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Exchange Rate Policy and Development[1]

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In reviewing a recent book of Max Corden on the choice of an exchange rate regime (Corden 2002), I was struck by the fact that it largely ignored what I have long regarded as a central issue so far as developing countries are concerned. The same might be said of most writing on the topic, from the IMF to Joe Stiglitz. The present chapter attempts to remedy this oversight, by exploring what I shall term the "Development Strategy Approach" to the choice of an exchange-rate regime. The most prominent exponent of this strand of thought was Bela Balassa.

The next section of the chapter lays out the three approaches that are recognized by orthodox thought, using Max Corden's book as a basis. This is followed by an exposition of the simple theory of the Development Strategy Approach. There is then a discussion of the extent to which it is possible to use the Development Strategy Approach in a world of capital mobility. Finally, since the threat of international incompatibility of payments objectives arises in a world where it is indeed possible to use the approach and many countries choose to do so, there is a discussion of how any such incompatibility might be resolved.

Conventional Thought

Max Corden describes three alternative "approaches" to the choice of exchange rate regime. These are essentially the analytical frameworks that are invoked by those who believe that exchange rate policy needs to take account of specific ends. The "Nominal Anchor" approach is used by those who believe that exchange rate policy needs to take account of the role of the exchange rate in pinning down the price level. The "Real Targets" approach is employed by those who recognize that the exchange rate plays a key role in determining macroeconomic equilibrium. They used to see the exchange rate as a policy lever that should be manipulated to achieve macroeconomic equilibrium, and

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nowadays believe that the exchange rate regime should be chosen with a view to facilitating the achievement of targets for the real economy. The "Exchange Rate Stability" approach is the framework of those who regard exchange rate instability as posing a major problem.

The Nominal Anchor approach originated in global monetarist writing, particularly that of Robert Mundell (1968, 1971). The theory says that there is a unique structure of relative prices; fix any one price and introduce a negative feedback mechanism such that the price level will tend to increase (decline) whenever there are pressures for that price to decline (increase), and the one fixed price will pin down the price level. Specifically, fix the exchange rate and make sure (à la David Hume) that a balance of payments deficit (surplus) leads to a fall (increase) in the money supply, and the price level will be pinned down by the exchange rate commitment. The theory has been applied by a number of countries, primarily in Latin America, that have tried to stop an ongoing high inflation by an exchange rate commitment. As early as the Southern Cone experiments of the late 1970s, it became clear that this strategy can indeed succeed in stopping a high inflation, but that it does so only after the price level has overshot so that the currency has become overvalued, which threatens the sustainability of the commitment to a fixed exchange rate. A "tablita" or "active crawling peg"—commitment to a pre-announced path for the exchange rate involving a progressive decrease in the rate of devaluation, rather than immediate adoption of a fixed exchange rate—has been used in an attempt to circumvent the problem of overshooting, but without notable success. It seems clear that the underlying theory that claims that there is a unique equilibrium structure of relative prices is incorrect; rather, it needs an overvalued exchange rate to offset inherited inflationary inertia and generate price stability. To move from there to full macroeconomic equilibrium, involving an equilibrium exchange rate as well as low inflation, requires a period of price deflation, which is at best politically difficult to sustain and is at worst a recipe for economic implosion (e.g. Japan).

The Real Targets Approach is familiar to most economists. It stems (like so much of modern macroeconomics, even today) from the work of Keynes. James Meade (1951) formalized it, using Tinbergen's analysis of the need for at least as many independent instruments of economic policy as there are targets. The Swan diagram (Swan 1960) gave it a familiar diagrammatic form. In its original version it posited that the two independent instruments of macroeconomic policy were fiscal-monetary policy and exchange-rate policy, and demonstrated the need for the exchange rate to be set at an appropriate level if the two objectives of internal and external balance were to be achieved simultaneously. Mundell's analysis of the fiscal-monetary mix (Mundell 1968, ch.16) treated fiscal and monetary policy as separate instruments and argued that they would have different effects because monetary policy would influence capital flows as well as the current account, thus allowing the two targets to be hit with a fixed exchange rate. The flaw in the argument is that use of the Mundellian mix is dynamically unstable in the medium term (Williamson 1971), because an excessive current account deficit has to be offset by a capital inflow induced by high interest rates that (together with the increasing debt) magnify interest payments and thus the current account deficit and hence require yet higher interest rates. The solution seen by most exponents of the Real Targets Approach

