terms of ratios to exports or GNP. Equation (1) becomes thus:

$$d(D/E)/dt = a + (i-g_E)(D/E), \qquad (3)$$

where a is the ratio of the foreign exchange gap to exports, $(M-E)/E$, and g_E is the growth rate of exports (E). Similarly, equation (2) becomes:

$$d(D/Y)/dt = (v - s) + (i - g_Y)(D/Y), \qquad (4)$$

where Y is GNP, v is the investment share of GNP, s is the propensity to save out of GNP, and g_Y is the growth rate of GNP.

Equations (3) and (4) are central to any discussion of sustainability. They say that the evolution of the ratio of debt to exports or GNP depends on two sets of factors. In equation (3), the first is the foreign exchange gap to exports. The second is the product of the ratio of accumulated debt to exports times the difference between the interest rate and the growth rate of exports. In equation (4), the first is the investment-savings gap to GNP, and the second is the product of the ratio of accumulated debt to GNP times the difference between the interest rate and the growth rate of GNP.

C. Conditions for Sustainable Foreign Borrowing

We can now find the long-run equilibrium conditions for sustainable foreign borrowing. In the long run the ratio of debt to exports will settle at:

$$D/E = a/(g_E - i). \qquad (5)^{[11]}$$

Equation (5) tells us that, for a given foreign exchange gap a, there is an equilibrium ratio of debt to exports that can be sustained. If g_E is greater than i, the gap can remain positive; this means that the country can continue to borrow and service its debt without a rise in its ratio of debt to exports. If the growth of exports could be pushed above the growth of imports, the debt-export ratio would fall. If, on the other hand, the growth rate of exports were to fall below the interest rate, the only way to sustain debt would be to turn the foreign exchange gap into a surplus and begin repaying the debt.[12]

Similarly, the long-run equilibrium ratio of debt to GNP is

$$D/Y = (v - s)/(g_Y - i). \qquad (6)$$

Equation (6) shows that, for a given investment-saving gap, there is an equilibrium ratio of debt to GNP. If g_Y is greater than i, the country can leave the gap positive without a rise in its ratio of debt to GNP. If g_Y were to fall below i, the country would have to turn the gap into a surplus in order to sustain debt.

D. Debt Crisis and Sustainable Foreign Borrowing

From a debtor country's point of view, the term "debt crisis" is taken to refer to the possibility that repayment of debts will involve such a heavy burden in terms of loss of current living standards for the population that the government will be tempted to default on or at least reschedule their debt service payments.[13] A good indicator of the burden is the net resource transfer[14] from creditors to the debtor. A negative net resource transfer means that new loans are insufficient to cover debt service plus other capital outflows, so that a net resource flow from debtors to creditors arises. Once the net resource transfer becomes negative, the temptation to default can arise.[15] This is at least what would happen if the growth rate of exports or GNP were to fall below the interest rate, since the only way for

the government to sustain the debt would be to generate surpluses of trade or savings to be used for the repayment of the debt. This situation corresponds to the negative net resource transfer.[16]

Inversely, a debt crisis clearly will never occur as long as the growth rate of exports or GNP is greater than the interest rate, since the country can continue to borrow all the money needed to service its debts without a rise in its ratio of debt to GNP. In other words, the borrower does not have to contribute any of its own resources to servicing its debts. This scenario corresponds to the positive net resource transfer.

The sustainability of foreign borrowing in debtor countries, therefore, depends primarily on whether their growth rates of exports or GNP remain greater than the interest rate on their debt.

E. Interest Rates and Export or GNP Growth Rates

The next question concerns situations in which the growth rate of exports or GNP is greater than the interest rate. These economic variables are mainly influenced by a combination of macroeconomic environment in the world economy and policy actions in the debtor countries.[17]

Macroeconomic shocks in the world economy, followed by the dramatic outbreak of the debt crisis in the early 1980s, occurred typically in terms of the sharp rises in dollar-based interest rates in 1981 and the world recession in 1981-1982.[18] These shocks were brought about by the tight money policies and the fiscal stringency of the industrial countries to fight the inflation caused by the oil shock. While the rises in interest rates imposed heavy transfer burdens on developing debtors, the world recession shrunk the markets for debtor-country exports, thereby also shrinking their growth rates and causing a decline in commodity prices.

