POPG	=	annual population growth (in percent)
LLIFE	=	log of life expectancy at birth (in years), lagged five years
LGDP80	=	log of real per capita GDP in 1980 (in PPP-adjusted U.S. dollars)
LINFL	=	log of the absolute value of annual average CPI inflation
EXTRA5	=	*DUM5* (LINFL*-log(5.0), where *DUM5* takes the value 0 when inflation exceeds 5 percent and 1 otherwise)
DEFL	=	dummy variable equal to 1 when inflation is negative and 0 otherwise
BUDBAL	=	general government balance as a ratio to GDP
OPENIND	=	adjusted openness variable defined as the residual from a regression of the ratio of total trade to GDP on population and converted to an index
GCONS	=	government consumption as a ratio to GDP (in current prices)
ECONSEC	=	index measuring "economic security" as proxied by five indicators measuring expropriation risk, repudiation of contracts by the government, corruption, the quality of bureaucracy, and the law and order tradition. A higher number represents greater security.
WEATHER	=	dummy variable equal to 1 when annual per capita food production declines by 5 percent or more and 0 otherwise
WAR	=	dummy variable equal to 1 when there is a war or episode of civil unrest and instability and 0 otherwise
DTOT1	=	annual average percent change in the terms of trade, lagged one period

** Indicates significance at the 5 percent; * indicates significance at the 10 percent level

Source : Kochhar and Coorey (1999), p.81

- Once other macroeconomic variables are accounted for, no variable showing the degree of external indebtedness or debt servicing has any statistically significant impact on economic growth.

- "Economic security", as reflected in a variable which takes into account the quality of the bureaucracy, corruption, strength of law and order, expropriation risk, and the risk of contract repudiation by government, has a very strong positive impact on growth rates. But, rather obviously, wars and civil disorder and bad weather are bad for growth.

- The "conditional convergence hypothesis" holds in that low income countries have sizable growth advantages once economic and social policies and security and shocks are accounted for.

- The state of human capital -- as reflected in life expectancy variables -- has a highly significant positive association with growth rates (adding other education variables adds nothing more to the explanatory power since most of the human resource indicators appear to be highly correlated; hence life expectancy seems to be the superior variable to use as it embodies both education and health factors).

- Population growth exerts a negative effect on growth. Its negative relation with human development indicators appears to override its positive contribution coming through the relation with labor force growth.

Since tests have shown that that the regression coefficients cannot be said to differ between ESAF and non-ESAF countries, the equation can be used to create a decomposition of the growth rates of the growth rates for the periods 1981-1985, 1986-1990 and 1991-1995. For each of the sub-periods, differential growth contributions for the various explanatory variables -- the ESAF over the non-ESAF countries -- can be obtained by taking the product of the estimated regression coefficient and the respective sample means for each variable. The results for each of the foregoing sub-periods and for changes between them are shown in Table 9. The conclusions that one could draw from this table are as follows:

- 43 percent of the narrowing in differential growth rates between ESAF and non-ESAF countries can be explained by improvements in macroeconomic policies (relative improvements in inflation rates and budget deficit reductions) and 37 percent by favorable shocks.

Table 9

Differences in Growth Between ESAF and Non-ESAF Countries[1]

	Period I (1981-85)	Period II (1986-90)	Period III (1991-95)	II over I	III over II
Actual growth differential	-1.22	-0.16	0.02	1.06	1.23
Estimated growth differential	-0.91	-0.46	-0.30	0.45	0.61
Differential contributions					
Macroeconomic policies	-0.45	-0.18	0.08	0.27	0.53
Inflation[2]	-0.13	0.07	0.24	0.20	0.37
Budget balance	-0.32	-0.24	-0.16	0.08	0.16
Structural policies	-0.05	-0.20	-0.28	-0.14	-0.23
Openness	0.03	-0.06	-0.07	-0.10	-0.10
Size of government	0.01	-0.08	-0.04	-0.10	-0.06
Economic security	-0.10	-0.05	-0.17	0.05	-0.07
Population growth and human capital accumulation	-1.38	-1.31	-1.51	0.07	-0.14
Technological convergence	1.29	1.29	1.29	0.00	0.00
Shocks[3]	-0.32	-0.07	0.13	0.25	0.45
Unexplained factors	-0.30	0.31	0.32	0.61	0.62

[1] For each of the three periods, differential growth contributions are calculated by taking the difference (ESAF countries over non-ESAF countries) of the product of the estimated regression coefficient (reported in Table 8) and the respective sample mean for each variable. Estimated growth differentials are differences in the fitted growth rates of ESAF countries over non-ESAF countries.

[2] Including all three inflation terms, including the dummy variable for deflation.

[3] Including dummies for weather, war, and terms of trade shocks.

Source : Kochhar and Coorey (1999), p.82

- These gains were partly reversed by a failure to make relative progress in structural policies (openness, size of government and economic security)
- The gains were also partly offset by failures to reduce population growth and to make improvements in human resources.

The conclusions one could draw from the comparisons could be outlined as follows. To make further progress, the ESAF countries needed to concentrate on (a) improving

structural policies; and (b) reducing population growth rates while (c) continuing to put emphasis on human resources and (d) make improvements in budgetary balance (look at column 3 in Table 9). Moreover the table points up the advantage of starting from lower income levels (see "technological convergence") : had the two sets of countries had comparable macroeconomic and structural policies and been subject to the same external shocks, ESAF countries would have grown faster by 1.3 percentage points per year.

Two recent papers by Easterly, Loayza, and Montiel (1997; hereafter ELM) and by Fernandez-Arias and Montiel (2001; hereafter F-AM) tackle the question of whether Latin America's growth in 1990s has been below what might be expected. That is, responding to policy changes made in the late 1980s/early 1990s, growth in these countries has accelerated to higher levels than in the 1980s, but still appears low compared to hat achieved in some past periods (e.g. the 1970s) or compared with some other fast growing areas of the world such as East Asia. "Disappointing" is the term one often hears in reference to the improvements in Latin American growth performance. The ELM and the F-AM models build on a considerable literature of econometric models -- in fact the same literature as the IMF model discussed above -- which seeks to explain growth rates and differences in growth rates between countries by a set of policy variables controlling for differences in non-policy variables and initial conditions.

