IMF Programs, Adjustment and Growth

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ABSTRACT

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IMF programs have always been controversial. The IMF itself argues that countries faced expenditures in excess of output by excessive amounts (i.e. with an unsustainable balance of payments deficit) have little choice but to make adjustments through expenditure-switching policies. They will need to make some adjustments with or without the IMF. To be sure, some output growth may need to be sacrificed in the short-run, but this is a necessary cost of achieving better growth and a more sustainable payments position for the medium-term. The IMF's critics make points such as the following, The adjustment programs are ineffective achieving neither higher growth nor more sustainable balance of payments positions in the medium-term. Or that a different set of policies would work better: that IMF depends too much on expenditure reduction (and on markets rather than controls) and not enough on supply improvements which take longer to achieve. And/or that adjustment falls unduly on the poor and hence incur social costs that are unacceptably high. Or, to take a different extreme, that IMF programs are a source of international disequilibria – i.e. the existence of IMF resources causes borrowers and lenders to behave more recklessly knowing that there is a safety net to catch them, the so-called "moral hazard" problem.

The proposed paper will examine IMF programs – both the theoretical underpinnings and the experience – and attempt to come to a more balanced view as to their effectiveness. The paper is organized in four main sections. The first discusses the nature of IMF programs: what are the key features of these programs and what are the theoretical and practical considerations determining whether they should work? The second section looks at the evidence about IMF programs. It is divided into two parts, one looking at more casual investigations of the "before and after" of these programs and the other taking up a number of econometric studies covering IMF and other adjustment programs. The third section will evaluate a number of proposals for the reform of the IMF. Again it is divided into two parts, the first examining proposals for changing the nature of IMF programs to make them more supportive of growth and poverty reduction while the second looks at grander redesigns for the role of the Fund, for example as a world central bank of an international bankruptcy court. The fourth section will provide a brief summary and attempt and evaluation of the desirability of various reform proposals.

The research reported in this paper is presented at the International Conference on Economic Recovery and Reforms on October 29, 2002 at the Imperial Queen's Park Hotel, Bangkok, Thailand.

The conference is organized by the Faculty of Economics, Thammasat University and the Bank of Thailand. While the paper focuses on issues that have been recognized by this International Conference, the author(s) is(are) responsible for the views expressed in the paper.

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This paper will examine IMF programs – both the theoretical underpinnings and the experience – and attempt to come to a more balanced view as to their effectiveness. The paper is organized in four main sections. The first discusses the nature of IMF programs: what are the key features of these programs and what are the theoretical and practical considerations determining whether or not they should work? In making such an assessment, it is stressed that the outcomes of IMF programs need to be compared with some realistic alternative. The second section looks at the evidence about IMF programs. It is divided into two parts, one looking at more casual investigations of the "before and

after" and the "with and without" of these programs and the other taking up a number of econometric studies covering IMF and other adjustment programs. The third section looks at IMF programs from the perspective of the 1997 Asian Crisis. It first looks at three key areas where IMF programs have come under criticism: fiscal policy; monetary policy and exchange rates; and capital controls. It then makes some further comments about the policy regimes adopted from a broader perspective. The fourth section presents a brief summary and an assessment of IMF policies.

I. The Nature of IMF Programs

According to its Articles of Agreement, the IMF is charged with promoting the orderly growth of world output and international trade. Its attempts to assist countries to resolve their balance of payments disequilibria are to be pursued with these ends in mind - i.e. a viable medium-term balance of payments position should be accompanied by improved growth and price stability. Countries seek IMF assistance (mainly) when the imbalance between aggregate demand and supply is leading to a deteriorating external position (as revealed by such things as falling international (net) reserves, arrears in paying for goods or servicing debt, an unsustainable buildup of external debt, or some combination of these). Such problems can arise from the supply side as with a decline in the demand for exports or a decline in the terms of trade or a rise in international interest rates. They can also arise from the internal demand side as with too rapid growth of money and credit or an expansion of fiscal deficits. Faced with the onset of such problems, countries may delay adjusting for a period but with growing evidence of problems as with declining competitiveness coming from failure to make exchange rate adjustments or as with declining creditworthiness. Eventually adjustment will be necessary, with or without the IMF, in the cases where foreign financing dries up.

IMF programs are intended to lead to an orderly return to medium-term internal and external balance: orderly in the sense that they avoid temporary expedients like printing money and attempt to restore at least some of the foreign financing by cutting capital flight and mobilizing the resources of the IMF itself, other international organizations,

and commercial banks; and attempt to avoid large devaluations combined with minimal adjustment efforts which may just set off a round of competitive devaluations by other countries. Contrary to popular impressions, IMF programs are more than just demand management programs, more goes into them than just attempts to control the supply of money and credit or the size of fiscal deficits. [See Box 1 for a description of various IMF financing facilities. These facilities, or "arrangements" to use IMF jargon, differ from each other in duration, the concessionality of their financing and the characteristics of countries that are eligible. In this paper, I abstract from these differences since I want to concentrate on IMF policy conditions and these are quite similar over the various facilities]. At the risk of some oversimplification(since lines may not be so carefully drawn), the instruments in typical IMF programs can be placed in three categories:

1. Demand-side policies: consist of all the policies which affect the rate of expansion of aggregate demand such as the usual monetary and fiscal policy instruments found in standard economic texts.

2. Supply-side policies are all those policies which affect an economy's ability to supply output. As such they fall into two categories: (a) actions which raise the efficiency with which factors are being used hence getting more output for given inputs e.g. elimination of monopolies or wage and price controls or consumer subsidies which often involve lower producer prices as with agricultural commodities or controls on the internal movement of capital or labor; and (b) actions which increase the level and growth rate of capacity e.g. interest rate increases to encourage higher domestic savings, measures to encourage more foreign direct investment, or the streamlining of domestic investment rules.

3. Measures to improve international competitiveness consist of all those actions which increase a nation's ability to supply tradable goods, both exports and import substitutes - e.g. exchange rate changes(combined with demand restraint), reductions of controls on current account transactions(such as import quotas) , and reductions of taxes and tariffs on exporting and importing.

Box 1 IMF Programs

The IMF provides loans to countries experiencing balance of payments difficulties to facilitate recovery and a prompt return to sustainable economic growth. The resources the IMF provides are meant to enable countries to stabilize their exchange rates, rebuild reserve positions, and make payments for imports without intensifying trade restrictions and/or capital controls.