As for the policy actions in the debtor countries, the key to enhancing the growth of exports or GNP is to put foreign resources to productive use in export industries, or to invest foreign savings in assets that are productive enough to boost economic growth. Whether foreign resources are really being used efficiently, depends on the types of policies, specifically of fiscal policy and trade policy undertaken.[19]

F. Policy Requirements for Sustainable Foreign Borrowing

Concerning fiscal policy, the existence of budget deficits may influence on growth performance, the extent to which depends on the productivity of the public spending relative to the productivity of private investment that is displaced.[20] Provided that public spending is directed toward key areas where there are significant market failures such as those arising from externalities, overall productivity and growth are likely to benefit. The contribution of public spending to growth, therefore, depends on its composition; expenditures on improving the provision of primary education and basic health services, on productive investment in such areas as transport and communications, and on essential government services, can be effective in enhancing growth, whereas increasing civil service employment to expand governmental administrative functions, or expenditure on military equipment, may reduce the productive capacity of the economy by limiting the resources available to the private sector. During the oil shocks (1973-74 and 1978-80), many governments in developing countries, facing plunges in income that sometimes threatened political stability, tried to compensate by increasing public spending and thus increasing budget deficits. This is a typical example in which resources are not channeled into

productive investments that would eventually pay off the debts.

As for trade policy, it is well known from trade theory that protectionist policies like tariffs, quotas, and overvalued exchange rates tend to lead to significant distortions in resource allocation in such a way that investment is allocated too heavily toward nontradables and import-competing goods and too little toward exportables.[21] The high-debt countries of Latin America have been characterized by a considerable degree of import protection and anti-export bias. On the other hand, outward-oriented countries like South Korea have had successful export growth with heavy government involvement in exporting sectors through subsidies and direct credit allocations.

IV. Evidence from Selected ASEAN Countries

The issues on the sustainability of foreign borrowing have intensively been discussed in the context of analyzing the case of the dramatic outbreak of the debt crisis in the early 1980s. For example, the National Bureau of Economic Research undertook the Project on Developing Country Debt in 1989 to seek to provide a detail and comprehensive analysis of the developing country debt crisis in the 1980s. This Project analyzed the crisis from two perspectives, the individual debtor country, and the international financial system as a whole. A major goal of the country studies is to understand why some countries, such as Argentine or Mexico, succumbed to serious crisis, while others, such as Indonesia or Korea, did not. Another goal is to understand why most of debtor countries had been unable to overcome the crisis despite many years of harsh economic adjustments. In this studies Sachs (1989) argued, by referring to the interest rate-export growth rate relationship, that the debt crisis arose from a combination of policy actions in the debt countries, macroeconomic shocks in the world economy, and remarkable spurt of unrestrained bank lending.[22]

Fishlow (1988) discussed the problems of debt management by drawing lessons from practical experience in the 1970s and the 1980s. In his treatise, he proclaimed, by showing the formulas of debt dynamics, that debt capacity is determined by the ability to generate the return flow through debt service by continuing growth of saving, exports, and governmental receipts in the one side and the costs represented by the interest rate on the other.

We now extend the previous studies on the debt crisis in the 1980s to the recent cases in the current account deficit-bearing ASEAN countries. We focus on Indonesia, Malaysia, the Philippines, and Thailand, all of which have faced a larger current account deficit since the 1990s. We will examine the sustainability of their foreign borrowing, and whether their recent currency crises are serious enough to lead to debt crises. As a comparison, we add Mexico to the examined countries, since the country suffered from a serious debt crisis in the early 1980s and a currency crisis at the end of 1994.

A. Interest Rates and Export or GNP Growth Rates

What is the relationship between the interest rate and the growth rates of exports and GNP? Table 2 describes some trends over the past twenty years of six-month dollar LIBOR, the growth rates of exports of goods and services and GNP, and total external debt relative to exports and GNP.[1] The following are the main findings from Table 2.