ELM's explanatory variables can be grouped into four categories. I. *Macroeconomic.* The rate of inflation and the share of government consumption in GDP. II. *Structural.* Financial development by the share of money (M2) in GDP and external sector policies by size of the black market premium and the share of trade (imports plus exports) in GDP. III. *"Other Structural".* A number of other reforms signifying structural change such as deregulation, privatization, reductions in debt overhang are represented by the share of investment in GDP Most of the above variables are familiar and need no explanation with the following exceptions.The financial variable represents financial deepening and the role of banks/financial institutions in mobilizing savings, reducing risks and increasing the efficiency of investment allocations. As for trade, reductions in black market premiums would favor exports and the production of import substitutes, hence supporting growth while the share of trade reflects the potential for efficiency

increase through increased competition and economies of scale. And then IV. *Non-reform Determinants of Growth*. Here ELM use the initial level of GDP per capita, initial years of schooling, average population growth rates and average terms of trade changes. Initial income levels are meant to capture the "conditional convergence hypothesis' whereby poorer countries are supposed to grow faster once other conditions while the terms of trade variable would reflect whether the external environment was favorable or hostile to growth.

ELM's regressions for 81 developed and less developed countries for the period 1960-1993(using five-year averages for all variables except initial GDP per capita and educational attainments) perform well in explaining changes in growth across the set of countries over this period. The policy(macroeconomic and structural) and control(non-reform determinants) variables al have he expected signs and are statistically significant. ELM then take these regression results and use them to explain the changes in Latin American growth between 1986-1990 and 1991-1993 and to explain differences in performance between Latin American and the East Asian economies. That is, can changes in growth rates or differences between countries be explained by in(or differences) in policy and non-policy variables?

The results for the Latin American countries are shown in Table 10. Changes in the growth rates are explained on the basis of six policy variables, other control variables and a time variable. The average residual for all countries and the residuals for most countries are positive. That is, when the effect of reforms are accounted for and when the initial conditions and the state of the world economy are controlled for, Latin American countries are doing better than might be expected(and actually right on target since the average residual is not statistically significant).

The results for the 16 individual countries are similar: 11 of them produced positive residuals(only one of which was statistically significant) and none of the 5 negative residuals was statistically significant. The biggest improvements were projected for

Table 10

Decomposition of changes in growth rates from 1986-90 to 1990-93

Country	Actual change in growth rates	Predicted change in growth rates	Contribution to predicted change in growth rates from			Regression residuals
			Six reform variables	Time effect[a/]	Other variables	
Argentina	7.464	5.619	6.304	-1.73	1.044	1.845
Bolivia	1.561	2.836	3.308	-1.73	1.258	-1.275
Brazil	-0.252	-1.643	-0.344	-1.73	0.430	1.392
Chile	0.901	-1.501	0.944	-1.73	-0.715	2.402
Colombia	-0.049	0.109	0.644	-1.73	1.195	-0.157
Costa Rica	0.923	-0.410	0.712	-1.73	0.608	1.333
Ecuador	1.584	0.069	0.291	-1.73	1.507	1.516
Guatemala	1.197	1.187	2.142	-1.73	0.775	0.010
Honduras	1.141	0.698	1.393	-1.73	1.035	0.443
Mexico	1.116	2.424	3.393	-1.73	0.761	-1.308
Panama	9.178	3.722	3.340	-1.73	2.112	5.455*
Peru	4.504	5.399	5.289	-1.73	1.840	-0.895
Paraguay	-0.920	0.927	1.727	-1.73	0.930	-1.847
El Salvador	1.714	1.232	2.906	-1.73	0.056	0.482
Uruguay	0.255	-1.077	1.358	-1.73	-0.706	1.333
Venezuela	2.261	-0.408	1.346	-1.73	-0.024	2.668
Regional Average	2.036	1.199	2.172	-1.73	0.757	0.837

[a] The time effect corresponding to the last period is equal to the overall constant plus this period's dummy coefficient.

* Statistically different from zero at the 0.10 level of significance on a one-tail test.

** Statistically different from zero at the 0.05 level of significance on a one-tail test.

Source : Easterly, Loayza, and Montial (1997), p.300

Argentina and Peru, two late and ambitious reformers. Little improvement was projected for Chile, which had carried out its reforms much earlier. On the other hand, a fall in the growth rate was projected for Brazil where there were large slippages in the reform program, but the actual decline was less than projected.

The comparison with East Asia is shown in Table 11. The differential in growth between the two regions declined between 1986-90 and 1991-93, with the growth rate in the "Miracle" countries falling and that in the Latin American countries rising. The ELM equations account for most of the changes in the growth rates. The biggest contributors to explaining the narrowing in the rates were the reductions in inflation and in the black market premium in the Latin American countries where the room for relative improvement was the largest. On the other hand reductions in government consumption in GDP and increases in investment in GDP contributed very little because the improvements in both regions were almost the same.. Still further the rise in the initial level of GDP per capita -- very large in East Asia and near zero in Latin America -- had the expected effect of deadening the former's growth rate. In all, the combiantion of policy variables and control variables explains a large proportion or the relative changes in the two area's growth rates between the two periods.

In sum, ELM find that Latin America has done quite well. It raised its per capita income about as much as could be expected given the size of its policy improvements and it would have done even better had the world economy performed better, a problem faced by all the economies of the world, rich or poor, between 1986-90 and 1991-1993. It raised its growth performance relative to the East Asian economies but its performance fell short because its policies are still not so favorable to growth.

The more recent F-AM paper pushes the ELM results still further by(a) confirming the results for a somewhat different set of 69 countries(18 in Latin America) for the period 1961-1995; (b)introducing some dynamic elements into ELM's equations; and (c) considering whether Latin America's performance falls short of some "desired outcome'

Table 11

Changes in Growth Rates in East Asian v. Latin American Countries, 1986-90 to 1991-93

	Average change between the periods 1986-90 and 1991-93		Difference East Asian miracles-Latin America	Predicted difference in growth-rate changes : East Asian Miracles-Latin America
	East Asian miracles	Latin America		
Per capita GDP growth	-1.12	2.04	-3.16	-2.77
Policy indicators (total)				-1.15
Volume of trade/GDP	14.58*	20.43*	-5.85	-0.15
Government consumption/GDP	-5.27	-5.10*	-0.17	0.00
Inflation rate	0.55*	-20.61*	21.16	-0.71
M2/GDP	12.66*	17.13*	-4.47	-0.08
Black market premium	-0.88*	-22.14*	21.26	-0.24
Investment/GDP	10.55*	10.03*	0.52	0.02
Other determinants of growth (total)				-1.63
Initial GDP per capita	28.65*	0.22*	28.43	-1.35
Average number of secondary-school Years in the labor force (initial)	0.20	0.14	0.06	0.01
Percent change in terms of trade	0.68	1.75	-1.07	-0.08
Population growth	-0.42	-0.62	0.20	-0.20

* Average percentage change (log difference) from 1986-90 to 1991-93. As in the estimation regression, the variables inflation and black market premium are presented as one plus the respective rate.

Source: Easterly, Loayza, and Montial (1997), p.303.