The types of "arrangement" or "facilities", the IMF provides its member countries includes "regular facilities" (stand-by and extended arrangements), "concessional facilities " for low-income countries (SAF and ESAF) , and "special facilities". These "arrangements" or "facilities" spell out the circumstances under which assistance can be sought and the conditions the country must meet in order to gain access to the loan. All arrangements are supported by an economic program negotiated and agreed to between the country and the IMF, spelled out in a "Letter of Intent", and presented to and approved by the IMF's Executive Board. Loans are then disbursed in phases, usually quarterly (which can be front-or back-loaded) as the program is implemented.

The amounts of resources available, the length of the program, the interest rate charged and the repayment period vary according to the various facilities and the problems that countries face.

Regular Facilities

The Stand by Arrangement (SBA), the Fund's must widely used facility, is meant to handle short-term balance of payments problems and typically lasts 12-18 months. SBAs include fiscal, monetary, and exchange rate policies designed to correct imbalances. Its performance criteria typically include budget and credit ceilings, reserve targets, external debt ceilings and the avoidance of intensified restrictions on current and capital transactions. Most SBA programs include supply-side measures but, because of the short duration of these programs, these would not get as much emphasis as in an extended program.

The Extended Fund Facility (EFF) is meant to support medium-term adjustments and usually covers 3-4 years. These programs are meant to address imbalances arising from macroeconomic and structural sources. Performance criteria are similar to those in SBAs but with greater emphasis on supply-side measures aimed at attacking structural problems. The policies for the first year's program are spelled out in detail and policies for subsequent years are specified in subsequent reviews. The amounts that can be borrowed under the SBA and EFF is 100 percent of the member's quota annually with a cumulative limit of 300 percent (although larger amounts are possible in exceptional circumstances). Interest rates charged are at market rates related to the Special Drawing Right and there are surcharges of 100 basis points and 200 basis points for loans exceeding 200 percent and 300 percent of quota respectively. SBAs are expected to be repaid within 2.25-4 years from date of drawing and EFFs within 4.5-7 years

Concessional Facilities for Low-Income Countries

The Structural Adjustment Facility (SAF) and **Enhanced Structural Adjustment Facility (ESAF)** were set up in March 1986 and December 1987 to offer highly concessional finance and handle the special problems of the low-income countries. Both cover macroeconomic and structural reform programs. Macroeconomic, financial and structural reform measures are laid out in a Policy Framework Paper (PFP), created and agreed in discussions between the government , IMF and World Bank. There would also be a Letter of Intent. For SAFs/ESAFs the interest rate was 0.5 percent and repayment was expected over 5.5 to 10 years.

In 1999, the IMF's Executive Board made a decision to increase the focus on poverty in these programs. The ESAF was replaced by the **Poverty Reduction and Growth Facility (PRGF)** under which loans were to be made in keeping with programs laid out in a Poverty Reduction Strategy Paper, prepared by the country itself in consultation with civil society, other development partners and the World Bank. Interest and repayment obligations under PRGF are the same as for ESAF.

Special Facilities

A number of special facilities have been created during the IMF's history in order to meet special problems as they arose. These facilities provide assistance that is additional to that provided by the other facilities but must be used for additional needs i.e. countries cannot finance the same balances of payments need from two facilities. Two facilities have been created in response to particular problems developing countries have been faced with in recent years. **The Supplemental Reserve Facility (SRF)** was created in 1997 and is meant to provide financing for countries facing a sharp drop in external market confidence resulting in massive capital flight and a large drop in international reserves. Loans under SRF are subject to surcharges above the basic rate of interest by 300 basis points during the first year following drawing, and, following that, rising by 50 points each six months to a maximum of 500 basis points. Members are expected to repay 1-1.5 years following drawing and must repay not later than 2-2.5 years. **The Contingent Credit Line (CCL)**, created in 1999, is meant to prevent crises by providing a massive amount of financing to countries with solid policies already in place. The CCL is meant to provide 300-500 percent of quota in addition to SBA/EFF amounts and is intended a line of defense against problems arising from international contagion. CCL repayment expectations are the same as for the SRF and the loans are also subject to surcharges, but at lower rates starting at 150 basis points up to a maximum of 350 basis points. Lastly there is a **Compensatory Financing Facility (CFF)**, established in 1960s, which was meant to help countries suffering from shortfalls in export proceeds or rising cereal imports needs caused by fluctuating world prices. Financing terms are similar to these for the SBA, except that there are no surcharges.

Sources : IMF(1995) , IMF(2001), IMF(2002)

Two further points are worth making. First the mix of the actions to be taken in any IMF program would depend on the nature of the problems the country was facing and political feasibility. Second, the above categorization is convenient and useful for expository purposes, but it is evident that a number of policy actions don't fall so clearly into one box or another among the three. Devaluations are likely to have aggregate demand effects by affecting the real value of money. Or consumer subsidy reductions may be motivated by a desire to reduce fiscal deficits as well to provide better incentives for producers. Or, still further, monetary policy may have supply effects through the influence of interest rates on investment. Nonetheless this three-way categorization is useful because it illuminates the primary objectives of many instruments and makes clear the point the IMF programs have actions meant to affect both demand and supply.

By putting the above arguments in a slightly more formal way, we can push the analysis a bit further. The gap between a country's output or income (Y) and its "absorption" (A, or its domestic demand as the sum of consumption, investment and government spending) would be equal to its current account balance or

$$(1) \qquad CAB = Y - A = Y - (C + I + G) = X - M$$

The current account would show a surplus when income exceeded absorption or, equivalently when exports exceeded imports. And conversely for a deficit. The current account balance must be matched by changes in the sum of (minus)net foreign asset holdings of the banking system and changes in net foreign indebtedness or

$$(2) \qquad CAB = \Delta R - \Delta FI$$

Or, in other words, the current balance must be financed in some fashion by changes in net reserves and net foreign indebtedness. If, for example, the country is running a current account deficit it must be financed by some combination of a draw down in reserves and an increase in foreign debt.

With equations (1) and (2) in mind, we can get some further insights into the problem at hand. First is the obvious point that a balance of payments problem arises when a country runs a current account deficit that is larger than can be financed by its willingness to

reduce reserves and its ability to increase its indebtedness abroad (the latter of which is also affected by the willingness of foreign institutions to lend). While current account deficits are normal for developing countries, deficits which involve a continuous reduction in net reserves and/or debt accumulation at a rate which raises questions about the future capacity to service debt will need somehow to be corrected, with or without the help of an IMF program. Second, from equation (1), we can see that bringing the deficit down to a more sustainable level can involve reductions in demand or absorption or an increase in supply or the output side or some combination of the two. These are not usually interchangable and the key question then becomes "what is the appropriate mix of the two?". Moreover, IMF programs, in addition to policy conditions, can involve increased capital inflows(from its own resources, those of other international institutions and governments, and commercial banks even in cases where fear of payments problems had led to reduced inflows or even outflows and capital flight.