is exchange-rate flexibility: letting the exchange rate float reduces the number of targets to one, since the floating exchange rate equilibrates the balance of payments without any need for a conscious policy, and thus allows fiscal and monetary policy to be directed to internal balance. Alternatively, it is nowadays more common to argue that monetary policy should be directed at the short-run objective of internal balance (often interpreted as inflation targeting) while fiscal policy is guided by medium-run solvency objectives. The bottom line is that policy should not be concerned with balance of payments objectives, including the structure of the balance of payments (notably the size of the current account deficit).

The Exchange Rate Stability Approach does not have the same academic pedigree as either the Nominal Anchor Approach or the Real Targets Approach. It is, rather, Max Corden's attempt to make theoretical sense of the reasoning that lay behind the European Monetary System. He notes the instability that characterizes floating rates, and the difficulty of rationalizing many exchange rate movements in terms of changes in the fundamentals. He is agnostic about whether this instability is particularly harmful, but acknowledges that some people firmly believe that it is. He points out that monetary policy is technically capable of moderating exchange rate instability, but notes that this may result in movements in the interest rate that could be counterproductive from the standpoint of stabilization of the domestic economy. He argues that the core of truth in this approach arises in the case "where the exchange rate fluctuates purely because of fluctuations in market expectations about the future exchange rate… If these fluctuating expectations are taken as given, then an attempt to fix the exchange rate would simply convert exchange rate instability into interest rate instability… On the other hand, a decision to fix the exchange rate permanently and credibly…would stabilize the expectations themselves and thus yield a net stability gain." (Corden 2002, p.31.) Of course, he also points out that if the pressure for the exchange rate to change comes from variations in underlying real factors, then stabilization of the exchange rate would come at the cost of increased instability in the real economy (for reasons explained by the Real Targets Approach).

Probably the most common reaction of economists is to argue that one set of factors outweighs the others and then plump for the exchange rate regime suggested by the approach judged to be most important in the particular country in question. Nowadays this is most commonly the Real Targets Approach, and the majority of economists (conspicuously including those at the IMF, although this was not obviously true even a few years ago) therefore favor floating rates, at least for most of the larger economies. Some economists accept that there is an element of truth in all three approaches. My own reaction falls in this category and therefore involved trying to design a regime that would allow a country to secure the benefits of each of the approaches (though I admit that I had not thought of it in quite this way before reading Corden's book). Thus the BBC (basket, band, and crawl) regime seeks to avoid adjustment in response to what need not be shocks (movements among third currencies, which are neutralized at the macro level by the basket, and relative inflation, which can be neutralized by the crawl) and to secure adjustment in response to shocks that cannot be neutralized (terms of trade changes, changes in underlying capital flows) by small changes in the parity, as suggested by the

Real Targets Approach. Following the Nominal Anchor Approach, one can also build in a programmed deceleration of inflation by pre-announcing a conditional path for the crawl. The band seeks to avoid the random fluctuations in expectations emphasized by the Exchange Rate Stability Approach. A BBC regime requires that the authorities are capable of distinguishing the real shocks that should lead to changes in the parity from the expectational froth that the Exchange Rate Stability Approach seeks to eliminate.[2] It also requires that the regime carry credibility, which is an asset that the authorities have irresponsibly squandered over the years.