(such as some past "golden age period" or some other countries that Latin America might aspire to). Here we will merely summarize F-AM's procedures and results without presenting either their equations or the tables showing their results. First they confirm ELM's results that a set of policy variables, non-policy variables and external conditions can do quite well in explaining country growth rates. Interestingly they show that the external environment can have very profound effects on economic growth and , in particular, the first half of the 1990s had very negative effects on growth -- almost as devastating as the first half of the 1980s when the Latin American and African debt crisis first appeared. Adverse changes in the external environment reduced growth by almost one full percentage point compared to the previous five years(1986-90). Still further, they find that Latin American growth in the early 1990s was not "disappointing": actual growth was higher than projected and would have been more so had the external environment not deteriorated.

Second, F-AM introduce dynamic elements into their equations to take into account the possibility that future growth rates might be different than current growth rates even if no further policy changes take place(either improvements or deteriorations). This might be so because (1) policy changes have lagged effects so some of the effects show up in the next five-year period rather than the present one and the coefficients of the static equations hence understate the full impact of policy changes; or (2) policy changes have only transitory grow effects which wear off in the longer run (e.g. policy changes which lead to greater capacity utilization would result in higher growth this period but have no effects next period if there were no excess capacity). F-AM account for dynamic effects by introducing lagged values of all their policy variables into their equations in addition to the current values. Positive values on these variables would indicate case (1) above while negative values would indicate case (2). Their results show negative but insignificant signs for the five individual policy variables; however together the five variables are significant. Some of the effects of policy changes wear off . Nonetheless the effect are not large and the conclusions from the static equations still hold: there are lasting positive effects of growth from the policy changes and the early 1990s experience was not disappointing for the Latin American countries; they did as well as could be expected given the policy reforms they actually implemented.

Thirdly, F-AM consider what they call a "growth gap" approach: "why didn't Latin American countries perform as well as desired?". The explanation ought to lie in factors such as incomplete policy reforms or differences in "other" economic variables(e.g. a more adverse external environment) or in unexplained factors. They consider why Latin America grew 0.7 percent p.a. more slowly in 1991-95 as compared with 1976-80 despite following what appeared to be better policies in the later period. The answer is that Latin American countries should have grown 1 percentage point faster in the 1990s but the more adverse external environment shaved almost two percentage points off the growth rate as compared with 1976-80. Moreover the difference between Latin American and East Asian Miracle countries can be explained largely by differences in implementation of economic reforms, differences in education levels and in initial income levels. The five point difference in growth rates 1991-1995 would be halved if Latin American countries instituted similar policies and another 0.5 points by achieving the same education levels. Nonetheless over one third of the difference in growth rates remains unexplained by the model.

In sum, the econometric literature lends credence to the belief that stabilization and structural change policies of the type typically found in IMF programs lead over time to better economic performance and to higher rates of economic growth. This shows up in cross-country comparisons, in time series performances, in explaining changes in growth rates between periods or explaining why some countries grow faster than others. The last three studies we looked at support this view. The PV model provides evidence to the contrary but its methodology seems flawed in that their equations take no account of differences in initial conditions or in policies being implemented or in external circumstances. The balance of the evidence lies in the direction of the finding that over time following IMF-like policies will have positive effects. Note that this doesn't exactly answer the question the "comparative studies" were attempting to answer: what is happening to growth(and other economic variables) before, during and immediately after an IMF program. It doesn't talk about the pattern of response but merely implies that better policies will show up in better growth within a reasonably short timeframe, mostly within five years in the cases we have been looking at.

III. IMF Policies and their Effects

In this part, I will examine three areas where there have been controversies about the policies followed under IMF programs as a response to the Asian Crisis: fiscal policy; monetary policy and exchange rates; and capital controls. In each case I will attempt to outline the principles behind the actions that were undertaken and then make an assessment about whether the policies were appropriate or not.

A. Fiscal Policy

There is a large body of evidence which strongly suggests that budget deficits are harmful for economic growth[see Sachs and Warner(1995); Sachs, Radelet,and Jong-wha(1997); Easterly, Rodriguez, and Schmidt-Hebbel(1994), and the IMF(1999),ELM(1997), and F-AM(2001) studies cited in the previous section]. Growth in per capita incomes is negatively related with fiscal deficits; low and stable deficits are associated with higher growth. A rise in the size of a budget deficit -- stemming from an increase in government consumption or a cut in taxes -- leads to a decline in consumption but by a smaller amount: overall national savings will fall and the country's external imbalances will increase. Because there are several ways that larger deficits can be financed -- domestic borrowing, or foreign borrowing or printing money -- the routes by which deficits may affect the economy are varied. In the case of domestic finance, if interest rates are controlled and the government had preferential access to credit, public spending crowds out domestic investment; in addition, repression of the financial sector leads to its underdevelopment and a further stifling of savings and investment. If, on the other hand, interest rates are not controlled, the larger deficit will lead to higher interest rates which crowds out private investment by leading to a greater cost of capital.

Econometric evidence also suggests a strong relation between public deficits and external deficits. If a larger public deficit is not matched by higher private savings -- as seems to be the case in virtually all counties -- the higher domestic deficit will have its counterpart in a larger external imbalance. This in turn will lead to exchange rate appreciation. The

reverse would also follow: reducing fiscal deficits/increasing surpluses would raise national savings and reduce external imbalances, accompanied by exchange rate depreciation. The relationship between deficits and inflation is not so clear. If deficits are financed from money creation, there is a positive relation(after making allowances for real output growth), but the ability to raise additional revenue through the so-called "inflation tax" is limited as people become less surprised by inflation and economize on money balances; in practice inflation taxes can only finance a small fraction of government expenditures. On the other hand, without money creation, there will be little relation between deficits and inflation at least in the short-run. The problem comes in the longer-term if government debt has grown fast relative to government expenditures or to GDP; then governments become tempted to reduce their domestic debt burdens(in real terms) through inflation.

Students of the Asian Crisis might be forgiven if they reacted to the foregoing two paragraphs by thinking "interesting but so what". The Asian governments were mostly running surpluses, inflation rates were low, and the problem was how to react to a sudden reversal of external capital flows in the presence of large private sector deficits. The IMF response was to call for some fiscal austerity at the outset of the crisis in all three Asian countries -- Indonesia, Korea and Thailand. Accused of applying the same medicine as in Latin America and Africa where large fiscal imbalances were the major source of unsustainable external imbalances, the IMF explained that -- to the contrary -- the logic was quite different: (a) in the absence of any fiscal tightening the adjustment required of the private sector to achieve external balance would have been larger. The private sector had a substantial adjustment to make and the effects of automatic stabilizers in the budget (from the slowdown in the economy and from the loss in corporate taxes stemming from the devaluation) were making that adjustment larger, not smaller. This would have resulted in a larger decline in private investment and in real output than would have been desirable. And, in addition, (b) the insolvency of large parts of the financial sector was going to require recapitalization through the budget(esp. if depositors were to be protected). Fiscal retrenchment was needed so that these expenditures could take place without being unduly expansionary.