In terms of equation (1), output or y might be assumed to be fixed in the short-run, constrained on the up side by the capital, labor and technology. On the other hand, "actual output" might be below 'potential output" because of (1) a deficiency in aggregate demand (i.e. the usual "Keynesian problem") or because of (2) constraints on the supply side which keep an economy below its potential (e.g. arising from monopoly; or wage, price or interest rate controls; or foreign exchange controls). The nature of any adjustment program is to spell out that set of policies which will bring demand and supply into balance and achieve both internal and external balance simultaneously within some timeframe and financing program that is reasonable.

Internal balance requires that aggregate demand (or C + I + G + X - M) equal to potential output at a politically acceptable level of inflation. External balance requires that the excess of absorption over potential output be consistent with levels of foreign reserves and foreign borrowing that are sustainable in the long-run. Achieving both balances at the same time is most likely to require multiple policy instruments. A couple of examples will illustrate this point. First suppose that a country is suffering from a rate of inflation its authorities feel is too high and excessive foreign borrowing. A tighter fiscal policy might work to reduce the size of both imbalances but only by accident would it eliminate

both and achieve both internal and external balance at the same time. If, for example, internal balance might be achieved while still leaving an excessive current account deficit. A further fiscal tightening might reduce foreign borrowing but only at the expense of unemployed capital and labor. Achieving both balances simultaneously is likely to require the use of a second policy instrument (e.g. exchange rates) which would shift the structure of incentives in favor of the production of tradable goods (i.e. more exports and import substitutes). A second illustration involves the case where actual output lies below its potential level not because of deficient demand but because of constraints on the supply side. The problem might be monopolies or distorted incentives such as price controls or regulations concerning investment or the movement of labor. These problems need to be attacked directly, aggregate demand policies will not do the trick. More generally, where the problem is not just with the level of demand but with its composition as well -- e.g. too much consumption not enough investment, or too much non-tradables and not enough tradables production -- policy changes which create incentives to alter the structure of output will be needed in addition to aggregate demand policies.

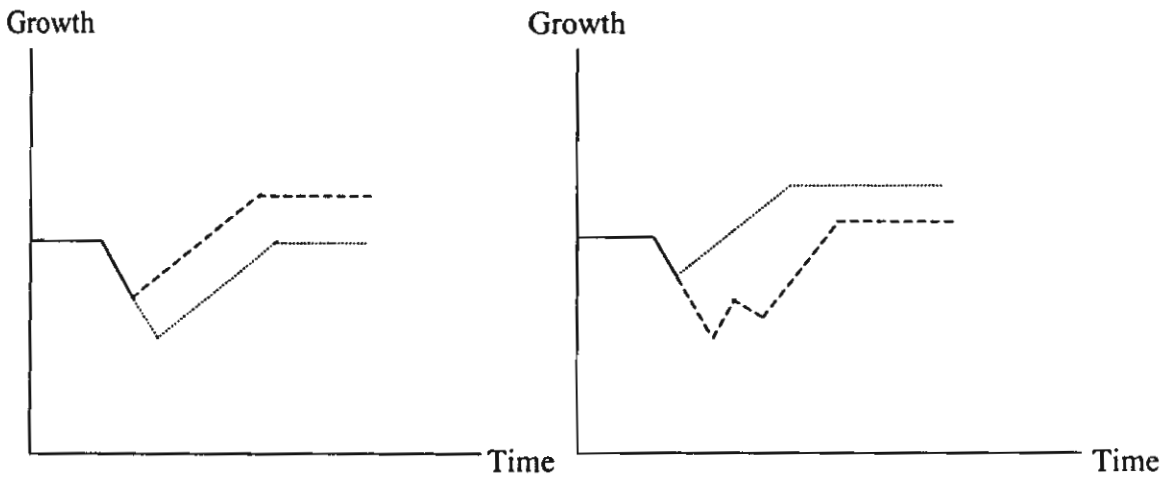
An important question is whether demand restraint is likely to lead to lower output or a fall in the rate of growth. In theory there might be no effects but in reality some adverse effects seem likely even if temporary. One possibility for the effects to be very limited would be for demand restraint to impact entirely on the trade sector -- the fall in demand for importables leads to a reduction in imports and for exportables just leads to larger exports. No fall in domestic output need be involved. Obviously a very limiting case. If, as is likely, the reduction in absorption also falls on non-tradable goods, this would release resources for the production of tradables. If these resources could be moved very easily and quickly into the production of exportables and import substitutes the resulting fall in output need not be very large or last very long. A second case involves flexible prices and wages. Here demand restraint - say in the form of slower growth in the money supply -- would lead to lower prices and wages (or a slower rise therein) and need not affect output. However, where there is some inertia in the price or wage-setting mechanism, such as adjustments occurring with a substantial lag or a dependency on past events, greater monetary restraint will likely result in lower output.

Two further points about the relation between adjustment and the level or growth rate of output can be injected at this point. First, if absorption is excessive, it cannot be sustained for long. Some adjustment will need to be made. The question then becomes one of comparing the effects of an IMF program with some alternative program. The alternative needs to be spelled out. Which of the two programs brings the most favorable results in terms of the combination of output loss and restoration of growth, considering both timing and magnitudes? The second is the appropriate mix of policies under the IMF program? Why not put greater emphasis on policies which would increase supply rather than on those which reduce demand? ; possibly this would minimize output losses. Clearly this would be preferable but a couple of considerations constrain this approach. Since any expansion of supply will also bring forth its own expansion of demand, aggregate demand restraint will still need to be a part of the program, especially if excess demand were a source of the problem to begin with. Moreover timing and financing considerations also enter in. Efforts to change the level and composition of output take time to achieve, certainly more so than changes coming from lower demand. If so, programs that involve major supply side changes will be more protracted in time and involve longer periods of imbalance. Will there be financing available for these imbalances? If the country is one with heavy debt and debt servicing problems, will the further accumulations of debt (including obligations to the IMF) be desirable or a mere postponement of the problem to some future (most likely near term) date? Thus financing considerations can dictate the use of demand-side as well as supply -side measures.