1. Growth rates from 1981 to 1985 of exports and GNP were much lower than LIBOR. The LIBOR of that period was significantly higher than that of the other period, while the growth rates of ex-

Table 2 Interest Rates and Growth Rates of Exports and GNP

	1976—80	1981—85	1986—80	1991—95	1996
6—month dollar LIBOR (%)	9.6	12.0	8.0	4.9	5.6
Exports of Goods and Services (% change in dollars base)					
Indonesia	25.9	−2.1	8.3	12.2	11.3
Malaysia	27.6	3.7	14.2	19.5	n. a.
Philippines	20.3	−0.2	10.9	19.5	35.2
Thailand	23.6	3.5	25.1	18.8	2) 0.1
Mexico	31.1	3.8	12.9	12.2	19.3
Gross National Product (% change in dollars base)					
Indonesia	19.0	1.3	6.5	11.6	12.4
Malaysia	20.3	4.1	7.2	14.5	n. a.
Philippines	17.4	−1.6	6.5	11.4	14.1
Thailand	17.5	2.6	17.7	14.0	n. a.
Mexico	15.8	−1.5	7.4	−0.1	16.7
Total External Debt (% of exports, end of year)	(1980)	(1985)	(1990)	(1995)	
Indonesia	94.1	178.7	233.9	202.9	
Malaysia 1)	26.0	77.7	47.6	40.8	
Philippines	218.3	330.1	230.4	121.7	
Thailand	96.6	171.4	89.8	76.6	
Mexico	233.2	327.6	191.4	170.5	
Total External Debt (% of GNP, end of year)	(1980)	(1985)	(1990)	(1995)	
Indonesia	27.9	44.9	64.0	56.9	
Malaysia 2)	16.3	47.8	40.1	42.6	
Philippines	49.6	80.6	68.7	51.5	
Thailand	25.2	46.7	33.2	34.9	
Mexico	31.9	58.3	43.8	69.9	

Note:
1) The data of Malaysia in 1980 and 1985 do not represent total external debt, but public and publicly guaranteed debt.
2) The growth rate of merchandise exports.

Sources: World Bank "World Debt Tables: External Debt of Developing Countries, 1986—87 edition," "Global Development Finance 1997." IMF, "International Financial Statistics."

ports and GNP were definitely lower. It is from 1980 to 1985 when the ratio of external debt to exports and GNP rose sharply in all of the sample countries. Among these samples, the Philippines and Mexico (whose ratios were higher and were rapidly rising up until 1985) succumbed to debt crises in terms of debt rescheduling during the early 1980s.

2. In the 1990s, the selected ASEAN countries have in general enjoyed favorable gaps between LIBOR and the growth rates of exports and GNP, although Thailand showed a sudden decline of export growth below the level of LIBOR. During the 1990s, their ratios of external debt to exports and GNP have not indicated any significant increase. Mexico, however, showed much lower

Table 3 Global Conditions Affecting Growth in Developing Countries
(average annual percentage change except for LIBOR)

	1981—90	1991—95	1995	1996 Estimate	1997—2006 (forecast)
Real GDP in G-7 countries	2.9	1.8	1.9	2.3	2.6
Inflation in G-7 countries	4.6	2.8	2.0	2.1	2.5
World trade	4.2	6.3	9.1	5.4	6.4
LIBOR (six months, US$)	10.0	4.9	6.0	5.7	6.2
Real six-month LIBOR	5.0	1.7	3.2	2.5	3.1

Source: World Bank (1997c).

growth of GNP than LIBOR, thereby leading to the sharp rise in the ratio of external debt to GNP. At the end of 1994, Mexico experienced a currency crisis in terms of the shortage of foreign reserves and the shift to a flexible exchange rate.

These findings imply that the actual movements of the gaps between LIBOR and the export and GNP growth, the ratios of external debt to exports and GNP, and the incidence of debt crisis are consistent with the theoretical conditions for sustainable foreign borrowing that we presented in the previous section.[23]

B. World Macroeconomic Environment in the 1990s

From the findings above, the next question arises on whether the favorable gaps between LIBOR and the growth rates (the key condition for sustainable foreign borrowing) will still hold in the latter half of the 1990s. We now examine the future trends of these economic variables from the viewpoints of the world macroeconomic environment and policy actions in the selected ASEAN countries, according to the previous section.

Concerning the trends of the world macroeconomic environment, international organizations do not forecast any world-wide shocks in the next five years that would be serious enough to lead to a world recession and a sharp rise in interest rates like those of the early 1980s. The World Bank (1997c) presents its projections for the coming decade by envisaging a favorable international economic environment for the developing countries in aggregate. From 1997 to 2006, the real GDP in the G-7 countries will continue their stable growth of 2.6%, and world trade will record high growth of 6.4%, while LIBOR will stay at a lower level of 6.2% than those that prevailed during much of the 1980s (Table 3). The projections made by the International Monetary Fund (1997) are also similar to those of the World Bank.