The initial IMF programs were predicated on a relatively mild current account adjustment with a relatively small contribution from increased public savings contributing to that adjustment. Fiscal adjustments were also meant to add to foreign investor confidence by having a positive impact on the current account, reducing the country risk premium and hence reducing the pressures for further exchange rate depreciation. To the extent that foreign investors read all these as positive signs of government intentions, the reductions in external financing would be smaller and hence the need for private sector adjustment would be smaller. In the initial programs for all three countries -- Indonesia, Korea, and Thailand, each was expected to continue running current account deficits, but which were smaller than before, and modest fiscal adjustments were projected to assist in those adjustments -- less than 0.5 percent of GDP in Indonesia and Korea and about 1.25 percent in Thailand(with spending reductions/tax increases partially offset by increased spending for bank restructuring).

In the event, the projections on which the IMF programs were based in the initial years for all three programs were wildly optimistic: the declines in external finance, the size of exchange rate depreciations and the declines in economic activity were all substantially larger than forecast. As a consequence, fiscal situations deteriorated to deficits much larger than called for in the three programs. In Thailand's November 1997 program review, this lead to inappropriate policies being adopted: the IMF tried to maintain the original fiscal targets by offsetting the entire deterioration resulting from the worsening economic situation. Too tight a fiscal stance was adopted. In subsequent reviews during 1998, as the severity and multi-national character of the crisis became evident, the IMF loosened the fiscal stances for all three countries: beyond the fiscal stimulus that automatic stabilizers were providing, additional discretionary expansionary measures were added. This led to a substantial positive stimulus, comparing 1998 with 1997, in Korea and a smaller stimulus in Thailand.

What lessons can one draw from all this?:

➢ The fiscal policies agreed to under the Fund programs became less contractionary/more expansionary as the severity of the crisis became more evident.

➢ The IMF misjudged the crisis and made a clear mistake in Thailand in late 1997. In response to a question about what should have been done, asked at the Nation's Roundtable, Stanley Fischer, then Deputy Managing Director of the IMF, said " I think it is a fair question to ask if we had known the region was going into a deep crisis in 1997, would the program have been different? The answer is yes on the fiscal side, if we had known the crisis would hit the region. We thought it was a single crisis."(Nation, 1999d).

➢ Given the severe downturn coming from a fall in aggregate demand, Keynesian type policies were called for: expansionary actions coming from discretionary measures, in addition to the support coming from automatic stabilizers. The need for such measures might be quite prolonged given weaknesses in the private sector and the collapse of the financial system.

➢ In the early stages emphasis in these measures ought to have been on activities that reduce distress -- e.g. the creation of social safety nets, employment generation projects. Later, as the crisis continued, emphasis should have shifted to public expenditures which might "crowd in" private sector investment such as infrastructure and improvements in human resources.

➢ Given the dangers in prolonged government budget deficits and accumulations of debt, emphasis ought to shift to looser monetary policies and tighter fiscal policies as soon as the private sector(and financial system)begin to show signs of recovery.

B. Monetary Policy and Exchange Rates

According to Mundell's famous "impossible trinity", a country seeking to maintain a fixed exchange rate, external capital mobility, and a monetary policy directed at domestic objectives(say prices and real output) is seeking the impossible. It can only have two out

the three over any sustained period. With capital mobility, for example, it cannot have separate targets for its exchange rate and domestic variables. If, additionally, it fixes the exchange rate, then it has lost its monetary policy since domestic and foreign interest rates will be linked and domestic rates cannot vary by excessive amounts from those abroad. Attempts to maintain excessive differentials would cause speculators to borrow in the currency with the low interest rate and lend in the currency with the high interest rates. Such movements would keep the interest rates linked and the country's monetary policy would be reduced to offsetting the effect of the capital movements on the exchange rate to keep it unchanged. Similarly any decline in domestic interest rates through expansionary monetary policy (given rates abroad) would soon be reversed by actions needed to maintain the exchange rate in the face of the resulting capital outflows.

A country seeking an independent monetary policy has only two choices. It could place substantial restrictions on capital movements: this would enable the monetary authorities to manipulate interest rates without worrying about capital movements and their resulting impacts on exchange rates. While the authorities may not need to be overly concerned about capital movements , they still would need to be concerned about the effects of the constellation of macro, structural and financial policies on growth, the composition of output and the trade balance; all of this needs to be consistent with maintaining a fixed exchange rate. On the other hand, moving to flexible exchange rates would allow an independent monetary policy consistent with capital mobility. Monetary policy, at least in direction of change in response to excess or deficient demand, would operate similarly to that under fixed exchange rates; but its impacts come through a combination of changes in interest rates and exchange rates. For example, a looser monetary policy results in lower interest rates(both absolutely and relative to rates abroad), capital flows out of the country in search of higher returns elsewhere leading to currency depreciation. The fall in interest rates and currency depreciation stimulate the demand for the countries goods. A tight monetary policy would work in the opposite direction..

In the traditional view, the appropriate monetary response to capital outflows, especially in the face of large current account deficits -- as was the case in Asia 1997, especially in Thailand -- was to tighten monetary policy, partly to reduce absorption and partly to re-

attract capital, lessening and hopefully reversing the outflow. In the Asian case, however, the situation was more complex than the usual textbook example. On the one hand high interest rates seem called for on account of the usual reasons. However where business firms are highly leveraged, a rise in interest rates could substantially weaken the financial position of firms, have an unduly large impact on economic activity, and threaten the stability of the financial system(especially where the system was most likely suffering from a number of systemic problems to start with). On the other side exchange rates had depreciated to levels far beyond what most observers(including government officials and the IMF) felt were called for by the fundamentals. A monetary policy supportive of these new exchange rates would have implied a large amount of future inflation thus building inflationary problems into the system. Moreover, in these countries, many businesses and financial institutions had large unhedged foreign liabilities. Large nominal devaluations imply large increases in these liabilities in domestic currency terms with no corresponding increase in assets, threatening both banks and businesses with sharply worsened financial positions, even insolvency. In the parlance of western slang, the monetary authorities "were between a rock and a hard place". Tight money might encourage some exchange rate appreciation (thus partly correcting the overshooting) but high interest rates might imperil leveraged domestic firms. An easier monetary policy might correct for that but at the expense perhaps of more depreciation and greater future inflation.