The Development Strategy Approach

However, the purpose of this chapter is not to rehearse the advantages of a BBC regime, but to explore an alternative approach that is not acknowledged by Max Corden[3] or others who view the problem in the currently orthodox way, like the IMF and Joe Stiglitz. This alternative is most prominent in the writings of Bela Balassa.[4]

Balassa believed that exchange rate policy was one of the keys for a country's development. If it had an exchange rate sufficiently competitive to motivate its entrepreneurs to go and sell things other than traditional export commodities on the world market (what he described as a "realistic" exchange rate), they would also want to invest and expand employment and the economy would grow. At the other extreme, if it got too much easy money from oil exports, or aid, or capital inflows, then its exchange rate would be driven to a point where there is no money to be made from non-traditional exports. It will be more profitable to squabble about getting a share of the rents than to invest, produce, and contribute to the economy's growth. The country will suffer from Dutch disease.

Since Balassa's day empirical evidence has been presented which suggests that growth, and therefore the standard of living if one takes a sufficiently long-run perspective, is inversely correlated with resource endowments (Sachs and Warner 1995). This result appears highly counter-intuitive from the standpoint of traditional theory, but it provides striking evidence that Balassa was right and that Dutch disease is dangerous, not simply a "part of the inevitable relative price adjustment process that goes with a favorable shock" (Corden 2002, p.102). The fact is that Venezuela is the only country in

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[2] The rhetorical question usually posed by critics is "Why should the authorities be better able to make this distinction than the market?" The response is that they may not be in a better position to answer the question, but that they certainly have more reason to ask it.

[3] Max Corden points out to me that he has in fact acknowledged that some economists believe in the importance of preserving the competitiveness of the tradable goods industries, which he has labeled "exchange rate protection". It seems to me that the very term is designed to deny the legitimacy of these considerations, whereas I regard the Development Strategy Approach as perfectly legitimate and worthy of a place on a par with Corden's other three approaches (which may also suggest conflicting policy prescriptions, just as the Development Strategy Approach sometimes does).

[4] See, for example, Balassa (1982, ch.4), where he writes of applying optimal export taxes on commodities facing less than infinitely elastic demand and how "…a partially compensated devaluation would allow subsidies to be provided to nontraditional exports indirectly, through a more favorable exchange rate…" (p.77), or Balassa (1993, ch.1).

South America where living standards are lower today than they were a half-century ago; is this despite, or because, it has the richest endowment of natural resources in the continent? Of course, oil resources can be well managed, as they were in Suharto's Indonesia, which devalued in 1978 despite the absence of any balance of payments need (and, because of this, in the teeth of opposition from the IMF) in order to maintain the competitiveness of its other exports. The point is that there is at least some evidence to believe that maintaining growth in the presence of rich natural resource exports requires a willingness to do whatever it takes to maintain an exchange rate sufficiently competitive to promote non-traditional exports.

A recent paper of Dani Rodrik (2003) argues that growth spurts happen when a critical mass of entrepreneurs decides that a country is a good place to invest. What creates that conviction? He argues that the causes are often idiosyncratic, which seems plausible enough. When it comes to trying to identify more general causes, he suggests only one candidate: a competitive exchange rate.

Should one conclude that the more competitive the exchange rate, the better are growth prospects? That would be silly; growth needs a supply of savings in order to translate investment intentions into actual investment, and a more competitive exchange rate implies a more positive current account and thus a lower supply of savings to finance investment. Growth will be maximized, in the simplest model, where these two effects balance one another. That simplest model may be written:

$g = g(I) = h(e)$, g' (the inverse of the ICOR) > 0, $h' > 0$

where g is growth (of supply-side potential), I is desired investment as a fraction of GDP, and e is the exchange rate (units of domestic currency per dollar). The h(e) function represents the effect of a more competitive exchange rate in inducing more exports and thus greater investment intentions. However, investment is constrained by savings:

$I \leq S$

where S is savings as a fraction of GDP. Savings consist of domestic savings plus the current account deficit:

$S = D + CAD = D + c(e)$, $c' < 0$

where D is domestic savings as a fraction of GDP (assumed constant for simplicity) and CAD is the current account deficit as a fraction of GDP, which is a negative function of the exchange rate.