C. Policy Actions in Selected ASEAN Countries

The crucial point is whether fiscal and trade policies play a role in allocating foreign resources to productive use to enhance the growth of exports or GNP.

Concerning fiscal policy, there has been a improvement in the fiscal balance of the selected ASEAN countries since the 1990s. Table 4 shows that in Malaysia and the Philippines the balance turned into surplus, while Thailand has kept its surplus, during the 1990s. These trends of fiscal consolidation can be consistent with the efficient allocation of resources in the long run.

Table 4 Fiscal Balance in Selected East Asian Countries

	1990	1991	1992	1993	1994	1995	1996
Fiscal Balance (% of GDP)							
Indonesia	1.8	−0.7	−0.4	−0.4	0.2	−0.2	n. a.
Malaysia	−3.0	−2.0	−0.8	0.2	2.3	0.9	0.6
Philippines	−3.5	−2.1	−1.2	−1.5	1.0	0.6	0.3
Thailand	4.9	4.3	2.6	1.9	2.7	3.0	0.9
Mexico	−2.8	−0.2	1.5	0.4	−0.8	−0.7	n. a.

Source: Asian Development Bank, "Asian Development Outlook 1997 and 1998."
Oxford University Press, 1997.
IMF, "International FInancial Statistics."

As for trade policy, first, the implementation of trade liberalization initiatives are expected to be promoted in the framework of APEC. Second, the transition to a flexible exchange rate system in Thailand and Indonesia will contribute to sustain export growth. The sample countries had so far maintained stable exchange rates against the U. S. dollar by pegging their currencies to a basket of currencies dominated by the U. S. dollar. Table 5 depicts that such pegging entailed appreciation of their currencies in real effective terms given inflation differentials until 1996 (in Mexico, until 1994), which means a loss of international price competitiveness to their countries. The adoption of a flexible system in Thailand (July, 1997) and Indonesia (August, 1997), and the devaluation under downward market pressures in the other countries will almost certainly improve their competitiveness. Mexico, who adopted a flexible system at the end of 1994, is under the recovery in the growth rate of GNP and exports.

Lastly, we check the overall investment efficiency by seeing incremental capital-output ratio (ICOR) in the sample countries. The decrease in ICOR implies the improvement of investment efficiency. Table 6 indicates that the trend of ICOR differs in each country: Thailand and the Philippines show an increase in this trend, while Indonesia shows a decrease. Mexico shows an increase up to 1994 and a decrease thereafter. As a preliminary interpretation, Thailand and the Philippines may have structural shortcomings to constrain growth such as fragile financial systems, insufficient infrastructures, and so on.

In any case, we need further quantitative studies on the relations between policy actions and the growth of exports or GNP.

V. Concluding Remarks

The key condition for debtor countries to enjoy sustainable foreign borrowing lies in whether their growth rates of exports or GNP remain greater than a LIBOR-linked interest rate on their debt. These economic variables are mainly influenced by a combination of macroeconomic environment in the

