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THE SUSTAINABILITY OF CURRENT ACCOUNT DEFICITS AND CURRENCY CRISES IN SELECTED EAST ASIAN AND LATIN AMERICAN ECONOMIES*

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The Asian financial crisis in 1997 embarrassed both economists and policy makers alike. The width and depth of the underlying currency crises were unprecedented. The cause of these currency crises has yet to be established. The countries that experienced the currency crises all ran large current account deficits, which might suggest that large current account deficits caused the currency crises. However it is neither optimal nor possible to balance the current account period-by-period. This paper investigates whether the current account deficits in the countries that experienced currency crises were sustainable or not.

The empirical results show that the current account deficits were unsustainable in six of the eight countries under discussion; Korea and Malaysia were the two exceptions. The possibility that the current account deficits of Korea and Malaysia were sustainable cannot be rejected, despite the large size of their deficits. The results of this study may be interpreted as saying that the currency crises in Korea and Malaysia were probably caused, not by fundamental structural problems, but by other factors such as liquidity problems or contagion. The recent rapid economic recovery of Korea and Malaysia supports the view that their currency crises were not caused by fundamental disequilibrium.

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I. INTRODUCTION

The currency crisis triggered by the devaluation in July 1997 of the Thai

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currency, the Baht, had a disrupting contagious effect on other East Asia countries including the Philippines, Malaysia, Indonesia and Korea. These recent currency crises have spurred wide and intensive research on the causes of financial crisis.

There are many arguments as to why the Asian currency crises happened so abruptly and contagiously. The question as to what causes currency crises is very important for future comprehension, diagnosis, prediction and solution[1]. There are two different arguments and propositions regarding currency crises. One is the fundamental view, which goes back to a seminal paper by Paul Krugman (1979). The other is the self-fulfilling crisis or financial panic view by Radelt and Sachs (1998), which states that a currency crisis is caused by an abrupt shift in market expectations or in confidence.

The fundamental view argues that inconsistent policies induce a balance of payments crisis. Large current account deficits at a given exchange rate cause a reduction in international reserves, which induces the government to abandon maintaining its current exchange rate. This leads to massive capital outflows and a large currency devaluation. This fundamental view suggests that one sign of an oncoming currency crisis is large current account deficits.

In contrast, the financial panic view argues that the currency crisis is caused by investors' psychological volatility, or by other factors that are not directly related to fundamental factors. A financial panic is an adverse equilibrium outcome, in which short-term creditors suddenly try to withdraw their loans from a solvent borrower. A kind of bank-run on international capital lending occurs. Generally, countries do not hold enough cash to repay their debts in full. If the debtor is perceived to be approaching default, loan withdrawals accelerate. Under normal circumstances, lenders routinely roll over loans, but in a financial crisis, individual creditors decide not to re-lend so a massive capital outflow takes place. According to the financial panic view, a high ratio of short-term debt to international reserves increases the possibility of a currency crisis.

The East Asian countries afflicted in the recent currency crisis all ran large current account deficits for some time before the onset of the currency crisis and the sudden reversal of capital inflows. At that time, those large current account deficits in East Asia raised the question as to whether those imbalances could have been sustained. Once a country current proves to be unsustainable, creditors hurry to withdraw their loans from that country, possibly precipitating a currency crisis. In contrast, if the current account is sustainable, then even with large current account deficits a country is still able to borrow from international financial markets to finance those deficits.

It is therefore both interesting and important to examine whether the current

[1] For example, if crisis originates from financial panic, it may be most efficient to implement lender of last resort operations, whereas when more fundamental factors are responsible, restructuring is the most appropriate measure.

account deficits in East Asian countries were unsustainable and therefore led to the currency crisis. This paper investigates whether the current account deficits in the countries that suffered a currency crisis were sustainable. The sustainability of these current account deficits is compared with the events of the currency crisis in order to evaluate whether unsustainable current accounts lead to financial crisis.

The paper is organized as follows. Section II presents the literature survey. Section III presents the model used for empirical analysis on current account sustainability. Section IV presents empirical evidence on current account sustainability and identifies the relationship between sustainability and a currency crisis. Section IV concludes.