The solution of this model in the case where the exchange rate is a policy variable can be presented in terms of a simple diagram, Figure 1. Following a longstanding tradition of economists that runs counter to the conventions of all other sciences, I depict savings and investment on the horizontal axis and the exchange rate on the vertical axis despite the fact that we are hypothesizing that savings and investment depend on the

exchange rate rather than vice versa. The second part of equation (1) is shown by the I-function: a more competitive exchange rate results in more investment. Equation (3) is shown by the S-function: savings increase as the current account deficit increases because of a less competitive exchange rate. Inequality (2) tells us that we must be on the left-hand side of the S-function. Growth is maximized where I is maximized, which is at (e*, I*), where the I and S functions intersect. The growth-maximizing exchange rate is e*.

Suppose the government chooses an exchange rate less than e* (the currency is stronger, as that term was commonly understood prior to Treasury Secretary John Snow's redefinition of the meaning of a strong currency). This means that there will be a reluctance to invest that will either depress income or will require some action such as an expansionary fiscal policy that will push the S-function leftwards to S'. That might restore full employment, but I would still be lower unless the increase in public spending all took the form of investment, and g would therefore still be lower, unless the shortfall in investment were completely made up and the return on the public investment matched that on the private investment that was crowded out by the strong exchange rate.

Suppose the government chooses an exchange rate greater than e* (i.e. a more depreciated currency). Entrepreneurs would get excited by export prospects and like to invest more. However, investment would be constrained by a lack of savings; unless the government were also to adopt a tighter fiscal policy or the central bank were to tighten monetary policy, investment would be squeezed out by the lack of savings created by an increased current account surplus. Growth would again be lower.

There will be some particular point on the S-curve that is associated with current account balance. If this is to the N.W. of (e*, I*), then choice of the growth-maximizing exchange rate will imply a current account deficit. If that deficit is of a size that can be financed by capital inflows without drawing on the reserves, then it is (at least in the short run) sustainable. If instead it can be financed only by drawing down the reserves, then sooner or later a traditional IMF-style adjustment package will be needed, involving devaluation and restrictive fiscal-monetary policies. In this situation an increased capital inflow that avoided the need for such a package would be good for growth: the capital inflow would finance a continued high level of investment.

Conversely, consider the case in which current account balance lies to the S.E. of (e*, I*) on the S-curve. Then continued maintenance of the growth-maximizing exchange rate would require either continued accumulation of reserves or a capital account outflow. An increase in net capital inflows would make it harder to keep the exchange rate at e*, since it would require the central bank to acquire and sterilize reserves faster.

Now suppose that the government resolves to let the exchange rate float "cleanly". This means that the exchange rate will be determined by the S-curve at the point where the current account balance is equal to the capital flow. If the latter is exogenous, then the exchange rate will be determined straightforwardly by the balance of payments condition. It would be a matter of luck if the exchange rate were to be the growth-maximizing rate. If instead capital inflows were too large, e would be less than

e*; this would be a position of full employment only if the fiscal deficit were equal to the distance between the S and I curves. (Fiscal consolidation without a change in the capital inflow would lead to unemployment, rather than a weaker currency.) If capital inflows were too small, then the currency would be weak and the government would be forced to adopt deflationary fiscal-monetary policies to avoid inflationary pressures.