In the IMF view, slower (or even negative growth) ought not be attributed as the costs of its program. Some adjustment will need to be made -- with or without an IMF program. The only legitimate comparison is between what happens under the IMF'S program as compared with the alternative. This is illustrated in Figure 1(a) with a solid line showing the growth rate over time prior to the crisis and then under the IMF program and the dashed line showing the experience under some alternative program. At point to, some event sets off the problem -- e.g. a decline in the terms of trade or fall off in export demand, a rise in international interest rates, or a capital outflow caused by worries that external debt is accumulating too rapidly. Figure 1(a) illustrates the case where the IMF's program is superior. The V-shaped recovery is quicker, the fall in output less deep, and

the growth rate following recovery is faster. National welfare will likely be higher under the IMF scenario. This might be so because the IMF exerts greater pressure to complete policy reforms, brings in its own external resources together with those of multilateral institutions, government and commercial banks, and government policies carry greater "credibility" when carried out under IMF auspices. Other outcomes are, of course, possible -- U-shaped recoveries where restoring growth takes longer or even W- shapes where recovery is staggered or the possibility that the "alternative" scenario is better than the IMF scenario (see Figure 1(b)). This could come from a smaller (or shorter) sacrifice of growth or greater post-recovery growth or some combination. This combination could involve a more fortuitous mix of expenditure-switching and expenditure-reducing policies.

Figure 1 Comparison of Alternative Adjustment Program



And so, in principle, it is possible that the so-called "counterfactual" is superior to the IMF program in achieving growth and stabilization objectives. It is important that the details of the "counterfactual" be laid out clearly. In making comparisons with the IMF's proposed program and projected outcomes, a number of criteria need to be met:

1. the external environment the country faces must be the same in both cases.

2. all the elements of the "alternative program" must be spelled out in the same detail as in the Fund program -- i.e. both programs must be equally detailed and internally consistent(the Fund's methodology forces this consistency in its programs, at least *ex ante)*.

3. while the time period for adjustment and the amounts of external finance entailed need not be exactly the same as in the IMF program, they need to be spelled out clearly and be reasonably consistent with the amounts of finance the proposed programs might be expected to mobilize (e.g. a gradual adjustment with protracted large external requirements can always be justified by assuming finance with a large grant element will be available but the question that needs answering is "what amounts and terms are realistic?"). And

4. since IMF programs have the virtue of being negotiated and agreed with governments(under varying degrees of duress), the details of the alternative program must also pass the test of being something that the government might reasonably be expected to agree to(e.g. recommending in 1996 that Argentina drop its currency board and move to flexible exchange rates or that Pakistan cut defense expenditures may be impeccably good economic advice but not something the government was likely to do)

II. The Impacts of IMF Programs

As suggested near the end of the previous section, ideally one would like to compare the effects of an IMF program with those of an "alternative program" -- the "counterfactual". Since IMF programs usually take place in situations where a country's growth path has become unsustainable, merely assuming unchanged policies and growth as usual is not a realistic alternative and one needs to compare the effects of alternative programs on growth, inflation, the balance of payments. However, this is easier said than done and ,as we shall see below, no empirical study really involves "counterfactual analysis". The requirements are too demanding -- a fairly complete specification of the policy changes involved, some assurances that this set is politically acceptable, and some demonstration that the resulting sets of external imbalances could in fact be financed. Moreover, no economic models exist for doing comparative simulations of different combinations of a fairly large number of policy variables; at most a small number of changes can be handled.

As a consequence, we will need to be satisfied with much simpler analysis. Below we will examine the evidence from two broad approaches to the problem. The first is what I have called "comparative analysis" which examine the effects of IMF programs by looking at periods "before and after" or comparing experiences of two sets of countries "with and without IMF programs". The second is a set of econometric studies which look at the effects of IMF programs themselves or of IMF-like objectives on country performance.

A. Comparative Analysis

In this section, I will examine the results of studies done by individual economists (both academics and IMF staff) as well as two major studies by the IMF itself on the effects of its programs. The results of the individual studies may be grouped into three categories: "before and after", "with and without" , and "comparative simulations" and their effects on the balance of payments, current account, inflation and economic growth are summarized in Table 1.

Table 1

"Before and After" and "With and Without" Studies

Study	Time Period	Number of Programs	Number of Countries	Effect on[b]			
				Balance of Payment	Current account	Inflation	Growth
Before - After							
Reichmann and Stillson (1978)	1963-72	79	...	0	...	0	+
Connors (1979)	1973-77	31	23	0	0	0	0
Killick (1984)	1974-79	38	24	0	0	-	0
Pastor (1987)	1965-81	...	18	+	0	0	0
Goldstein and Montiel (1986)	1974-81	68	58	-	-	-	-
				-	+	-	+
With - without							
Donovan (1981)	1970-76	12	12	...	...	-	+
Donovan(1982)	1971-80	78	44	+	+	-	-
Gylfason (1987)	1977-79	32	14	+	...	0	0
Loxley (1984)	1971-82	38	38	0	0	-	-
Goldstein and Montiel (1986)	1974-81	68A	58A	-	+	-	+
		B	B	-	-	+	-

[a] Comparison over one-year periods, unless otherwise noted.

[b] Direction of change; (+) indicates positive effect, (-) indicates negative effect, 0 indicates no effect.

Source : M.Khan (1990), p.208

The "before and after" approach is the most common and involves a comparison of a set of economic variables in the period before and after the program, usually one year but sometimes averages of several years (do the variables get "better" +, or "worse" -, or show "no change" 0). The results, quite typically we shall discover are quite mixed:

- *growth:* mostly no effects, with studies showing positive and negative effects roughly canceling out;
- *inflation:* mostly reduced, with some studies showing no effects,
- *balance of payments:* no effects with studies showing improvements and deteriorations roughly canceling;
- *current account:* mostly no effects, with positive and negative results offsetting.

The "before and after approach " is rather simple to apply but the problem is that it is a rather poor substitute for the counterfactual. Implicitly, it is assuming that "all other things remain equal" and hence any changes that results are due entirely to the effects of the IMF programs. But this assumption is unlikely in reality, the world economy for starters is likely to be different in the two periods and so part of the effects are attributable to that.

The "with and without" approach is meant to correct for this problem by looking at before and after for two sets of countries and asking were there comparative improvements *over the same time periods.* Since both sets of countries will have faced the same world environment in the two time periods, any differences in their performance would supposedly be due to the IMF programs. Or put slightly differently, without the IMF programs, the two sets of countries would have performed the same (i.e. we have a counterfactual. As in the previous case the results are quite mixed:

- *growth:* a mix with studies showing improved and worse growth.
- *inflation:* most studies show worse inflation performance
- *balance of payments:* improvements appear to dominate worsenings or no change
- *current account:* show improvements or no effects.