The monetary policies followed in the Asian countries conformed with the "traditional view": the feeling apparently was that, while the immediate impact on the economy might be harsh, high interest rates would be temporary but depreciated exchange rates might become permanent if validated through domestic inflation. A conservative monetary policy would allow a quicker return to low interest rates once exchange rates had stabilized at less depreciated levels. In the event, within 1-2 years interest rates had returned to lower than pre-crisis levels and exchange rates had appreciated considerably as compared with their depreciated peaks. But there was an accompanying devastation in terms of real output collapse, bankruptcies, and financial system insolvency. Was a better policy mix possible? The answers here are not conclusive. The evidence comes in three parts. What did the actual monetary stances look like? What is the connection between

interest rates and exchange rates and from there to the financial health of the economy? Are there clear linkages between monetary policy and the fall in real output?

The monetary stance in the Asian economies was mostly in terms of interest rates and exchange rates(Lane 1999). While no exchange rate targets were set, improvements (appreciations) were expected and interest levels were sought with this end in view with asset holdings of the central banks being adjusted so as to bring this about. Specifically the IMF's programs specified performance criteria in terms of ceilings on Net Domestic Assets(NDA) held by the central bank and a floor on net international reserves. If reserve targets were exceeded -- and remember that the IMF and its financial partners would be supplying part of these reserves through their financial resources -- NDA would be allowed to rise faster than the limits called fall in the ceilings. Over time this contributed to improvements in exchange rates and lower interest rates in both Thailand and Korea, somewhat more steadily in the latter case because of Thailand's tendency to respond too quickly to exchange rate improvements by lowering interest rates. In both countries improvements in reserve positions would have allowed for larger increases in NDA(i.e. a more expansionary monetary policy); in both cases the monetary authorities failed to take advantage of these opportunities.

The relationship between interest rates and exchange rates has become the subject of a very acrimonious debate, most notably between Joseph Stiglitz, former Chief Economist and Vice President of the World Bank, and the IMF(see Furman and Stiglitz 1998 and World Bank 1998/99). Stiglitz argues that there is very little evidence that raising interest rates will cause currencies to appreciate and, in fact, raising rates may so raise the risks to businesses and banks that financial panic ensues and the exchange rate depreciates still further. In Stiglitz's view the appropriate response to a financial crisis is more expansionary fiscal policy and lower interest rates to ensure foreign investors that economic activity will be maintained and that financial institutions will remain sound. The IMF replies to Stiglitz that this is nonsense. "Governments typically come to the IMF when they are having trouble finding buyers for their debt and when the value of their money is falling. The Stiglitzerian response is to raise the profiles of fiscal deficits, that is, to issue more debt and more money. You seem to believe that if a government

issues more money its citizens will suddenly think its more valuable. You seem to think that when investors are no longer willing to hold a government's debt, all that needs to be done is to increase the supply and it will sell like hotcakes. We at the IMF -- no, make that we on the Planet Earth --have considerable experience suggesting otherwise. We earthlings have found that when a country in fiscal distress tries to escape by printing more money, inflation rises, often uncontrollably. Uncontrolled inflation strangles growth, hurting the entire populace, but especially the indigent. The laws of economics may be different in your part of the gamma quadrant, but around here we find that when an almost bankrupt government fails to constrain the time profile of its fiscal deficits, things generally get worse not better"(Rogoff,2002).

A number of studies have looked at the relation between nominal interest rates and exchange rates. The results are quite inconclusive with one study finding suggestions that high interest rates are associated with exchange depreciation(Furman and Stiglitz 1998), a second study finding that the traditional relationship holds(Goldfajn and Baig 1998), and a third study finding that raising or lowering interest rates has no bearing on whether or not a country is successful in defending itself against speculative attacks(Kraay 1999). The problem can be illustrated by reference to Thailand's experience mid-1997 to early - 1999: one finds rising interest rates associated with exchange depreciation June 1997 to November 1997; exchange rate appreciation accompanied by little change in interest rates January 1998 to June 1998; and then a long decline in interest rates accompanied by a trend toward stronger exchange rates June 1998 to early 1999. There are a number of problems with simple correlations. Both interest rates and exchange rates are endogenous variables in many models involving a real sector, a financial sector and an external sector. Both are affected by other variables and one might expect to see positive correlations in a financial crisis without inferring any necessary causation. Moreover nominal interest rates are a rather poor indicator of the monetary stance; high rates could signify monetary tightness or expectations of inflation or exchange rate depreciation or high risks coming from financial or political instability or a combination of all of these.

Basurto and Ghosh approach the problem from a different direction. Noting that in Asian countries there appears to be a more regular relation between the money supply and

exchange rates and that the exchange rate, as the relative price between two currencies, ought to appreciate in response to monetary contractions(and conversely), they start from the simple premise that a monetary model ought to be superior in explaining exchange rate behavior (and certainly better than correlations between interest rates and the exchange rate). In their model: (a) slower monetary growth in the home country(relative to the rest of the world) would lead to exchange rate appreciation; (b) faster real output growth leads to appreciation by increasing the demand for money; and (c) larger risk premiums(reflecting increased credit risks) would tend to depreciate the currency. Ordinarily then one would expect tighter money to lead to currency appreciation, but if the increase interest rate leads to greater risks of business and/or financial system failure, a tendency toward currency depreciation would result. That is, if the increase in risks were large enough, the effects in point (c) would dominate those in point (a).

In their empirical tests, Basurto and Ghosh find that their monetary model does a good job of explaining exchange rate behavior in the crisis years in Indonesia, Korea and Thailand. As for connections between the real interest rates and the size of the risk premium, this relation is statistically insignificant in Indonesia, and negative but insignificant in Thailand. Only in Korea do they find a positive and statistically significant relationship. However, other factors could be involved here and when they bring the possibility that "contagion" plays a role they find that it explains the entire risk premium and the effect of the real interest variable on the size of the risk premium turns negative but insignificant. Thus Basurto and Ghosh conclude that the hypothetically perverse relation between high interest rates and exchange rate depreciation -- while a theoretical possibility -- definitely did not hold in the Asian Crisis countries.