The argument up to now has essentially assumed that all goods are tradable, so that a more competitive exchange rate will necessarily increase the desire to invest. Once one acknowledges the existence of non-tradables, then it becomes necessary to ask whether the assumption of $h_1 > 0$ is still reasonable. After all, a (real) appreciation will not only depress the relative price of tradables and thus discourage investment in them, but will also raise the relative price of non-tradables, which should stimulate investment in that sector. There are, however, two reasons for expecting that the net impact of appreciation will still be unfavorable to investment. One arises from the fact that much of the demand for non-tradables is a derived demand, derived from the demand for tradables. this would surely be true of, say, the demand for trucking services, or indeed for most other business services. The other is that the relative sizes of the markets for tradables and non-tradables are vastly different: the former is the world market, the latter the national market. Of course it would be desirable to have empirical evidence that bears on the point, but a priori it seems reasonable to hypothesize that the net direct impact of appreciation on investment will be negative.

The more interesting and complicated analytical case is that in which the capital flow is endogenous. The traditional hypothesis is that capital flows depend on the interest rate. Does this provide any reason for expecting that the exchange rate will gravitate to e*? In the case of large capital inflows, the interest rate would be pushed down, which would reduce domestic saving and hence push the S-function leftward (see S' in Figure 1). With the I-function as in (1), where investment is dependent on nothing but the exchange rate, equilibrium would obviously be restored only at a lower level of investment and thus growth. But consider a more general model in which investment depends on both the exchange rate and the interest rate:

(4) $g(I) = h(e,i)$ with $h_1 > 0$, $h_2 < 0$, where i is the rate of interest.

Then a large capital inflow could result not merely in a leftward shift in the S-function as considered up to now, but also a rightward shift in the I-function. Is it possible that a larger capital inflow could actually result in a higher level of investment than in the initial situation?

Interest elasticity of the investment function could arise from two distinct sources. One is that a lower interest rate makes it economic to use more capital-intensive methods in order to produce tradables. The other is that it raises the profitability of investing in non-tradables. The consumption of some non-tradables is, as noted above, a derived demand. But this clearly does not hold for all non-tradables, e.g. it would not be a plausible assumption for the consumption of housing. It is because of the existence of

such non-tradables that it seems plausible to postulate a reasonably high interest-elasticity of investment in non-tradables.

This leads to the possibility that a larger capital inflow will increase investment, and therefore growth. But the interesting point is that one cannot guarantee this outcome. A larger capital inflow that depresses interest rates will increase consumption as well as investment. And even if there is a net increase in investment, much of it is likely to be in non-tradables. At times that will be appropriate, but at other times it will raise questions about the sustainability of the strategy: decreased investment in tradables at the same time as an increase in foreign borrowing raises the need to be able to service foreign debt has been a familiar prelude to the crises that have devastated growth in many emerging markets in recent years.

The model developed here is in a key sense Keynesian rather than neoclassical. Specifically, it postulates that investment is determined (subject to a savings constraint) by the desire to invest, rather than that all desired savings get translated into investment as neoclassical growth theory hypothesizes. This explains the very different policy conclusion yielded by this model as opposed to that used by, say, Lal, Bery and Pant (2003). In their model, the decision of the Indian authorities in recent years to accumulate and sterilize reserves necessarily had a cost in terms of lower investment and growth. The model developed above is agnostic on this point: it recognizes the possibility that keeping a more competitive value of the rupee may have been of more value in preserving the desire to invest than the availability of additional savings would have been in increasing the ability to invest.

Capital Mobility and the Development Strategy Approach

For many years now economists have taken it for granted that exchange rates are determined in the asset market, and that the current account largely reacts to the exchange rate as was hypothesized in constructing Figure 1. There seems no particular reason to postulate that the exchange rate thus selected will bear any particular relationship to the growth-maximizing exchange rate e*. Indeed, there have been cases where it seems clear that the exchange rate was stronger than this criterion would suggest: this was, for example, the motivation for the Chilean *encaje*, and there were a number of other countries that suffered from a similar problem of excessive capital inflows in the first half of the 1990s (though most did nothing much about it).