Ⅱ. LITERATURE SURVEY

It is worthwhile to examine the concepts of current account sustainability and currency crises. If the turning point from trade deficit to trade surplus is likely to occur smoothly without any drastic change in economic activity or consumption under current account deficits, the current account is sustainable. In contrast, if a drastic policy shift is required or a currency crisis is caused in order to address current account deficits, the position of the current account is unsustainable. A drastic change in policy or a crisis situation may be triggered by an external shock that causes a shift in domestic and foreign investors' confidence or a reversal of international capital inflow.

The concept of sustainability of current account deficits seems relatively clear. However, it is not easy to empirically evaluate the level at which current account deficits are sustainable. Krugman (1988) suggested the ratio of foreign debt to GDP be used as an indication of a country's ability to service its debt. A current account deficit of more than 5 percent of GDP maintained for several years signals that the current account is not sustainable.

A currency crisis is defined to be a situation that requires a large devaluation of the domestic currency, the introduction of a floating exchange rate system, a massive decline in international reserves, or a steep increase in the domestic interest rate. If the current account deficits in a country are unsustainable, creditors will want to withdraw their loans to the country, leading to a rapid reversal of capital inflow and a drastic shift in policy. In other words, unsustainable current account deficits tend to cause a currency crisis.

Systematic research on the sustainability of current account deficits goes back to the study of whether perpetual fiscal deficits are feasible. Hamilton and Flavin (1986) analyze the feasibility of fiscal deficits. They demonstrate that if the present value of expected future surpluses is stationary, the stock of government debt should also be stationary. Wilcox (1989) extends Hamilton and Flavin (1986) by allowing for variable real interest rates and stochastic violations of the borrowing constraint. He finds that the current course expected to be

pursued by U.S. fiscal policy is unsustainable.

Trehan and Walsh (1991) extend the research of Hamilton and Flavin. They show that if the trade balance is non-stationary given constant interest rates, the intertemporal budget constraint holds if and only if there exists a linear combination of the trade balance and foreign debt that is stationary, subject to other conditions. They also show that in the case of variable expected interest rates, stationarity of the interest-inclusive deficit is sufficient to imply that the intertemporal budget constraint is satisfied as long as expected interest rates are positive. They find that current account deficits were sustainable over the period 1946 to 1987.

Husted (1992) shows that the economy satisfies the intertemporal budget constraint if exports and imports, inclusive of interest payments, are cointegrated. He finds that in the United States there is no evidence of cointegration between exports and imports for the over-all period prior to 1991, but there is evidence of cointegration if a structural break in 1983 is considered.

Hakkio and Walsh (1992) argue that it is important to verify whether foreign exchange receipts and payments are cointegrated for sustainability of current account deficits. They show that the current account is sustainable if exports and imports, inclusive of interest payments, are cointegrated in a world of constant interest rates. For the U.S., they find no evidence of cointegration using quarterly data from 1975 to 1988 and conclude that U.S. fiscal policy is unsustainable.

J. Wu et al. (1996) test the sustainability of current account deficits in the U.S. and Canada, allowing for a structural break. They evaluate the period from 1974 to 1994 by determining whether there existed a cointegrating relationship between exports and imports, inclusive of interest payments. Their results provide conclusive evidence against the sustainability of current account deficits in these two countries.

Ahmed and Rogers (1995) develop a model to determine the sustainability of current account deficits in an economy with stochastic interest rates. They show that a country satisfies its intertemporal budget constraint if the expected limit of the present discounted value of its foreign debt is equal to zero. Furthermore they show the methodology to test for plausibility. First, cointegration is a necessary condition for the nation's intertemporal budget constraint to hold. That is, exports, imports and interest payments are cointegrated with the cointegrating vector being (1,-1,-1). In another words, the current account must be stationary, although it need not have a zero mean. Second, under certain conditions, the above cointegrating relationship is a sufficient condition for the intertemporal budget constraint to hold.

Kim (1998) examines the sustainability of the trade account deficits of Korea, Mexico and Thailand using methods proposed by Ahmed and Rogers. He finds that there is no cointegrating relationship between exports, imports and interest payments for Mexico and that cointegration of these three variables does exist

for Korea and Thailand. He also shows that the null hypothesis that the current account was sustainable cannot be rejected only for Korea.