The problem is that the "with and without approach" is flawed as well. This is not a random selection from two groups, one of which happens to be subject to IMF programs and the other not. The "with" group has IMF programs presumably because they were exhibiting more severe signs of internal and/or external imbalances, otherwise there would be no need for a program. Any differences in performance as compared from the control group would come from differences in the starting points plus the effects of the IMF program, not just from the program alone. Goldstein and Montiel (1986) attempt to correct for his problem by forcing the starting points to be the same, and then asking whether performance still varied. Their results, about which some skepticism would still be justified, show that there were no differences in performance between the two sets of countries.

In summary, the above studies show a rather mixed bag of results, most particularly for growth where positive and negative impacts seem to cancel out approximately. Basically, however, the studies are flawed: they are not really comparing what happened under Fund programs as against some alternative. Moreover, all the studies are pretty much confined to looking at short-run effects. Ideally one would like to look at results over longer periods as well: over the long-run have countries which have had IMF programs performed better or worse than they would have had they not had these programs or better than some other carefully chosen set of countries. There are no answers here as well.

A third set of studies -- usually conducted by the IMF's own macro modelers -- involves comparative simulations using econometric models (see Khan and Knight 1981 and Khan and Knight 1985. These do not look at the results of any actual Fund program, but instead

compare the effects of a specified IMF policy package with that of some other policy package. For example, Khan and Knight's 1985 model involves parameters estimated on the basis of the experience of 29 countries (which in turn are broadly consistent with those drawn from other sources) and involves assessing the effects of changes in aggregate demand variables and the exchange rate on growth, inflation and the balance of payments. From this two hypothetical simulations are specified. Both specifications stipulate that the government wishes to achieve a given increase in international reserves within one year and the problem is whether to do this solely through aggregate demand measures or a mix of aggregate demand and supply measures. The former case has a 10 percent once-and -for - all reduction in the growth rates of domestic credit and government expenditures plus a 10 percent devaluation. The latter is the same plus a 2-3 rise in the investment -income ratio (hence raising capacity output by 0.5 percentages points a year for four years. Since prices adjust only with a lag, the tight credit and fiscal policies more than offset the expansionary devaluation effects, thus lowering the growth rate. As inflation subsides, real government expenditures and credit begin to expand and the old real growth rate is reattained. The target reserves ratio is achieved but at the expense of a temporary fall in the growth rate. If supply side measures are also used and have immediate impact, the initial fall in the growth rate would be smaller and growth rates above those in the previous case would be attained. The supply side measures reduce the costs and raise the benefits of the program.

There are several advantages the comparative simulations approach. First it explicitly involves counterfactual analysis; how do two alternative policy scenarios compare? Second, since the scenarios are hypothetical, one does not have to worry about real - world problems such as incomplete implementation of either scenario; one assumes that policy implementation was complete. Thirdly it focuses very clearly on policies and their outcomes. Other exogenous events can be abstracted from.

On the other hand these models have their drawbacks. Virtually all these models are comparatively simple, focusing on the relation between a relatively small number of variables and growth, inflation and the balance. They cannot handle a larger number of variables in a convincing fashion and hence really cannot get at the complexity of an IMF

program. In addition, note that in this Khan-Knight model, the supply side enters exogenously -- the rise in the investment-income ratio is merely assumed to occur, it is not an endogenous response to a change in one or more policy variables. On the basis of the experience of the 29 countries upon whom this model is based, we have no assurance that this would in fact occur. Still further the parameters in these model are derived from the experience of a number of countries under a variety of circumstances. Will they be relevant for a particular country under a specific set of circumstances? Will they be invariant to changes in the policy regime? Will they be invariant to the strength of a particular government's "credibility". All these considerations limit the usefulness of these models other than for expository purposes: actual outcomes might vary considerably from those simulated and the counterfactuals may not be giving the right comparison.

Finally we have two IMF surveys of the experience under its adjustment programs in the late 1980s and early 1990s. The first is a 1993 review for the 19 countries that had entered the Structural Adjustment Facility (SAF) and Enhanced Structural Adjustment Facility (ESAF) by mid-1992 (see Box 1, for a description of various IMF facilities). The second reviews the experience of some 36 countries in some 45 Standby and Extended Fund Facility arrangements entered into mid-1988 to mid-1991. Both reviews use mostly what we have called the "before and after" approach, sometimes supplemented by some "with and without". The first of the two reviews provides considerably more information on outcomes both overall and for individual countries and hence is discussed at greater length here. Countries eligible for SAF and ESAF are among the most disadvantaged in the world, overwhelmingly they are African: (a) their per capita incomes are very low; (b) agriculture accounts for much of economic activity and exports tend to be concentrated in a few primary commodities; (c) most energy requirements are met through imports making them very susceptible to terms-of-trade fluctuations; And to make matters worse,(d) state intervention in the economy tends to be widespread in the form of price setting and ownership, making them less responsive to price signals. By and large, the 1980s for these countries were a disaster. Their terms of trade deteriorated, weather was often bad, and many were disrupted by internal or external wars. Inadequate policy responses kept exports weak and absorption high. The result for many was falling

per capita incomes, very large current account deficits (averaging 12 percent of GNP in the three years prior to the SAF/ESAF programs), rising inflation rates in most countries, and rising external indebtedness (to the extent that 13 of the 19 countries could not service debt. Thus most of these countries had very adverse external positions: not only were their current borrowing requirements too high but also there was a pressing need to reduce the existing stock of debt

The results on average were quite positive for the 19 countries (see Table 2). While growth on average had been only 2 percent p.a. in the three years prior to the SAF/ESAF, it rose to 4 percent in the case of SAF countries and 2.8 percent in the case of ESAFs

Table 2

Indicators of Economic Performance

(Annual averages for 19 ESAF countries, in percent, unless otherwise noted)

	Pre-SAF Or Pre-ESAF[1]	SAF	ESAF	Most Recent Year[2]
Real GDP growth	2.1	4.0	2.8	2.9
Export volume growth	2.2	4.4	7.3	7.3
Inflation[3]	16.9	15.0	13.3	17.6
Savings/GDP	6.9	8.7	8.5	10.2
Investment/GDP	14.9	18.5	20.7	19.7
Current account/GDP[4]	-12.3	-15.4	-18.0	-16.8
Reserves (months of imports)	2.3	2.9	3.3	3.5
Terms of trade (improvement = +)	0.3	-5.7	-3.9	0.9

[1] Average over three years preceding the first SAF or ESAF supported arrangement.