Table 5 Real Exchange Rates in Selected East Asian Countries

	1990	1991	1992	1993	1994	1995	1996	1997
Nominal Rates (per local currency)	(1990=100, Period Average)							(Aug.)
								1)
Indonesia ①	100.0	94.5	90.8	88.3	85.3	82.0	78.7	63.8
Malaysia	100.0	98.4	106.2	105.1	103.1	108.0	107.5	93.0
Philippines	100.0	88.5	95.3	89.6	92.0	94.5	92.7	84.0
Thailand	100.0	100.3	100.7	101.1	101.7	102.7	101.0	75.8
Mexico	100.0	93.2	90.9	90.3	83.3	43.8	37.0	38.5
Consumer Prices								
United States ②	100.0	104.2	107.4	110.6	113.4	116.6	120.0	n. a.
Indonesia ③	100.0	109.4	117.7	129.0	140.0	153.2	165.4	n. a.
Malaysia	100.0	104.4	109.3	113.2	117.4	123.6	128.0	n. a.
Philippines	100.0	118.7	129.3	139.1	151.7	164.0	177.8	n. a.
Thailand	100.0	105.7	110.0	113.7	119.6	126.4	133.8	n. a.
Mexico	100.0	122.7	141.7	155.5	166.3	224.5	301.7	n. a.
Real Rates (per local currency)								2)
Indonesia ①*③/②	100.0	99.2	99.5	103.0	105.3	107.7	108.4	87.9
Malaysia	100.0	98.5	108.1	107.6	106.7	114.5	114.6	99.2
Philippines	100.0	100.8	114.7	112.7	123.1	133.0	137.4	124.4
Thailand	100.0	101.7	103.2	103.9	107.3	111.3	112.5	84.5
Mexico	100.0	109.8	119.9	126.9	122.2	84.4	93.0	96.8
Real Effective Rates (per local currency)								3)
Indonesia	100.0	100.9	99.6	101.5	100.3	98.7	103.2	96.6
Malaysia	100.0	98.8	106.4	109.5	106.3	106.1	111.0	109.7
Philippines	100.0	97.0	105.7	97.4	104.4	103.4	114.5	115.3
Thailand	100.0	102.3	98.7	100.1	99.5	97.7	104.5	89.8
Mexico	100.0	106.2	107.7	116.6	112.2	78.9	89.8	106.2

Note:

1) Nominal Exchange Rates on August 29, 1997.

2) Real Exchange Rates on August 29, 1997, adjusted by Consumer Prices in 1996.

3) Real Effective Rates on Period Average of August, 1997.

Sources: IMF, "International Financial Statistics."
The Japanese NIKKEI Newspaper dated August 30, 1997.
Real Effective Rates: The J. P. Morgan Currency Index.

world economy and policy actions in the debtor countries.

Based on this theoretical framework, we have examined the sustainability of foreign borrowing in the selected ASEAN countries of Indonesia, Malaysia, the Philippines, and Thailand, all of which have faced a larger current account deficit since the 1990s. Whether the favorable gaps in terms of the excess of their growth rates of exports and GNP over LIBOR in the first half of the 1990s will still hold

Table 6 Incremental Capital-Output Ratios in Selected East Asian Countries

	1990	1991	1992	1993	1994	1995	1996
ICOR (for the past 5 years)							
Indonesia	2.46	2.36	2.58	2.14	2.15	2.10	2.09
Malaysia	3.31	2.66	2.73	3.07	3.17	n. a.	n. a.
Philippines	1.57	1.48	1.67	1.96	2.00	2.06	2.10
Thailand	2.34	2.46	2.71	3.05	3.26	3.39	n. a.
Mexico	0.53	0.63	0.80	0.97	1.12	1.03	0.87

Note:
ICOR for the past 5 years: ICOR 95= (I 91+I 92+I 93+I 94+I 95)/(GDP 95−GDP 90).
Sources: IMF, "International Financial Statistics."

in the latter half of the 1990s, from the standpoints of the world macroeconomic environment and their policy actions is the question. The main implications are:

1. Concerning the trends of the world macroeconomic environment, according to the projections of the World Bank and the IMF, there seems to be little possibility that world-wide shocks serious enough to trigger a world recession and a sharp rise in the interest rate like those of the early 1980s will occur in the next five years.
2. Concerning policy actions, the improvement in the fiscal balance since the 1990s, the implementation of trade liberalization initiatives, and the recent transition to a flexible exchange rate system in Thailand and Indonesia are favorable trends for enhancing their growth of exports and GNP. The recent decreasing trends of ICOR in Thailand and the Philippines, however, imply some structural problems. In any case, further quantitative studies are needed on the discussion of the relations between policy actions and the growth of exports or GNP.

Although the world macroeconomic climate is expected to be good enough for sustainable foreign borrowing at present, it is not devoid of downside risks. The strategic implication of our findings is the necessity of policy actions for debtor countries to reinforce their economic structures for producing sustainable and robust economic growth, so that they will not succumb to a debt crisis even if external shocks do arise.

NOTES

(1) The concept of currency crisis is different from that of debt crisis in that the former mainly concerns a continued decline in international reserves and its accelerating process made by the speculation of market participants, while the latter concerns the government's default on or rescheduling debt service payments; even if a country has no debt, it may suffer a shortage in foreign reserves caused by, for example, its overvalued exchange rate. See McLeod (1996).

(2) See APEC (1995).

