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Intermediate Exchange Rate Regimes for Groups of Developing Countries.[1]

I.   Introduction and Summary.

This paper discusses intermediate exchange rate regimes for developing countries as the alternative to "corner solutions" of floating or hard pegging to a single major currency. We focus on stabilizing the real effective exchange rate against a basket of currencies, perhaps using a crawling band that is a declining weighted average of past actual REERs. This has been recently been called by John Williamson (2000) the BBC (band, basket, and crawl) rules, a phrase Williamson attributes to Rudi Dornbusch. We add to the BBC rules the idea of joint management of the exchange rate by similar developing countries. Thus the paper focuses on two points: stabilizing the REER, and collective action.

Similar developing countries would be defined by similarities in their trade patterns, both in terms of commodity composition and geographic origin and destination. We see developing countries as similar in that they trade similar products in essentially the same third markets. Their trade is potentially competitive. Thus they differ from the EU or NAFTA, where trade is predominantly within the area. The developing country groups we tentatively identify are East Asia, the Andean countries, an expanded Mercosur, West Africa, and East Africa.

The inspiration for the paper came from two crises in which there was a cascading of speculative attacks and devaluations, seemingly as the result of the lack of joint action. The first was the EMS breakdown in 1992; the second was the SE Asian crisis in 1997. In the EMS case, the equilibrium exchange rate response to the fiscal expansion associated with the German reunification was a unilateral upward realignment of the DM The refusal of the other members of the EMS to agree to this was a signal to the markets that the others were likely to have to devalue. Speculation then focused on the weakest link, the Finnmark, and proceeded to the Swedish Crown, sterling, and so on around the periphery of the EMS. This was a clear case of contagion and cascading due to the refusal of the non-German members to take joint action. This case is analyzed in Branson (1994). Eventually Germany accepted that the DM emerge into the euro. The possible implications of this for the international financial architecture are drawn out in Braga de Macedo (2000).

The SE Asian case was more complicated. The Asean countries experienced external shocks from the Japanese stagnation and yen depreciation against the dollar. They also had internal imbalances in the form of investment booms not matched by domestic saving. The result was rising current account deficits combined with real appreciation. This led to an unstable path of external debt denominated in foreign exchange. Eventually the markets saw this and the attacks began in Thailand. After the baht devaluation, contagion set in and the attacks cascaded to Malaysia, Indonesia, and Korea. Since the markets concentrated on one country at a time, speculative pressure was maximised and

devaluations overshot. In this case, there was a fundamental imbalance, but the lack of

joint action exacerbated the problem. Joint management of the BBC rules has the

potential to spread speculative pressure instead of concentrating it.

The paper proceeds as follows. Section II describes briefly the corner solution hypothesis

and its roots in the "impossible trinity" of open capital markets, a fixed exchange rate, and

independence of monetary policy. The corner solution hypothesis is that countries must or

should move toward the corners. Section II concludes by raising questions about the

application of the impossible trinity to many developing countries. Section III reviews

recent empirical evidence that developing countries are not moving toward the corners,

mainly due to "fear of floating." It does seem in practice that countries follow

intermediate regimes. Section IV discusses why fear of floating is warranted, and

proposes stabilizing the REER as policy for individual countries. This is an alternative to

using the nominal exchange rate as a "nominal anchor," and requires an independent

source of internal discipline, such as fiscal control.

Section V introduces the idea of joint management of the BBC rules against a common

basket. This has the potential to prevent contagion and cascading, and other forms of

competitive devaluation as well.   The early EMS might be a model for this form of joint

management. Section VI discusses institutional developments that could be stimulated by

joint management. It would require central bank cooperation and some measure of fiscal

coordination, and stimulate the development of common trade policies and institutions.

Section VII concludes with very tentative illustrative calculations of weights for REERs

for several groups of developing countries.

The basic message of the paper is that not only do developing countries not move to corner solutions, but that they should not. Stabilizing the REER in groups and relying on domestic policy to stabilize internally is a better option.

II.   The "Corner Solution" Hypothesis.

The Corner Solution hypothesis states that with increasing capital mobility, countries will move either to freely floating exchange rates or "hard pegs," that is, effectively adopting one of the major currencies as their own. The latter corner can be thought of as dollarization, euroization, or yenization. The sudden appearance of the corner solution hypothesis came in the wake of the collapse in SE Asia in 1997. I quote Ricardo Hausmann:

  "This cataclysm has also shattered the consensus among bankers, policymakers, academics, and ideologues about appropriate economic policy in emerging markets. As economic professionals now return to the drawing board, one question is generating particularly fierce debate: Should emerging-market countries allow their currencies to float freely, or should they abandon them altogether in favor of strong international or supra-national currencies such as the U.S. dollar or the euro? Interestingly, the debate has quickly become polarized: Both sides seem to accept that there can be no middle ground, no halfway arrangement between allowing a currency to float freely and bolting it down completely." Hausmann (1999, pp 65-66).

In December 1999 at the meeting of the G-20, U.S. Treasury Secretary Summers proposed that IMF lending be made conditional on countries accepting a corner solution.