[2] Calendar year 1991 or fiscal year 1991/92.

[3] Excluding Bolivia and Uganda.

[4] Excluding official transfers.

Source : IMF (1993), p.32

(and 2.9 percent for all in the most recent year. Other aspects of the programs also turned out quite well: (a) export volume growth accelerated rapidly; (b) reserve coverage expanded; and (c) while savings rates rose, investment rates rose even more so that current account balances deteriorated somewhat. All of these favorable developments occurred while the terms of trade for these countries continued to deteriorate. Only on the inflation front was there little progress: inflation rates stayed high. In assessing the meaning of all this, readers need to be cautioned of two things. First, the "before and after" analysis being used is subject to the same problem: is what we are witnessing the result of IMF reforms or the result of favorable changes in other variables or even the result of the sets of years or countries chosen for comparison? Second, the use of averages may mask considerable variations in performance across countries.

The IMF then proceeds to examine the behavior of individual countries, dividing the 19 countries into two groups: those which made substantial progress toward achieving external viability (11 countries) and those that failed to make such progress (8 countries). The IMF defines "improved external viability" as a significant decline in debt service ratios combined with reduced reliance on what it calls "exceptional financing" i.e. accumulation of arrears in payments to external creditors, reschedulings of interest and principal payments, and balance of payments support from multilateral international organizations (including the IMF itself). The IMF feels that the strength of external positions and domestic economic performance are related, with the factors producing debt accumulation also leading to a worsening internal performance as shown by rising inflation, falling savings and investment ratios, and weak efficiency and output growth. Improvements in domestic performance and in external positions are correlated, except where improvements are based on excessive reliance on demand restraint, thus dampening investment and growth; improvements brought about in this manner are not sustainable for long.

The indicators of economic performance for the two sets of countries are shown in Table 3 For the countries with improving external positions, real GDP growth accelerated to a 3.2 percent average in the three most recent years and 3.7 percent in the most recent year.

Table 3

Indicators of Macroeconomic Performance by Country

(Annual averages, in percent, unless otherwise noted)

	Real GDP Growth		
	Pre-SAF or Pre-ESAF[1]	Latest Three Years[2]	Latest year
I. Countries that made relatively more progress toward external viability			
Bangladesh	4.2	4.1	3.2
Bolivia	-1.1	3.2	4.1
Gambia, The	-1.0	3.8	4.0
Ghana	6.3	4.5	5.0
Guyana	-1.7	-	6.0
Lesotho	1.4	2.5	0.3
Malawi	2.0	5.6	7.8
Mozambique	-3.4	3.1	2.7
Senegal	0.8	2.4	2.3
Sri Lanka	3.6	4.4	4.8
Togo	2.7	1.5	-
Mean	1.3	3.2	3.7
Median	1.4	3.2	4.0
II. Countries that made relatively little progress toward external viability			
Burundi	4.6	3.5	5.0
Guinea	. . .	3.1	1.9
Kenya	5.5	4.0	2.4
Madagascar	1.6	-	-6.9
Mauritania	1.1	1.8	2.6
Niger	6.2	0.1	1.9
Tanzania	3.0	3.6	3.8
Uganda	0.8	4.7	4.2
Mean[3]	3.3	2.6	1.9
Median[3]	3.0	3.5	2.5

[1] Average during three years preceding first SAF or ESAF-supported program.

[2] Average during most recent three-year period ending in 1991 or 1991-1992

[3] Excluding Guinea, for which data are not available for the three years before SAF/ESAF arrangements.

Source : IMF (1993), p.34

Moreover growth accelerated in all but two of the 11 countries (Bangladesh and Ghana where quite high growth rates were maintained in all periods before and after). For the group where little progress was made toward external viability, growth rates fell on average and higher growth was achieved in only 3 of the 8 countries. On the external side, in countries showing improvements, a rapid recovery of exports made possible an acceleration of import growth. For the other countries, continued stagnation in exports necessitated the continued compression of imports. The improving group also shows relatively better performance in reducing inflation and in raising investment ratios. Only in the continuing failure to raise savings rates do the two sets of countries show comparable performance.

The results of the review of Standby/EFF countries was broadly similar and hence can be summarized more quickly. In the period prior to the IMF programs, Standby/EFF countries and SAF/ESAF countries had roughly similar low growth rates but the former set of countries had a number of distinct advantages: (a) savings and investment ratios that were higher; (b) current account deficits that were only half as large; and (c) more diversified economies and better infrastructure and human resources. The results are shown in Table 4. By and large growth rates accelerated, although not uniformly so (New Users seem to have improved the most while Countries with one prior IMF program maintained reasonable growth in all periods. Several other points are worth making (data not shown):

- similar to the SAF/ESAF countries, export volumes increased, debt service ratios declined and reserve ratios were improved (relative to the pre-program period).

- however, current account deficits relative to GDP fell whereas in the SAF/ESAF cases they widened. Continued weakness in the terms-of-trade of the latter set of countries was an important factor.

- lastly, the Standby/EFF countries were generally more successful in reducing "exceptional financing".

Table 4

Growth Rates for Stand by/EFF Countries

(% per annum)

	Year Before Program	Program Average	1992
Countries with Several[1] Previous IMF Programs	0.9	1.1	0.7
Countries with One Previous IMF Program[2]	4.0	3.5	3.4
New Users[3]	0.1	0.4	4.7

[1] Argentina, Costa Rica, Cote d' Ivoire, Ecuador, Haiti, Jamaica, Mali, Mexico, Morocco, Philippines

[2] Algeria, Egypt, Gabon, Nigeria, Tunisia

[3] Cameroon, El Salvador, Honduras, Jordan, Pakistan, Papua New Guinea, Trinidad and Tobago, Venezuela

Source : IMF (1995), Chart 13, p.43

Summarizing the overall findings of what we have called the "comparative approach" is somewhat difficult. First, while it may be true that on average growth accelerated between the periods before and after IMF programs, the overall pattern between countries was quite mixed with some countries experiencing rising and others falling growth. Second, disentangling why this might be so is not easy. Is the differential experience between countries the result of imperfections in the design of some programs, or differences in the degree to which various programs were implemented, or differences in the external circumstances facing different countries, or a combination of all three? There

were differences but we really can't say why. Third other aspects of Fund programs seem less controversial. Generally, they seem to lead to rising exports, falling debt service ratios and improvements in reserves. However whether this translates into improved savings and investment ratios, sustainable current account deficits and increased inflows of foreign debt and equity capital still seems more questionable. Lastly, before ending this section, it is important to stress once again that the technique being employed here is somewhat questionable. While it yields much interesting data and comparisons, it really does not answer the question " how much of what happened was the result of IMF programs and how different were these results from some alternative program?"