(3) The World Bank (1997a) reports that net private capital flows to developing countries exceeded $240 billion in 1996, nearly six times greater than they were at the start of the decade, and that only a dozen countries, including Malaysia, Thailand, and Indonesia, accounted for about 80 percent of net private flows to developing countries during 1990-95.

(4) See World Bank (1996) and Asian Development Bank (1997).

(5) In addition to the large current account deficit, the heavy dependence on short-term private capital inflows motivated by the financial liberalization in 1993 is pointed out as one cause of the currency crisis.

(6) The currency crisis in 1997 refers to The Economist (1997).

(7) The descriptions in this section mostly refer to Krugman and Obstfeld (1994), Chapter 7 and 21.

(8) This theory of "Intertemporal Comparative Advantage" underlies the so-called "Debt Cycle Hypothesis". The hypothesis is explained in World Bank (1985).

(9) The descriptions in this section mostly refer to Gillis, Perkins, Roemer and Snodgrass (1996), Chapter 15.

(10) The basic argument of the two-gap model is that most developing countries face either a shortage of domestic savings to match investment opportunities or a shortage of foreign exchange to finance needed imports of capital and intermediate goods. Most two-gap models assume that the savings gap and the foreign-exchange gap are unequal in magnitude and that they are independent, that is, that there is no substitutability between savings and foreign exchange. The implication that follows is that one of the two gaps will be "binding" or "dominant" for any LDC at a given point in time. The two-gap model was developed by McKinnon (1964), Chenery (1966), and others as a macroeconomic planning model. We here follow this model.

(11) Initial growth rates of the debt decelerate as limiting ratios are approached. The limit is: $\mathrm{Lim}_{t\to\infty}(D/E) = a/(g_E - i)$. For more details see Fishlow (1988).

(12) A surplus must be produced to finance the excess interest requirements from past due debt. Such situations have happened in precisely that way in the high-debt countries of Latin America.

(13) The descriptions on the concept of debt crisis refer to McLeod (1996).

(14) Net resource transfer is defined as the amount of new loans that creditors are extending, less the flow of interest and principal payments from debtor to creditor, less any other net capital outflows from the debtor. See Krugman and Obstfeld (1994), Chapter 21.

(15) Krugman and Obstfeld (1994) in Chapter 21 argue that a default finally occurs when the benefit of stopping payment on loans exceeds the perceived cost of violating loan agreements such as seizure of assets, exclusion from future borrowing and reduction of gains from international trade.

(16) Once the interest rate rises above the growth rate of exports or GNP, the country cannot simply borrow the money to service its debts without incurring a sharply rising debt-to-export ratio or debt-to-GNP ratio. Sooner or later, through a widespread loss of confidence in repayment, the country will be cut off from new borrowing, and it will have to pay for its debt servicing out of its own national resources by running surpluses from the foreign exchange gap or the investment-saving gap to the rest of the world. See Sachs (1989).

(17) As for the relationship between interest rates and growth rates of GNP, the general theory says that an excess of the interest rate over the growth rate holds at least in the long run. For further discussion, see Blanchard and Fischer (1989).

(18) The descriptions on the macroeconomic environment mostly refer to Krugman and Obstfeld (1994) in Chapter 21, who also argue that the dollar's appreciation, in addition to the rise in interest rates, increased the real value of debt service.

(19) See Sachs (1989).

(20) The descriptions on the fiscal policy mostly refer to International Monetary Fund (1996), Chapter IV.

(21) The descriptions on the trade policy mostly refer to Sachs (1989). It argues that outward orientation in the sample of countries in the NBER studies is not at all the same thing as a free-market trade policy.

(22) See Sachs (1989).

(23) We use LIBOR as the interest rate, since interest rates on many developing-country loans are tied to LIBOR.

See Krugman and Obstfeld (1994) in Chapter 21. It is the dollar base on which we calculate the growth rates of exports and GNP to keep consistency with the equations in the previous section. The change in the real value of external debt caused by the change in currency value appears in the growth rates of exports and GNP on the dollar base.

(24) On statistical grounds, the relations between the interest rate-growth gaps and the ratio of external debt is not simple for many reasons. One is the fact that the current balance is not directly linked with the change in external debt, partly because foreign direct investment is not included in the world bank's statistical concept of external debt. For more details, See World Bank (1997b).

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