Roubini and Backus (1998) present the conditions under which large current account deficits are sustainable by examining real rather than nominal variables. In summary, current account deficits are less sustainable when GDP growth is low, the budget deficit is high, private savings rates are low, the investment rate is low and there is a low degree of openness in the economy. The composition of capital inflows is also an important determinant of the sustainability of the current account. Short-term capital inflows are more dangerous than long-term inflows, and equity inflows are more stable than debt creating inflows. The ability to sustain deficits will be affected by the country's stock of international foreign reserves. Higher foreign exchange reserves enhance the sustainability of current account deficits. The soundness of the financial system has a close and positive relationship with the sustainability of the current account.

Ⅲ. EMPIRICAL METHODOLOGY

Consider a representative consumer from a non-stochastic small open economy that produces exports, and imports a single composite good. The agent is able to borrow and lend in international markets at a given world rate of interest. He or she is assumed to maximize lifetime utility subject to an intertemporal budget constraint. The current budget constraint of this agent is given by (1)

$$B_t - B_{t-1} = C_t + I_T + G_t + rB_{t-1} - Y_t \tag{1}$$

where C_t is consumption, B_t is net foreign debt (or net foreign assets, when it is positive), Y_t is output, G_t is government expenditure, I_t is investment, and r is the international rate of interest. Since (1) must hold for every period, the following constraint can be derived by forward iteration of (1).

$$B_t = \sum_{s=t}^{\infty} \left(\frac{1}{1+r} \right)^{s-t} (Y_s - C_s - I_s - G_s) + \lim_{T \to \infty} \left(\frac{1}{1+r} \right)^{T} B_{t+T+1} \tag{2}$$

International solvency requires that a country cannot asymptotically abandon debt that has a positive expected present value. In addition, a country will not abandon debt with a negative expected present value because it can attain higher welfare by increasing consumption, which may require debt financing. In another words, the transversality condition holds.

$$\lim_{T \to \infty} \left(\frac{1}{1+r} \right)^{T} B_{t+T+1} = 0 \tag{3}$$

That is, (3) implies that the relevant infinite horizon budget constraint tends to zero, as $T \rightarrow \infty$. Equations (2) and (3) imply that the amount that a country borrows (lends) in international markets equals the present value of future trade surpluses (deficits) (since $X_t - M_t = Y_t - C_t - I_t - G_t$).

If a country has run persistent current account deficits, the intertemporal budget constraint dictates that there must be a turning point from trade deficits to trade surpluses. It cannot tell the timing of this shift owing to the fact that the intertemporal budget constraint is an accounting relation and does not incorporate any behavioral assumptions.

Ahmed and Rogers (1995) developed a methodology for testing intertemporal budget constraints in a stochastic world. The model will be explained briefly. In period t, the budget constraint is expressed as follows.

$$M_t - X_t + r_{t-1}B_{t-1} = \triangle B_t \tag{4}$$

Using the Euler equation from the consumer's optimization problem, the following equation can be derived,

$$E_t \sum_{i=0}^{\infty} (s_{t+i}M_{t+i}) - E_t \sum_{i=0}^{\infty} (s_{t+i}X_{t+i}) + (1 + r_t)B_{t_1} = \operatorname*{Lim}_{N \rightarrow \infty}(s_{t+N}B_{t+N}) \tag{5}$$

where s_{t+i} stands for the marginal rate of substitution between consumption in period t and period $t+i$. To escape the ponzi game, which allows new loans to be used to pay for the interest on exiting debt, the limit term of equation (5) is required to be zero. This condition that $\operatorname*{Lim}_{N \rightarrow \infty}(s_{t+N}B_{t+N}) = 0$ means that the present discounted value of trade surpluses is equal to the principal plus interest on the current foreign debt or that the current account deficits are sustainable.