B. Econometric Analyses

Below we will present the results of several econometric studies which try to get at the effect of IMF programs themselves or the implementing IMF-like policies on the economic growth of developing countries. The first study concludes that IMF programs are very damaging to economic growth while the other studies are more supportive of the conclusion that countries that countries that follow the conservative macroeconomic and financial programs of the sort advocated by the IMF achieve higher growth rates over the medium-term.

Przeworski and Vreeland (PV 2000) reach a rather devastating conclusion: that participation in an IMF lowers the growth rate compared to what it would have been with no IMF program; that exiting an IMF program will raise the growth rate but not back to the level that would have pertained had their been no program; and that following an IMF program a country will continually grow more slowly than it would have had it never had an IMF program. In other words IMF programs lower growth rates not only during the program period but forever thereafter. Working from a data set for 79 countries for the period 1970-1990, they start from the simple observation that countries "without IMF programs" grow faster under a variety of circumstances and then make corrections for the IMF selection process. Table 5 shows the growth experience for two sets of countries

Table 5

Growth according to observable conditions (reserves and deficit)

Reserves/ deficit	Growth	Deficit	Reserves	Debt service	*N*
			Not under		
Good, good	5.22	-0.84	5.47	3.50	248
Good, bad	4.65	-11.99	4.36	3.83	121
Bad, good	4.00	-1.96	1.19	3.76	102
Bad, bad	2.19	-12.51	1.09	5.29	88
Total	4.39	-5.30	3.76	3.90	559
			Under		
Good, good	4.20	-2.25	4.26	6.08	97
Good, bad	3.14	-9.35	3.34	5.46	89
Bad, good	1.95	-2.07	1.06	6.65	97
Bad, bad	0.40	-11.87	0.89	7.54	182
Total	2.04	-7.34	2.10	6.65	465

"Good" reserves : foreign reserves > 2 times monthly imports.

"Bad" reserves : foreign reserves $\leq$ 2 times monthly imports.

"Good" deficit : government budget surplus > –5% of GDP.

"Bad" deficit : government budget surplus $\leq$ -5% of GDP.

Source : Przworski and Vreeland (2000), p.396

"with and without" both on average for each group and then by subsets where the countries in each group are differentiated by policy performance variables; in each case, budget deficits as a share of GDP, reserves as months of imports, and debt service ratios are shown, Growth for those "not under" IMF programs averages 4.39 percent while the growth for those "under " averages 2.04 percent.

Furthermore the groups can be broken up into further subgroups on the basis of "good " and "bad" policies according to whether their budget deficits were above or below 5 percent of GDP and their reserves were above or below 2 months worth of imports; and four subgroups have been created on the basis of all the various combinations of 'good" and 'bad". No matter which subgroup you consider, subgroups with better policies have higher growth rates than hose with worse policies. Countries that were never under an IMF program in general perform better with respect to growth but they also have lower budget deficits, higher reserves and lower debt service ratios than the Fund program countries. This is some indication -- at least on a crude basis -- that better policies matter. However , for the same reasons that the usual "with and without ' comparisons are flawed, PV say that Table 5 is flawed.

PV say that the comparisons of Table 5 can be misleading because (1) the conditions facing the two sets of countries are not likely to have been the same; and (2) unobserved variables are likely also to explain part of the differences. They then proceed in the following fashion. They construct what they call a "bare bones model " in which country growth rates are explained by their growth rates of capital and labor inputs and by instruments which control for the effects of governments and the IMF making choices about whether to go under and remain under IMF programs. The model is then estimated separately for countries observed as being "under" and "not under" IMF programs. Then the vector of independent variables at each point in time is multiplied by the parameter values characterizing the "under" and "not under" cases giving two values of "expected growth" in each cases which are independent and unbiased of selection. The difference between the two is the "effect of the IMF program"; and, averaged over all countries (and all situations), it shows the net effects of IMF programs during 1970-1990.The results are summarized in Table 6. Countries actually observed as being "under" and "not under" Fund programs are separated by whether the model predicts they were expected to be "under" or "not under" such a program and the difference in each case is the result of the program. If all the countries had had Fund programs in all years they would have grown by 2 percent per year on average whereas if they had had no Fund program they would have grown by 3.53 percent; that is, Fund programs reduce growth rates by 1.53 percentage points.

Table 6

Growth Performance, Corrected and Uncorrected

Observed as	Hypothetically as		
	Under	Not	Program effect
Under	0.70	2.33	-1.63
Not	3.08	4.52	-1.44
All	2.00	3.53	-1.53

Source : Przworski and Vreeland (2000), p.397

The actual observed difference of 2.35 points between the two sets of countries means that another 0.82 points of difference were attributable to other "not specified" differences in economic circumstances. From there, PV go on to show that IMF programs reduce growth in every year that countries remain under the programs and that leaving the programs will accelerate growth but never back to the level achieved before the program or to the level that would have been achieved had there never been a program (note that the implication here is that IMF programs are so devastating that they can even lower the growth rate before entry to the program below what it would have been expected had there never been a program). The tables showing these results are sizable and quite difficult to understand and so we do not attempt to reproduce them here.

Now PV have produced quite a damning indictment of IMF programs. They reduce growth rates not only during the program period but forever thereafter (or at least until 1990 when the observation period runs out). Since developing countries have not been doing very well in general, since some IMF programs have had apparently adverse effects, and since our observations above -- however flawed the methodology may have been -- show a rather mixed bag of program effects on growth, PV's results ought not to be dismissed out of hand. However the results do raise questions about why countries

would enter into arrangements that inflict permanent damages on themselves (especially when most do not like even temporary pain). Do they not understand the outcomes or have very poor predictions about the results? Or do they have some other objective more important than income growth which IMF programs allow them to achieve? Moreover there seems to be a number of concerns about PV's methodology used in their "bare bones model":

- the model really is minimalist in that no corrections are made for the possibility that countries might be different because of "initial conditions" (e,g, GDP per capita, levels of education) or physical circumstances (e.g. geography, dependence on primary products) or demographics (e.g. population growth, age structure) or the state of technology.

- economic policies apparently have no effects on the growth rates. Factors such as budget deficits, indebtedness, inflation, exchange rate over- and under-valuation and trade policies do not enter the explanation for differential growth rates. Apparently the fact that the 'under" and "not under" countries might be following very different policies is thought to be irrelevant to explaining differential growth rates.