Lastly, it is necessary to enquire into the amount of credit available to the private sector. What happened and were credit constraints a major contributor to the contractions in economic activity experienced? The pattern in the three countries was different. In Indonesia, there was a loss in monetary control during 1997 and 1998 leading to very rapid credit expansion, negative real interest rates and inflation. In Korea and Thailand, real credit grew at quite high rates during the second half of 1997(at 13 and 15 percent p.a.) before falling in the first half of 1998, modestly in Korea(3 percent) and more

drastically in Thailand. This produced a pattern of real interest rate behavior whereby real interest rates were rising in both countries(as compared with pre-crisis levels) peaking in Korea in mid-1998 but continuing upward in Thailand until early 1999. While the demand for credit in both countries was falling due to lower domestic and export demand, the supply of credit appears to have fallen even more sharply. It appears that both the IMF and government officials drastically underestimated the decline in the so-called money multiplier(i.e. the amount of credit or money to be created from a given amount of base money). While the rise in real interest rates may not have been disproportionately high and, at least for a time, may have been quite desirable to the extent that it supported a stronger more appreciated exchange rate, the fact remains that high rates did cut off some demand and hence possibly made the contraction somewhat larger than necessary. One might question whether high real rates were maintained longer than needed and whether or not more should have been done to ease the monetary stance (recalling our finding above that the NDA ceilings were not fully utilized in either Korea or Thailand).

The following are the conclusions that one might draw from our review of monetary policy and exchange rates:

- monetary policy under fixed exchange rates is still constrained in that the policies affecting domestic output and inflation targets still need to be consistent with maintaining exchange rate stability. This balancing act becomes less tenable and finally impossible as capital markets are liberalized.

- monetary policy becomes more effective under a flexible exchange rate regime where its effects work though both interest rates and exchange rate changes. Even here rates are not wholly unmanaged as interventions are allowed to smooth fluctuations stemming from temporary disturbances and large changes are (hopefully) avoided by the adoption of policy regimes like "inflation targeting" which seeks to keep domestic inflation rates close to those abroad .

- flexible exchange rates can make a contribution to dampening speculative capital flows since speculators need to take account of the risk of exchange rate fluctuations.

- Contractionary monetary policy becomes riskier when many businesses are highly leveraged and when many businesses/banks have open foreign exchange positions(i.e. net foreign liabilities, especially if these are short-term). In theory higher real interest rates could increase the risk of business and/or financial failure leading to foreign capital flight and exchange rate depreciation which could worsen the problem.

- Lastly some observations are worth making about the monetary stances adopted in response to the Asian Crisis:

  - the performance criteria set for NDA(ceiling) and foreign reserves (floor) holdings by the central bank do not appear unduly restrictive since both Korea and Thailand met them with room to spare(i.e. the authorities had leeway for more expansion if this was thought to be desirable).

  - tight money appears to have led to the desired exchange rate appreciations(i.e. corrections for overshooting) in all cases and did not appear to contribute to currency flight by increasing the amount of risk in the system.

  - Nonetheless the collapse in banks' willingness to lend seems to have been underestimated and real interest rates rose in response to a fall in economic activity and credit demand. It is possible to question whether the severity and duration of high interest rates was really essential.

C. Capital Controls

During much of the 20th century, international capital markets were relatively closed. This made possible the financing of two world wars, independent monetary policies during the "beggar - thy - neighbor" years of the great depression, and the fixed exchange rate system followed in the early years under the Bretton Woods system(Obtsfeld

1998,Tamarisa 2001). During the 1970s, following the move of the developed countries to flexible exchange rates and following, but with a longer lag, moves to freer trade in goods and services, the developing countries began to open up their financial markets as well. The openings recognized in many cases that it was hard to control capital when the extent of trade in goods and services was expanding, when domestic financial markets were becoming more open, and when stabilization policies were supposed to have their impacts working through markets.

The supposed benefits from capital market liberalization are well-known: (a) the ability to have domestic investment levels in excess of domestic saving; (b) the use of external financing, rather than cuts in domestic consumption, to react to temporary recessions or natural disasters; (c) increased access to technology and new management techniques: (d) the role of international capital in disciplining poor domestic policies(e.g. unsound macroeconomic policies, weak regulatory authorities, or suppressed financial markets): (e) allowing greater pooling of risks(market, credit, or liquidity) than could be obtained in domestic markets alone; and lastly(f) increased diversification in financial markets allowing investors to undertake riskier but higher yielding investments. This is a very impressive list, perhaps too impressive leading one to wonder why -- in the face of all these benefits -- international capital flows aren't much larger than they are in fact and why US, European and Japanese investors hold such large percentages of their portfolios in domestic assets (over 90 percent in fact).

The counter to the above arguments lies in the obvious frequency of international financial crises. Freer capital markets have costs as well as benefits. Jagdish Bhagwati (Bhagwati 1998a,b) argues that the case for free trade in goods and services does not extend to free capital movements, in fact that financial crises may be poisoning a perfectly valid case for free trade. He makes four important points. First, capital movements are subject to " panics, manias, and crashes"(in Kindleberger's famous phrasing) Contrary to Friedman's proposition, destabilizing speculation is possible and speculation against the fundamentals may not lose money if it is large enough to change the fundamentals(e.g. the possibility for "multiple equilibria"). Second, true that capital flows may have very large benefits, but to date nobody has done a good job of measuring

how large they are; and, in any event, one needs to factor in significant probabilities of crises involving large losses. It is not evident the benefits are greater than the costs. Third, most of the alleged benefits from foreign capital are contained in "foreign direct investment" (e.g. technology, management techniques, skills acquisition) which could be encouraged by improved assurances about the repatriation of amounts invested and profits. That is, capital markets do not need to be completely liberalized, and countries could take a slower, more cautious approach about other financial flows, especially short-term ones. Four, while the risks and costs of financial crises may be reduced by better macroeconomic policy and improved regulations and supervision, the fact remains that crises will continue to occur because human beings remain fallible; and since developing countries in particular lack skilled managers.

The capital account dimensions of the Asian Crisis are well-known and can be summarized quite quickly,. First were the large current account deficits which necessitated large capital inflows. These were very large in the case of Thailand in 1996 (7.9 percent of GDP), somewhat less so in the cases of Korea and Malaysia (at 4.8 and 4.9 percent of GDP respectively) and still less for Indonesia (3.7 percent of GDP). Large deficits by themselves render any economy vulnerable. Cessation of inflows -- or worse, reversals -- requires other sources of finance or a massive reallocation of resources to the tradable from the non-tradable goods sectors to eliminate the deficit, almost always involving some slowdown in growth (i.e. the reallocation takes time) and an abrupt change in the exchange rate. A country with a large deficit needs to worry about the security of its financing sources(e.g. Tanzania, a favored aid recipient has fewer worries than a Thailand dependent on numerous private sources). The dependent country is very susceptible to adverse news such as export receipts declining, revelations about weaknesses in the financial system, or a sudden decline in reserves. Thailand was hit with all of these. The second part of the problem stemmed from the emphasis on short-term borrowing. In the 1990s well over 60 percent of the capital inflows were short-term in Indonesia, Korea and Thailand. Not only did these countries need to find sources of money to finance continuing large deficits, they also needed to have these debts rolled over. The susceptibility to adverse news gets worse. The third element in financial markets vulnerability was the key role of banks and other like financial institutions.