Equation (5) with $\operatorname*{Lim}_{N \rightarrow \infty}(s_{t+N}B_{t+N})$ cannot be tested directly. Ahmed and Rogers (1995) and B.H Kim (1998) show, using an elaborate method, that the intertemporal budget constraints hold if and only if there exists a cointegrating vector, (1,-1,-1), among exports, imports and interest payments. Ahmed and Rogers (1995) show that the existence of a cointegrating vector, (1,-1,-1), between taxes, government expenditure and interest payments on national debt is a necessary and sufficient condition for the intertemporal budget constraint to be satisfied. B.H. Kim (1998) shows, using the same method, that the cointegrating vector (1,-1,-1) between exports, imports and interest payments on foreign debt is a necessary and sufficient condition for the intertemporal budget constraint to be satisfied, under the plausible assumption of stationarity of the differenced series of the present discounted values of exports and imports[2].

[2] Ahmed and Rogers(1995) show that the existence of cointegration vector(1,-1,-1) in the variables of tax, government expenditure and interest payment on national debts is a necessary and sufficient condition for intertemporal budget constraint. B.H. Kim(1998) shows that by the

The argument of Ahmed and Rogers can be summarized in a cointegration regression, which is expressed as follows.

$$\beta_1 X_t + \beta_2 M_t + \beta_3 r_{t-1} B_{t-1} = v_t \quad (6)$$

Here, (β_1, β_2, β_3) is a cointegrating vector. The existence of the cointegrating vector (1,-1,-1) indicates that receipts and expenditures of foreign exchange move together and by the same amount. So intertemporally the international budget constraint holds. This relationship implies that the current account deficit must be stationary, although it need not have a zero mean, for sustainability of the current account and to service the foreign debt. The testable equation, (6) is used to investigate whether or not the current account is sustainable.

If a country with an unsustainable current account experiences a currency crisis, the currency crisis arose due to a fundamental structural problem. In contrast, if a country with a sustainable current account experiences a currency crisis, the currency crisis arose due to other factors such as an abrupt shift in market expectation or confidence, rather than due to a fundamental structural problem.

Ⅳ. EMPIRICAL RESULTS

Five East Asian countries and three Latin American countries are selected for empirical analysis. The five Asian countries include Korea, Thailand, Indonesia, the Philippines, and Malaysia. The three Latin American countries include Mexico, Chile and Colombia. The above mentioned eight countries are chosen for an empirical test on the sustainability of their current account deficits because they ran large current account deficits and experienced small or large currency crises in the recent 1990s.

It is meaningful to take a look at the development of current account positions in these East Asian and Latin American countries. <Figure> shows that all the countries experiencing currency crises ran large current account deficits for a lengthy period before the onset of their crises. In Thailand and Indonesia, the ratio of current account deficits to GDP reached almost 10 percent. The current account deficits in Korea were relatively small. Especially in the second half of the 1980s, Korea enjoyed large current account surpluses owing to a favorable international economic environment. Korea went into a significant deficit position in its current account in the early 1990s and the size of this deficit grew to about 5 percent of GDP in 1996.

A similar phenomenon can be found in Latin America. Latin America, which experienced currency crises, recorded large current account deficits prior to the

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same methods, the cointegration vector (1,-1,-1) between export, import and interest payment on foreign debt is a necessary and sufficient condition for intertemporal budget constraint.

crisis. A casual examination seems to indicate that large current account deficits have a close bearing on currency crises.

The sustainability of current account deficits is examined using the method of Ahmed and Rogers (1995), as examined in the previous section. This empirical analysis uses annual data from 1955 to 1996. However, the data periods vary between countries due to differences in the timing of currency crises and due to data availability.

Some issues with respect to data deserve mention. The net interest payments to foreigners are derived from the difference of GDP and GNP[3]. All variables are presented in real terms using the GDP deflator. Exports and imports are adapted from national accounts data in order to be denominated in domestic currency terms. The relationship between exports and imports is analyzed in the case of Mexico, as GNP data are not available. All data are adapted from the International Financial Statistics CD-ROM.

Recent research shows that most macroeconomic variables have a univariate time series structure with a unit root. To escape the problem of spurious regressions, testing the stationarity of variables is required. The augmented Dickey-Fuller method and the Phillips and Perron method are generally used to test for unit roots. The Phillips and Perron method is preferable for testing for a unit root when disturbance terms are serially correlated and possibly heteroscedastic. The tests for heteroscedasticity showed that most variables have ARCH or heteroscedasticity. (The results of tests for ARCH and heteroscedasticity are not reported here, but are available upon request.) The Phillips and Perron test for a unit root is used in each time-series estimation of equation (7). If the coefficient of the time trend is not significantly different from zero, the Phillips and Perron test without a trend is performed. The results both with and without the time trend are reported.