What policy weapons are available to prevent an exchange rate becoming uncompetitive in this situation? The first thing to ask is whether there is scope for *liberalizing current account transactions*. This was the principal policy tool used to achieve balance of payments adjustment in European countries in the earlier postwar years: when a country had a payments surplus, it would take the next measures to liberalize trade or invisible transactions. Nowadays fewer countries have a backlog of restrictions that they are searching for the opportunity of dismantling, but it nonetheless

makes sense to start by asking whether there may be opportunities to kill two birds with one stone.

The most familiar policy weapon, which is the usual first line of resort, is *sterilized intervention in the foreign exchange market*. The government can buy foreign exchange and add it to the reserves, while sterilizing to prevent any undesired monetary impact. The problem with this policy is that it may be costly. If the domestic interest rate that the central bank will have to pay (or will not earn) on the domestic assets that it sells exceeds the foreign interest rate (corrected for expected changes in the exchange rate) that it earns on the reserves that it buys, then the central bank will lose money on the operation. The sums involved are not necessarily *de minimis*. Both Chile and Colombia were at one stage in the 1990s spending more than 0.5 percent of GDP in sterilizing the reserves that they had accumulated in an attempt to keep a sufficiently competitive exchange rate to avoid destroying their non-traditional export industries.

An alternative way of achieving de facto sterilization without issuing additional bonds is to *require government-controlled financial institutions* (such as the postal savings system) *to switch their deposits from commercial banks to the central bank*. This proved effective in some Asian countries (Fischer and Reisen 1992), but it implies either reducing the return to savers in those institutions or else it once again imposes a cost on the central bank.

If the central bank is losing money in sterilizing its reserve acquisitions, then one possible way out of the box is to *reduce the domestic interest rate* that it pays on the liabilities it issues in order to sterilize the purchase of reserves. (Another way of saying this is that it can cease to sterilize all its intervention.) The problem with this solution is that it may be inflationary, at least unless the monetary expansion is offset by a more restrictive fiscal policy. It is easy for economists to recommend such offsetting action, but tough for politicians to implement it: "Mr. President, I need to raise taxes and cut expenditures because the foreigners are trying to lend us so much money" is bound to be a hard sell.

Some countries may have the opportunity of sterilizing by *altering the currency composition of their borrowing.* If they have previously borrowed in foreign currency, they can switch their borrowing to domestic currency. Of course, this too will have a fiscal cost, to the extent that it is necessary to pay more to borrow in local currency (after adjusting for the expected change in the exchange rate). Given the lesser risk to which countries are exposed through domestic currency borrowing, however, it makes sense to exploit this channel unless the cost differential is massive. Countries with a large volume of foreign currency debt may have a great deal of scope to manage their exchange rates in this way. (Brazil is currently a good case in point.)

Exchange rate policy may also be able to play a role, at least where it has not lost all credibility by virtue of a history of unconvincing and ultimately unenforceable promises. A credible announcement that the exchange rate will be maintained within a band will give the market an incentive to limit the deviation of the rate from its parity, as

was shown in a classic article of Paul Krugman (1991), while preserving the incentive of the tradable goods industries to maintain investment, insofar as they regard the parity rather than the current market rate as offering better guidance of the long-run rate.

The other major instrument that can be deployed to manage an exchange rate is *capital controls*. These come in multiple varieties, many of which are extremely distasteful (e.g. because they impinge on personal freedom). But there are particular forms that are less problematic than others.

To begin with, *prudential regulations on the banking system* will have some of the same effects as capital controls. It is sensible to limit the open position that banks can take. If they are allowed to extend foreign currency loans to the non-tradable sector at all, they should be required to recognize that this practice involves risks, and obliged to insure those risks (see Rojas-Suarez in Kuczynski and Williamson 2003).