Systemic weaknesses involved the following: weak loan appraisal procedures and an excessive reliance on collateral whose value would not hold up in the deflation of an asset bubble; weak regulations and supervision meaning that many bank practices were questionable, oversight was lax, and political interference would likely not allow tougher enforcement; and imbalanced loan allocations where too much had been lent into sectors with substantial excess capacity (most importantly property but also electronics, chemicals and steel). Add to this the implicit guarantees coming from a commitment to fixed exchange rates and that that governments would not allow large numbers of depositors to be hurt by financial crisis and you have the ingredients of a crisis waiting to happen.

The stance of the IMF toward the liberalizations of capital markets has not been unambiguous, especially in recent years. The IMF, being a creation of the Bretton Woods system with its emphasis on fixed exchange rates and limited capital mobility, was not intended to be a supporter of open capital markets. While the IMF was to oppose trade barriers and work hard to reduce restrictions on current transactions, its Articles of Agreement did not call for free capital movements, in fact quite the contrary: it allowed countries to impose capital controls, prohibited the use of Fund resources to finance capital outflows, and it allowed the IMF to call on countries to impose increased capital controls if thought necessary to conserve scarce foreign exchange. Over time the IMF's position has shifted: the trends toward flexible exchange rates, toward fewer restrictions and lower tariffs on goods and services trade, and toward removing of capital restrictions in the developed countries appear to have led the IMF to be more favorably disposed to capital mobility. Increasingly also it was becoming aware that as the international trade and finance system was getting more sophisticated and interlinked, capital account transactions were becoming more difficult to control; overinvoicing and underinvoicing of imports and exports or the use of prepayments and delayed payments in connection with trade transactions could easily generate capital flows and control of these flows could end up restricting trade.

Thus over time the IMF has not been actively pushing for capital account liberalizations but it has been supportive of countries that have done so(but not without warning them of

the risks, such as with Thailand, of the mix of an open capital account with fixed exchange rates or in financing investments with short-term money).The increased incidence of crises(Mexico 1994, Asia 1997, Brazil 1998, Russia 1999, and Argentina 2001) seem to be leading it back toward greater caution. This more cautious stance(see Fischer 2001) tries to anticipate and prevent financial crises, provide stronger defenses when they do occur, and is less opposed to capital controls of various kinds. There are several elements in the new approach. First is "increased surveillance" by which countries are encouraged to produce and publish clearer and more accurate information about financial transactions and their financial systems and whereby the IMF and World Bank cooperate in more detailed analysis of a country's financial institutions. The second is a somewhat altered stance about exchange rates and capital controls. The IMF has become more supportive of flexible exchange rates(whereas before it was relaxed about allowing countries to choose whatever exchange rate systems they wanted so long as they were committed to policies consistent with those systems). It feels that fixed rates are inconsistent with capital mobility; that flexible rates avoid large shocks and reallocations such as must occur when a fixed rate has become clearly overvalued, and that economic crises appear to be much less severe in countries with flexible rates(e.g. Turkey, Mexico, Israel and South Africa, all in 1998). In addition the IMF is less antagonistic toward the imposition of capital controls when necessary to control flows. And lastly, the IMF has created two new financing facilities to deal with financial crises(see Box 1 for greater details). The Contingent Credit Line offers large amounts of support to countries which have sound exchange rate and financial policies but feel under threat from contagion from crises elsewhere. The Supplemental Reserve Facility offer large resources to countries already undergoing capital flight. In both cases the amount of resources are very large in order to present a credible defense capable of halting and reversing the capital outflows. Reflecting "lender of last resort "considerations , both facilities carry high "penalty" interest rates and , since both are expected to be very effective and very quick , they have short repayment periods. In addition, the IMF is taking steps to cajole/coerce private lenders to take a more positive role in crises by providing needed resources along with the IMF and others and by sharing burdens("taking haircuts") when debt must be rescheduled.

What are the major lessons to come out of all this?:

- The combination of fixed exchange rates and capital mobility is an invitation to trouble. The country can have no independent monetary policy and the safety of the fixed rate leads investors to take on too much risk.

- Watch out for liberalizing capital accounts when there are large differentials between domestic and foreign interest rates. Banking systems have a very difficult time intermediating rapid, large capital inflows prudently (e.g. the Southern Cone case of the early 1980s and the Asian Crisis).

- The combination of flexible exchange rates and open capital markets seems more appropriate, but calls for a clear monetary policy stance such as "inflation targeting" or "money GNP targeting".

- Large current account deficits increase vulnerability to the need for large exchange rate adjustment or resource reallocations or both unless sources of financing are very secure. Its hard to imagine that private sources are really secure.

- Watch out for short-term debt buildups, especially any approaching in size to the central bank's reserve holdings.

- Do not decontrol short-term flows ahead of long-term flows since it creates the temptation to finance long-term investments with short-term money(e.g. Korea). If anything decontrol long-term flows first, especially equities and FDI since foreigners will bear a good proportion of the risk.

- Controlling short-term flows with Chilean type systems of taxes or interest free deposits are an effective way of regulating short-term flows and shifting the composition of borrowing toward the longer end. Controlling outflows is less satisfactory. It stops the bleeding and allows authorities more leeway for expansionary monetary and fiscal policies; but outflow controls may reduce the government's credibility, give the impression that needed corrective measures will not be taken, and over time evasion will grow.

- It is critical for countries to improve the quality of monitoring and supervision of financial institutions and to make sure the rules are enforced. Central to this is better and more reliable information about the quality of bank balance sheets and prudential rules(and their enforcement)about various practices(e.g. insider lending, overlending to single sectors or single borrowers, size limits on open foreign exchange positions, riskweighted capital adequacy). When all this is in place, recognize that its still imperfect since human beings are fallible and political interference is always a possibility.

- If reasonable progress has been made on much of the above, hunker down and wait for the next crisis. DON'T BE SURPRISED! Its coming but hopefully, if many effective changes have been put in place, it will be much less severe than the last one.