[Table 1] indicates that for all countries both level variables and ratio variables (level variables relative to GDP) have a unit root and that first differenced variables are stationary both with and without a trend, with the exception of Mexican imports. However, many other papers have indicated that the above variables are non-stationary, so a cointegration analysis is conducted.

The above models showed that the cointegrating vector $(\beta_1, \beta_2, \beta_3) = (1, -1, -1)$ is a necessary and sufficient condition for sustainability of current account deficits. Two steps are then implemented. The first is to check for the existence of cointegration, while the second is to test whether the cointegrating condition holds.

The Cats in Rats program is used to estimate the cointegrating vectors. The second column in [Table 2] shows that in all countries except Mexico, both level variables and ratio variables have one or more cointegrating relationships at the 10 percent significance level. That is, there exist stable relationships among

[3] The data for net interest payments is actually not available.

exports, imports and interest payments in all countries under discussion, except Mexico. In Mexico there does not exist a cointegrating relationship among exports and imports.

The existence of a cointegrating relationship ensures the next step for tests of cointegrating vectors. The fourth column in [Table 2] indicates a normalized cointegrating vector. The last column shows the results of tests for constraints on the cointegrating vector. In six of the eight countries, with Korea and Malaysia as the exceptions, the null hypothesis that the cointegrating vector $(\beta_1, \beta_2, \beta_3) = (1, -1, -1)$ is rejected at the 5 percent significance level for both real variables and real variables per GDP. For Malaysia, the p-values in the case of real variables and real variables per GDP are 0.45 and 0 .07, respectively, so the null hypothesis cannot be rejected at the 5 percent significance level. In Korea, however, the p-value in the case of real variables is 0.25, but it is 0.02 in the case of real variables per GDP. Therefore the null hypothesis can be rejected if ratio variables are used, but not if real level variables are used.