A rather attractive form of "control" is the *encaje* as practiced in Chile during the 1990s. This consisted of a requirement that a certain percentage of a non-equity capital inflow (30 percent for most of the period) had to be placed in a non-interest bearing account at the central bank for a year, irrespective of the term of the asset being purchased with the inflow. The intention was to provide much more of a disincentive for short-term capital inflows than for longer-term inflows, since the sum to be deposited and the required length of the deposit (and thus the extent of sacrificed interest income) were invariant to the term of the asset being purchased. There has been a lively literature about the effectiveness of the *encaje*, with a number of economists (e.g. Sebastian Edwards 1999) acknowledging that it was effective in changing the maturity of inflows but denying that it had any significant impact on the total size of the inflow. It seems difficult to explain why so many operators in the financial markets remained so hostile to the *encaje* if it were in fact so ineffective. One should also note that if the *encaje* in fact raised substantial revenue (a total of 0.9 percent of a year's GDP over its 7-year lifetime, according to a personal communication from Ricardo Ffrench-Davis) without influencing the size of the inflow then taxation theory would imply that it constituted an ideal (because "distortion"-free) form of taxation!

An alternative to the *encaje* would be to levy a tax on all receipts of foreign exchange. All financial institutions could be required to levy such a tax on a withholding basis, and it could then be refunded on transactions that it was not desired to penalize. For example, payments for exports could be refunded through the value-added tax system, while payments for receipts of income or FDI could be refunded through the income tax system. The result would be that only those transactions that policy was aiming to discourage, such as inflows of portfolio capital, would end up bearing the tax. Howell Zee (1999) argues that such a system would be more resistant to evasion than the Chilean *encaje*.

Another alternative to the *encaje* is to *vary the reserve ratio required of the commercial banks*. Any company borrowing abroad will place its cash in the banking system (unless it uses it directly to buy imports), and so a higher required reserve ratio will have a

similar effect to an *encaje* in limiting monetary expansion. It will also increase the differential between the interest rate charged to domestic borrowers from the banks and the international interest rate, thus diminishing the incentive for further capital inflows intermediated through the banks. The problem is that high reserve ratios also impose costs. They diminish the efficiency of the financial system as borrowers are diverted away from those lenders subject to the high reserve requirement toward other lenders that escape that requirement, thus threatening disintermediation.

Another option may be to *liberalize capital outflows*. Admittedly, there is some reason to fear that a blanket relaxation of capital outflows could have the perverse effect of stimulating net inflows (Labán and Larraín 1997; Bartolini and Drazen 1997). The reason is that one of the deterrents to putting money in a country is the fear that it may be difficult to withdraw it again, and so relieving that fear may stimulate an inflow. But there may be scope for limited liberalization of outflows, such as of FDI or foreign investment by domestic pension funds, where this is not a serious consideration.

And, of course, there may be scope to discourage capital inflows by *withdrawing measures that deliberately or inadvertently subsidize foreign investment*, such as insurance of bank deposits held by foreigners and tax holidays to direct investors.

None of these measures promise the ability to manage the exchange rate in the direct way possible before the days of capital mobility, under the adjustable peg of Bretton Woods days. But there are enough options here to suggest that a government that recognizes the importance of maintaining a competitive exchange rate will not be condemned to stand idly by and watch the exchange rate bid up to levels that threaten the continued prosperity of its tradable-goods industries. It makes sense for such a government to think of setting a target for its exchange rate.

International Consistency

If all governments decide to set targets for their exchange rates, then an issue of international consistency arises, since there are only (n-1) degrees of freedom to set the exchange rate targets of the n currencies in the world. How should this be dealt with?

One option is to allow/expect one large country to forego a target and accept its exchange rate passively as the outcome of the sum of decisions made elsewhere. In practice it has long been assumed by the advocates of this solution (such as Ronald McKinnon) that it is the United States that should accept this nth currency role, as the complement to the reserve role of the dollar. That is indeed the way the world has worked in recent years, but the growth of concern about the exploding US negative net international investment position raises questions about whether it will be feasible much longer.