- No consideration is given to whether IMF programs are in fact being implemented; country performance here is quite uneven in practice and countries may stay under IMF programs by making only 'reasonable" progress toward implementing the policies called for in the programs.

- Lastly the difference between the "under" and "not under" countries is not just that the former have IMF programs while the latter do not. The former have usually suffered from some external shock or been mismanaged in some fashion or both. Thus the starting points for the two sets of countries are different and the former would be expected

to perform worse than the latter whether or not they decide to undertake an IMF program; if so, differences in performance between the two groups are partly the result of different starting points as well as the result of programs.

In sum, it seems improbable that the "bare bones model" like that of PV which takes no account of policies, or of initial conditions, or of environments and starting points is really capable of answering the question "what is the effect of IMF programs on economic growth" or "what is the relationship of macroeconomic and structural policy change in general and the resulting growth performance of countries". Nonetheless, it is worth keeping in mind that less developed countries are not performing very well in general and IMF programs have a very uneven track record both in terms of what has actually been implemented and in terms of what results have been achieved. Therefore we need to continue approaching the evaluation of IMF programs with a considerable degree of skepticism.

In 1999, the IMF published its analysis of the experience of those countries that had been under its ESAF program. The study covered some 84 low- and middle- income countries 1981-1995, including some 30 non-transition ESAF countries, thus providing a basis of comparison for two sets of countries. The analysis starts with the IMF's observation that the first half of the 1980s was very difficult for many developing countries and a disaster for the ESAF countries with per capita income actually falling at a 1.4 percent p.a. rate. Following this their growth rates picked up and by the end of the period was actually higher than that of non-ESAF countries (see Table 7). Overall averages are quite deceiving however, masking continuous success in the Asian ESAF countries (Pakistan, Bangladesh and Sri Lanka), improvements in the Latin American ESAF group and generally weak performance among the African group (although even here there were variations with Guyana, Lesotho and Equatorial Guinea growing at over 6 percent p.a., Uganda at over 4 percent and many countries continuing to decline - e.g. The Gambia, Madagascar, Togo, Burundi and Sierra Leone).

Table 7

Growth in Real Per Capita GDP in ESAF Countries and Other Developing Countries

(Annual average, in percent)

	1981-85	1986-90	1991-95	1995
ESAF (excluding transition)	-1.4	0.4	0.3	1.5
Africa	-1.8	0.4	-0.3	1.2
CFA	-2.0	-0.6	-0.2	3.5
Non-CFA	-1.7	1.0	-0.4	-0.1
Asia (excluding transition)	2.3	2.3	2.7	3.4
Western Hemisphere	-3.2	-1.9	1.5	1.5
Non-ESAF developing countries[1]	0.3	1.0	1.0	1.4

Sources: *World Economic Outlook* (Washington: IMF, various issues); and IMF staff estimates.

[1] Eighty-four low-and middle-income non-transition developing countries comprising 90 non-ESAF developing countries as defined in the *World Economic Outlook* less 6 countries classified as high-income by the World Bank (World Development Indicators database).

Source : Kochhar and Coorey (1999), p.72

The IMF then proceeds to ask whether this growth performance can be explained by using the usual variables economists use to explain differential growth rates between countries. Traditional growth theory seeks to account for growth differences by reference to six sets of factors. I. *Convergence.* That once other factors affecting growth are factored in, "conditional convergence" says that lower income countries will grow faster than high income countries, because of the ability to borrow technology and the scope for raising capital-labor ratios. II. *Human Capital.* That better educated, healthier people make higher growth possible plus the possibility, according to the "New Growth" theory, that human capital accumulation may eliminate diminishing returns to capital

investments. III. *Macroeconomic Policy including the following*: (a) the size of the government' budget deficit as a proxy for stable and conservative macro policies; (b) the rate of inflation, entered in a non-linear fashion with low inflation rates (say below 10 percent) having minimal negative effects but higher rates having progressively more harmful effects; and (c) other possibilities such as various indicators of debt burden or changes in the real exchange rate which were not considered in this IMF study. III. *Openness of the Economy.* An indicator of the degree of openness of the economy (among several possibilities) on the supposition that it has positive impacts on growth because of increased size of market, exposing the economy to more competition, and reducing distortions in the economy. V. *Structural Distortions*. Include a number of other factors such as (a) size of government (as a possible indicator of inefficient government spending or possible future distorting tax increases thus ignoring that government spending can have positive effects such as with economic and social infrastructure which might be supportive of growth). And (b) an indicator of financial sector development since financial institutions contribute to growth by pooling risks, mitigating adverse selection and encouraging innovation. And VI. *Other Factors*. Adverse shocks stemming from terms of trade changes or weather and political strife.

The results of the regression equation for the 84 countries for the period 1981-1995 are shown in Table 8. The equation provides a satisfactory explanation for the growth rates for this set of countries in this period and, in addition, tests reveal that jointly the coefficients are equivalent for ESAF and non- ESAF countries. The results may be briefly summarized as follows:

- Economic growth is positively related with government budgetary balances and with the degree of trade openness but negatively with the size of government of government consumption.

- Inflation at rates above 5 percent p.a. negatively affects economic growth while inflation at lower rates seems to have a positive impact (although the latter is not statistically significant at either the 5 or 10 percent level).

Table 8

Determinants of Growth

(Pooled annual data for 84 low- and middle-income developing countries, 1981-95, as available; dependent variable: real per capita GDP growth)

Variable	Coefficient	t-Statistic (absolute values, based on heteroscedastic consistent standard errors)
CONSTANT	-5.658	1.18
POPG	-0.825	4.38**
LLIFE	5.023	3.42**
LGDP80	-1.392	4.10**
LINFL (> 5 percent)	-0.752	5.96**
LINFL (≤ 5 percent)	0.456	1.62
EXTRA5 (kink)	1.208	3.63**
DEFL	-1.953	2.64**
BUDBAL	0.101	4.00**
OPENIND	0.019	3.42**
GCONS	-0.071	2.40**
ECONSEC	0.222	1.74**
WEATHER	-2.068	7.36**
WAR	-0.746	2.01**
DTOT1	0.033	2.733

Note : Number of observations = 994

Adjusted R^2 = 0.22

Jarque-Bera Normality test = 254.7(**)

F-statistic (zero slopes) = 22.1 (**)

Hypothesis tests

Hausman Test for exogeneity of investment

Test statistic : 7.29**

F-test for joint equivalence of coefficients across ESAF and non-ESAF subsamples

Test statistic: 1.43**

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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