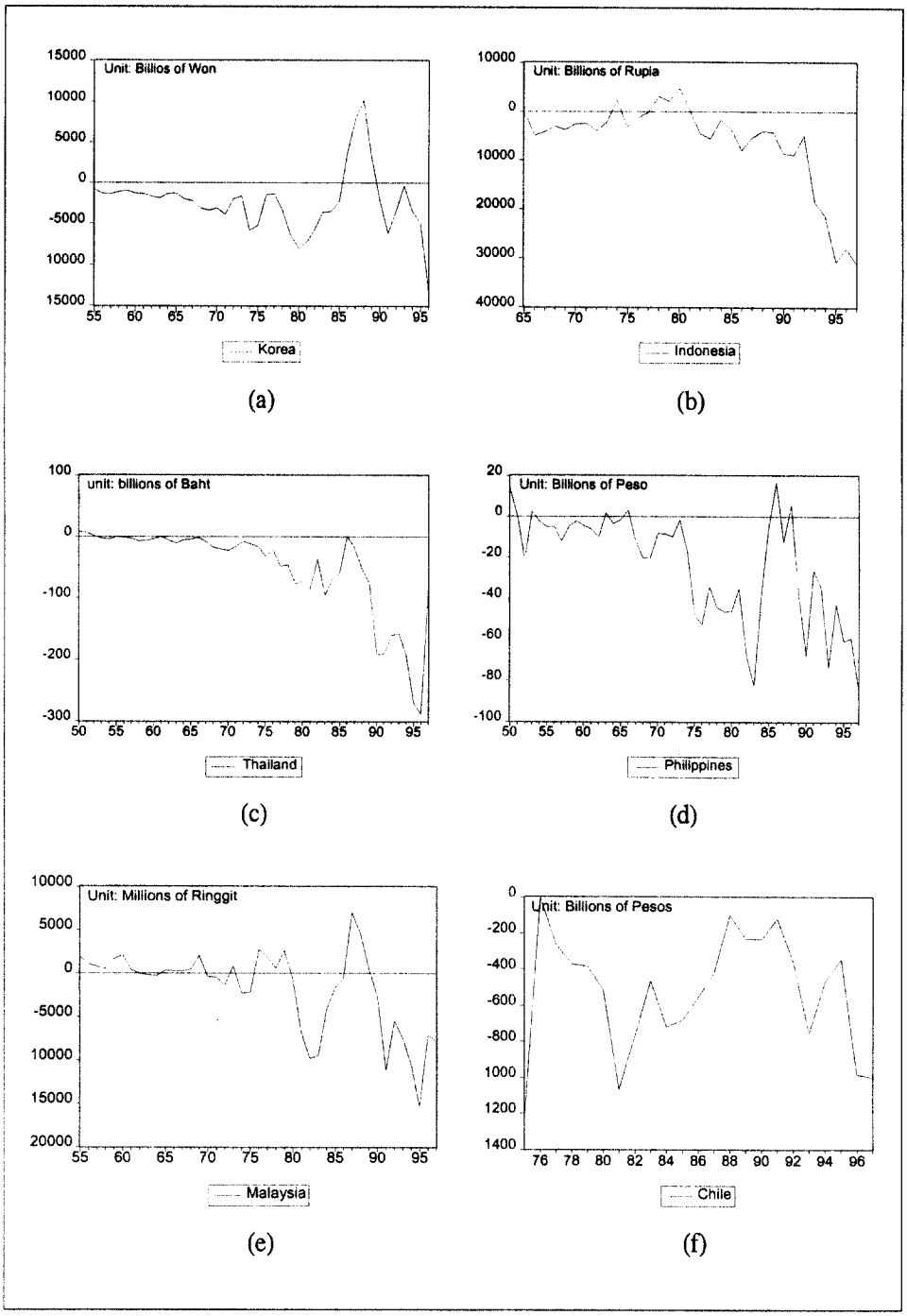
In summary, we state the following. The null hypothesis that current account deficits in Malaysia were sustainable over the period cannot be rejected at a reasonable significance level. In Korea, the current account deficits were sustainable in terms of real variables, but not in terms of ratio variables (real variables relative to GDP). The null hypothesis that the current account deficits were sustainable in the other six countries - Thailand, Indonesia, the Philippines, Mexico, Chile and Colombia - can be rejected at the 10 percent and 5 percent significance levels.

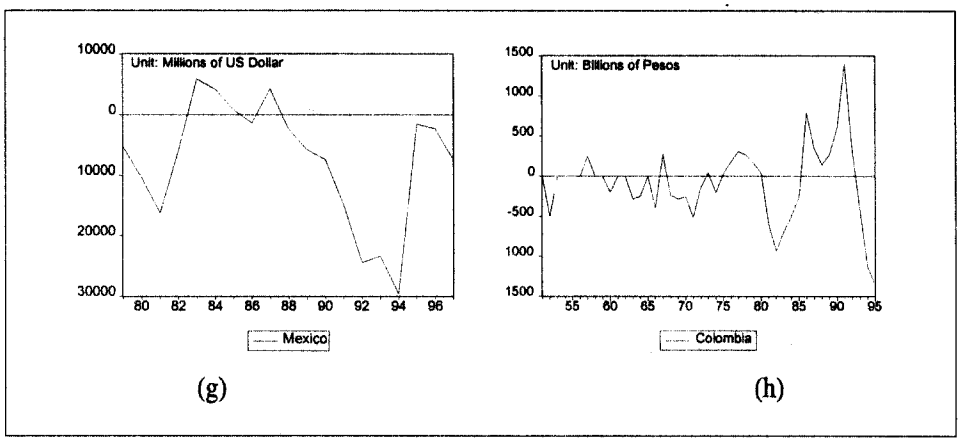
It is safe to conclude that six of the eight countries afflicted by a currency crisis experienced unsustainable current account deficits, the exceptions being Korea and Malaysia. In the case of Korea and Malaysia, the current account deficits could be repaid in the future without drastic events such as currency crises or drastic policy shifts. This result argues against the commonly accepted wisdom that East Asian currency crises resulted from fundamental current account deficit problems.