An alternative that I was involved in promoting in the 1980s is to seek international agreement on a set of current account targets, which would then be

translated into an agreed set of exchange rate targets through an appropriate multilateral exchange rate model (Williamson and Miller 1987). This would have covered the G-5 or the G-7, with the implication that other countries would have been free to set their targets at will. The implicit assumption here is that other countries are collectively not large enough to have a significant impact on the targets that would be selected by the major countries. That may have been a reasonable assumption in the 1980s, when the G-7 probably[5] accounted for something over 50% of GWP (on a PPP basis), but begins to look less plausible as the G-7 share of GWP declines toward 40%.

A variant on that would be to have the major countries all float without targets according to the current orthodoxy, while smaller countries were entitled to adopt the Development Strategy Approach to exchange rate management, and set an exchange rate target that they calculate will maximize their growth. But it might be more logical to expect rich countries to forego an exchange-rate target, while developing countries had the right to set such targets. Developing countries would be defined as countries below a certain per capita income: $15,000 per year would seem a natural benchmark for this purpose, inasmuch as happiness analysis[6] seems to have reached the reasonably robust finding that higher per capita income than this is irrelevant to collective welfare (Layard 2003).

One possible obstacle to this approach concerns China. Among those in Washington who worry about the US balance of payments deficit, concern is building that China is thwarting the adjustment process. While most currencies have appreciated against the dollar since the start of 2002, China has chosen to ride the dollar down, despite the fact that it has a current account surplus as well as a large capital inflow, resulting in massive reserve accumulation. Would exemption of China from an obligation not to target the exchange rate, as is implied by the previous paragraph, be acceptable in Washington? The answer is not clear at the moment; pressure on China to appreciate has been growing rapidly. My own view is that China's best interest would be served by appreciating the renminbi, so as to enable it to make use of more real resources to augment investment. In other words, I believe that China is currently above (e*, I*) in Figure 1: it is the availability of savings, not the incentive to invest, that is the binding constraint on faster growth. But adopting the principle that low-income countries should be unconstrained by international obligations in setting their exchange rates would preclude the rest of the world from pressuring China into recognizing its own self-interest.

Concluding Remarks

[5] "Probably" because at that time the IMF did not aggregate global output statistics according to a PPP criterion, but converted national output levels according to market exchange rates.

[6] Happiness analysis has been largely pioneered by psychologists, but its implications for economics are explored by Richard Layard in his Robbins Lectures. He defines happiness as "feeling good—enjoying life and feeling it is wonderful" (p.4).

I have argued that developing countries would be ill advised to allow the current enthusiasm for floating exchange rates to lead them into a policy of abandoning any attempt to target the real exchange rate. They may sensibly avoid naming any particular exchange rate that they will commit themselves ex ante to defend, but that does not mean that they should shrug their shoulders with the passivity of a non-Japanese G-7 Finance Minister when the markets threaten to devastate their nascent non-traditional export industries. There exist a variety of policy instruments that may help to limit a real appreciation that threatens to get out of hand. None of these is sufficiently powerful to be treated as justifying a return to the world of Tinbergen, but collectively they give countries enough traction to make it sensible to think of targeting the exchange rate. And countries that want to develop need to target their exchange rates so as to avoid overvaluation.

In arguing this, I am not intending to suggest that the Development Strategy Approach deserves to become the unique basis for setting exchange rate policy or choosing an exchange rate regime. I earlier noted that the BBC regime that I have advocated in the past can be regarded as an attempt to take account of the valid elements in all of the three approaches recognized by Max Corden. In the same way, I would regard the Development Strategy Approach as a factor that should be taken into account in choosing the central rate in a BBC regime (or in choosing a reference rate). The situations in which it will call for a different answer to the Real Targets Approach are those where there is a strong capital inflow that threatens to make the exchange rate uncompetitive. By encouraging a country to limit the capital inflow in such situations, it may also make it possible to avoid a subsequent crisis and the highly undervalued exchange rates that are prone to arise as a result.

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Figure 1