IV. Summary and Conclusions

The IMF is charged with the responsibility of promoting the orderly growth of world output and trade. When it is approached by countries with balance of payments difficulties, it is supposed to assist them in implementing policies aimed at restoring growth with external imbalances that are sustainable in the medium-term. Contrary to popular belief(as expressed in the press and even by some economists), IMF programs are not solely concentrated on the demand side, using just monetary and fiscal policies to reduce imbalances, but also include supply side measures providing better incentives to increasing the size or improving the structure of output to contribute to that objective. Thus IMF programs are supposed to restore growth by a combination of demand and supply side measures(plus providing additional foreign resources from the IMF itself and the coalition of multinational and governmental agencies and private lenders it puts together) which together restore investor confidence, reducing capital flight and hopefully even reversing these flows. True, in the short-term, some growth may need to be sacrificed, but, the IMF argues, this results from having an unsustainable balance of payments position that would force country to adjust with or without an IMF program. That is, the alternative to an IMF program is not likely to be a continued growth at the previous levels with no change in policies. It is possible that some other set of policies

would produce more favorable results than the IMF program -- that is less sacrifice of output or greater eventual increases in output or some combination of the two – but this so-called "counterfactual" must be clearly spelled out: (a) the details of its policy program must be clear and internally consistent; (b) its policy content must be such that the government in question would accept it and try in good faith to implement it(i.e. its politically acceptable); and (c) its external financing requirements must be realistic in that they would likely be met by known public and private sources.

Attempts to examine empirically the effects of IMF programs on growth have followed two broad approaches: (a) comparative analysis and (b) econometric analysis. Comparative studies attempt to examine the effects of Fund programs on growth (and other economic variables) by looking at performance in the years "before and after" such programs or for two sets of countries "with and without" Fund programs. By and large such studies produce quite inconclusive results. For some countries(or sets of countries) growth improves while for others it is lower. The best one can say is that where the clear identification of countries with improvements in policy positions is possible, this set of countries is likely to be doing better. Nonetheless, comparative studies in general suffer from a serious flaw: by failing to control for different exogenous factors or different starting points, they are unable to tell us whether the changes we are observing are due solely to the effects of the IMF program or whether other factors are also playing a role.

Econometric studies usually try to explain country growth rates by a set of factors such as the following: (a) macro/stabilization variables(e.g. budget deficits, credit growth, inflation rates); (b) structural variables(e.g. black market premia, tariff rates, quality of public and private institutions); (c) "other economic variables"(e.g. the external environment such as the terms of trade or growth of world trade); and (d) initial conditions (e.g. initial GDP per capita or initial life expectancy or years of secondary schooling). Such models do a reasonable job in explaining country growth rates, differences in growth rates between countries or sets of countries, and changes in growth rates between time periods. In these models the types of policy change usually sought in IMF programs – such as reduced budgets deficits, lower inflation, more open trade or less exchange rate overvaluation – all make positive contributions to explaining growth rates

or differences in growth rates. Thus higher growth rates can be partly explained by IMF-like policy improvements, controlling for other factors. If policy changes in country X bring about smaller gains than had been expected, it is usually because the policy reforms still fall short of those adopted in other countries or that plus differences in external circumstances or in other economic variables. Note that these studies usually do not focus on IMF programs themselves and hence do not tell us what is happening during and immediately following a Fund program. But they do tell us that, other things equal, better policies(a la IMF) will bring more rapid growth rather quickly(say comparing one five-year period with the previous one).

The Asian Crisis had its roots in very rapid economic expansion, large external imbalances, overreliance on short-term financing, overlending to a number of sectors and a financial system characterized by weak regulations and supervision. None of these is necessarily fatal but in combination they rendered the Asian economies very vulnerable to "adverse events"(e.g. bad economic news, developments in the world economy, contagion from other countries or political developments) the timing of which is very difficult to predict. Given the onset of the crisis, the question also arises whether or not the policy response – pushed by the IMF and adopted by the countries – was helpful toward reversing the crisis or whether it made the crisis worse. In this paper, we have presented evidence which suggests that over time following IMF-like policies is likely to be helpful but it does not follow that the policies proposed are always right or that they cannot have adverse effects(at least initially). We have looked at fiscal policy, monetary policy and exchange rates, and capital market policies in the context of the Asian Crisis.

It is clear -- and the IMF admits this -- that the fiscal policy stances adopted at the onset of the crisis were too restrictive. The IMF misread the crisis -- both in its severity and in its multi-country dimension – and sought fiscal tightening arguing that this would make the required private sector adjustment smaller and make room for the coming expansion of government expenditures needed to recapitalize the financial sector institutions. Many months into the crisis the IMF recognized the error and allowed for expansion; but, even so, that still meant many months with the wrong stance and that , even with the

correction, the fiscal stimulus provided in the first year of the program was smaller than would have been desirable.

Appropriate monetary policies have generated perhaps the most heated debate. Some economists have argued that tight money may have worsened the crisis and even that high domestic interest rates may have heightened the amount of financial risk leading to capital flight and exchange rate depreciation – that is, that the traditional monetary orthodoxy which the IMF prescription represents is wrong. Disentangling chains of causation is not easy: nominal interest rates and exchange rates are both endogenous variables in most macroeconomic models so it is not clear 'what is causing what" and one can find episodes of both positive and negative correlations during the Asian Crisis(and in fact in other crises as well). The most convincing argument to date -- a monetary model of exchange rate determination – provides evidence that the behavior of real money explains exchange rate behavior; that the policies adopted during the Asian crisis were successful in bringing about the desired appreciation(i.e. correcting for the "overshooting" of exchange rates); and that there is no evidence that tightness increased risk resulting in greater capital flight and further depreciation. Despite this reassurance, it is still possible that monetary policy was too tight: on one hand countries(Korea, Thailand) had more room for expansion in that they were consistently coming in below the Fund ceilings for net domestic asset holdings by the central bank and above the floors for reserve holdings; but, on the other hand, despite a drastic collapse in loan demand, real interest rates rose and continued high into early 1999. Perhaps, even granting exchange rate objectives, tight money was more severe or more prolonged than was really necessary.

The IMF stance on capital markets and capital flows has varied over time. Following World War II, it was a very important part of the system of fixed exchange rates and relatively closed capital markets that characterized the Bretton Woods system. Later as countries – first the developed countries and, only more recently, growing numbers of developing countries – moved toward more flexible exchange rates, more open trade, and finally more open capital markets, the IMF has become more supportive arguing that maintaining capital controls in an open trading system becomes more and more subject to

abuses and that open capital markets are consistent with a monetary policy that operates through markets. This is not to say that the IMF was unwary or not warning of problems – e.g. overborrowing, overreliance on short-term debt, and the combination of fixed exchange rates and open capital markets were all problems that it worried and warned about ;but ,by and large, it was supportive of the opening up of capital markets in the first half of the 1990s. Growing instances of crisis(e.g. Mexico, Asia, Brazil and Argentina) have brought the IMF back to greater caution – to increased surveillance and transparency in information, toward the creation of new facilities for preventing or fighting financial contagion, toward firmer insistence on flexible exchange rates, and toward greater receptivity(or less hostility) toward systems for controlling capital flows such as the Chilean systems for regulating inflows or even the possibility of (temporary) payments suspension.

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