Malaysia's economy is improving without an IMF bail out fund or other foreign assistance. Korea's economy is also recovering from crisis very rapidly. Korea and Malaysia's ongoing rapid economic recovery from recession may be one sign that the currency crises in Korea and Malaysia were caused by other factors, not by fundamental problems such as current account deficits.

However it should be noted that sustainability of current account deficits is related not only to the size of deficits, but also to other factors such as the savings rate, degree of openness and the foreign exchange reserve, as mentioned by G. M. Milesi-Ferretti and A. Razin (1996).

[Figure 1] The Development of Current Accounts in Selected East Asian Economies and Latin American Economies.





(g) (h)

Note 1: The current account is calculated as the exports of goods and services minus the sum of imports of goods and service and foreign interest payments. Foreign interest payments are derived from the difference of GDP and GNP.

Note 2: The current account is denominated in real terms using the GDP deflator.

Note 3: In Mexico, current accounts are denominated in the nominal terms by U.S. dollar

[Table 1] Results of unit root tests.

Country (period)	Variable (number of lags)	Phillips-Perron test			
		level		1st-Difference	
		no trend	with trend	no trend	with trend
Korea (55-96)	Export(2)	3.32	-0.21	-3.85	-4.86
	Export per GDP(2)	-1.05	-1.52	-5.09	-5.10
	Import(2)	5.97	2.97	-1.58	-3.06
	Import per GDP(2)	-1.52	-1.88	-4.94	-4.91
	Interest payment(1)	-1.04	-1.62	-3.50	-3.50
	Interest per GDP(1)	-1.60	-1.31	-4.32	-4.35
Thailand (50-96)	Export(1)	6.63	2.55	-3.03	-4.36
	Export per GDP(1)	2.10	-0.24	-7.38	-8.49
	Import(1)	5.13	1.88	-3.67	-4.87
	Import per GDP(1)	0.05	-1.58	-7.00	-7.14
	Interest payment(3)	6.99	3.824	-4.87	-6.16
	Interest per GDP(3)	0.43	-1.44	-6.90	-7.31
Philippines (50-96)	Export(1)	3.86	1.04	-5.60	-7.01
	Export per GDP(1)	1.54	-2.19	-7.64	-8.65
	Import(1)	3.12	0.90	-4.67	-4.98
	Import per GDP(1)	1.64	-0.65	-7.90	-8.64
	Interest payment(1)	1.82	1.86	-5.60	-4.79
	Interest per GDP(1)	0.43	-0.48	-5.94	-6.34
Indonesia (65-96)	Export(2)	2.43	-1.44	-7.53	-9.92
	Export per GDP(2)	-2.83	-2.98	-7.83	-6.00
	Import(1)	1.16	-1.40	-6.91	-7.94
	Import per GDP(2)	-1.04	-3.40	-12.63	-6.22
	Interest payment(1)	0.88	-1.14	-6.12	-6.55
	Interest per GDP(1)	-1.38	-3.09	-8.99	-7.02

Malaysia (55-96)	Export(2)	-0.11	-1.64	-9.67	-9.78
	Export per GDP(2)	1.09	-1.07	-5.45	-6.00
	Import(2)	1.43	-1.04	-11.63	-12.33
	Import per GDP(2)	-1.07	0.06	-6.01	-6.22
	Interest payment(1)	2.57	-0.18	-3.97	-5.04
	Interest per GDP(1)	-1.52	-1.86	-8.99	-9.04
Mexico (82:1-94:3)	Export(2)	-0.65	-1.51	-9.67	-9.78
	Export per GDP(2)	-1.45	-1.84	-9.19	-11.31
	Import(2)	0.25	-3.71	-13.1	-13.3
	Import per GDP(2)	-0.51	-4.15	-9.27	-11.30
Colombia (51- 95)	Export(1)	-0.16	-2.39	-6.74	-6.84
	Export per GDP(1)	-1.07	-0.96	-6.74	-7.45
	Import(1)	2.98	0.86	-5.50	-6.34
	Import per GDP(1)	-0.05	-1.59	-6.24	-6.36
	Interest payment(1)	-2.15	-3.13	-3.51	-3.58
	Interest per GDP(1)	-0.76	-2.34	-7.05	-7.14
Chile (75-96)	Export	2.28	-0.81	-3.92	-4.67
	Export per GDP(5)	-1.43	-1.85	-3.98	-3.90
	Import	0.59	-2.23	-5.54	-6.34
	Import per GDP(3)	-1.85	-1.75	-6.52	-8.56
	Interest payment	0.40	-1.45	-4.33	-4.56
	Interest per GDP(1)	-1.52	-1.35	-3.64	-3.51

Note: The critical value is -2.93 in the absence of a trend and -3.50 in the presence of a trend.

[Table 2] The results of cointegration test

$(\beta_1 X_t + \beta_2 M_t + \beta_3 (r_{t-1} B_{t-1}) = v_t)$

country (period)		L-max and trace test for cointegration Null: (r=(<)0)		number of lags	normalized estimated vector	$(\beta_1, \beta_2, \beta_3) = (1, -1, -1)$	
		L-max	Trace			$\chi^2(2)$	p-value
Korea (55-96)	level	20.26	36.10	2	(1, -0.91,-1.79)	2.79	0.25
	per GDP	18.05	25.07	2	(1.-1.33, -0.64)	7.80	0.02
Thailand (50-96)	level	44.66	79.93	2	(1,-0.86, 0.09)	22.4	0.00
	per GDP	22.44	31.66	2	(1,-1.10, 2.59)	13.84	0.00
Philippine (50-96)	level	37.84	50.15	2	(1, -0.85,-1.82)	26.40	0.00
	per GDP	38.25	45.78	2	(1,-0.88,-1.62)	15.08	0.00
Indonesia (65-96)	level	23.54	38.51	2	(1, -1.22, 1.11)	19.58	0.00
	per GDP	17.70	24.06	2	(1, -3.22, 2.9)	12.85	0.00
Malaysia (55-96)	level	25.18	48.18	2	(1,-1.00, -1.79)	1.61	0.45
	per GDP	20.25	27.01	2	(1,-0.86, 0.04)	5.33	0.07
Mexico (82:1-94:3)	level	6.45	6.46	4			
	per GDP	4.56	6.97	4			
Chile (75-96)	level	21.76	32.51	1	(1, -1.02,1.23)	10.70	0.00
	per GDP	32.14	49.98	1	(1,-2.26, -0.76)	21.79	0.00

Colombia (51-95)	level	21.10	42.75	4	(1,-0.77,-0.16)	6.69	0.04
	per GDP	20.08	59.14	1	(1, -1.56,-7.97)	12.22	0.00
critical value: under 10% significance level		13.30	26.70				

The number of lags is chosen by AIC and SIC. In the case of Mexico, quarterly real exports and real imports of goods and services are used, because of unavailability of net foreign payments data.

V. CONCLUSION

Milesi-Ferretti and Razin (1996) investigated why Latin American countries with large current account deficits experienced currency crises, while other Asian countries with the same level of large current account deficits did not, using data prior to 1994. In 1997, however, many East Asian countries with large current account deficits experienced disrupting currency crises. These experiences seem to confirm that large current account deficits cannot be sustained and will lead to solvency problems and currency crises.

This paper examined the sustainability of current account deficits in some East Asian and Latin American countries that experienced a currency crisis. Empirical analysis shows that the current account deficits of Thailand, the Philippines and Indonesia were not sustainable, nor were the current account deficits of the three Latin American countries. The current account deficits of Korea are shown to have been sustainable in real amounts but not relative to GDP. The current account deficits in Malaysia were sustainable, both in real amounts and relative to GDP.

These results imply that contagion effects or liquidity problems may have caused the currency crises in Korea and Malaysia, rather than structural problems. The other six countries in Asia and Latin America experienced currency crises that were caused by structural problems such as unsustainable current account deficits.

The above empirical work was performed on countries selected on the basis of the size of their current account deficits. It must be pointed out that the sustainability of current account deficits should be investigated not only in terms of the size of the deficits, but also by the composition of capital flows and the soundness of domestic financial systems. Therefore qualitative characteristics such as the composition of capital inflows, the level of foreign exchange reserves, the fragility of the financial system, and uncertainty in economic policy or the political situation should be taken into consideration in order to better determine whether current account deficits are sustainable. A comprehensive study on the sustainability of current account deficits is left to future work.

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