Implicit in the Hausmann quote and the U.S. Treasury position, it is rarely clear in statements of the corner solution hypothesis whether it is positive or normative. Is it that countries must move toward the corners, or that they should do so? I argue below in Section III that the evidence is that they do not generally move toward the corners, so it is not inevitable that they do so. Sections IV and V argue that they should generally not move toward the corners.

The basis for the corner solution hypothesis is the so-called "impossible trinity" of free capital movements, a fixed exchange rate, and an independent monetary policy. The impossible trinity is described in Branson (1991). It can be traced back to Tommaso Padoa-Schioppa (199x), earlier Gottfried Haberler (1937), and undoubtedly earlier antecedents. With a fixed exchange rate, perfect capital mobility ties the domestic interest rate to the world rate (real or nominal) by open interest parity. This ties monetary policy to movements in domestic output and price level, to maintain financial market equilibrium with the interest rate tied to the world rate.

To express these ideas more precisely, we can summarize them in a simple model. With perfect capital mobility, uncovered interest parity, a no-arbitrage condition, says that

(1) $I = I^* + dE$.

Here I is the home nominal interest rate, I* is the world rate, and dE is the expected change in the nominal exchange rate. If the exchange rate is credibly fixed, dE is equal to zero. This ties the domestic interest rate to the world rate by equation (1). This leaves monetary policy unable to affect domestic activity through either the exchange rate or the interest rate.

A standard expression for money-market equilibrium is

(2) $M/P = m(I,Y)$, or $M = Pm(I,Y)$.

Here M is the monetary base, P is the domestic price level, and m is the demand for real

monetary base as a function of the interest rate and GDP, Y. With I fixed by (1), M must

follow movements in P and Y to maintain financial equilibrium. Further expansion of M

will simply result in a capital outflow. Insufficient growth of M will result in a capital

inflow. In a small very open economy, P is also constrained by the international price

level P^* and the fixed exchange rate:

(3) $P = EP^*$.

In this case, inflation is determined by international prices, and the monetary base must

follow international prices and GDP to prevent capital account imbalances.

In this situation, excessive expansion of M, for example, to finance a budget deficit, will

lead to capital outflows and reserve loss, undermining the credibility of the exchange rate

peg. As the market perceives the capital outflow and reserve loss, eventually a speculative

attack will develop. Thus an attempt to use monetary policy independently of equation (2)

will undermine credibility and lead to a collapse of the exchange rate. One "corner

solution" to this dilemma is to float the exchange rate in the first place, freeing the

constraint on monetary policy. The other corner solution is to adopt a hard peg via a

currency board or to give up on maintenance of a domestic currency and adopting a hard

currency, i.e., dollarization.

The impossible trinity may not hold perfectly, or even well for many developing countries. Perfect capital mobility requires not just the lack of controls on capital movements. It also requires that assets denominated in domestic currency be at least close to perfect substitutes for assets denominated in world currencies in the view of international investors. This is clearly not the case for many developing countries. In this case, a potentially substantial risk premium would have to be added to equation (1). This risk premium would depend on the country's debt position, and the market's perception of the stability of the future debt path. Thus the lack of perfect capital mobility greatly weakens the impossible trinity, and adds separate consideration of the current and capital accounts to the policy problem, as discussed in Branson and Macedo (1996). In addition, Frankel (1999) notes that a fixed exchange rate and no independent monetary policy or a floating rate and independent monetary policy are not the only choices. One could give up a little of the fix and a little independence, adopting an intermediate regime. The empirical evidence suggests many countries have adopted some version of an intermediate regime.

III.   The Empirical Evidence on Intermediate Regimes.

The positive version of the corner solutions hypothesis says that countries must move their exchange rate regimes to the corners. The normative version says they should do so. This section reviews recent empirical evidence that they do not move toward the corners. Members of the IMF report their exchange rate regimes, and the IMF publishes their classification annually. Table 1, taken from Benassy-Quere and Couere (2000) summarizes the evolution of these classifications. Very few countries have adopted major currencies or currency boards. Among them are Equador and Panama (the dollar), Argentina, Estonia, and Hong Kong (currency boards). The EU is adopting a single

currency, the euro. The French Franc zone in Africa has devalued, so it is unclear what its classification should be. Several Anglophone countries in West Africa have plans to stabilize with the franc zone. We will discuss this briefly in Section V. Thus the indication that countries are moving toward the corner solutions would come mainly from an increase in the percentage of countries that are floating more or less freely. This seems to be the case in the data of Table 1. These show an increase in the percentage of countries that are floating from 6 percent in 1983 to 32 percent in 1999.   There is, however, mounting evidence that countries that claim to be floating actually manage their exchange rates, mostly stabilizing them against the dollar. This section briefly reviews some of that evidence in three studies, by Calvo and Reinhart (2000), Frankel, Schmukler, and Serven (2000), and Benassy-Quere and Coeure (2000). All of these support the idea that countries that say they are floating actually are not, a phenomenon labelled "fear of floating" by Calvo and Reinhart.

The values of floating exchange rates are determined in asset markets, in daily trading. They generally show the variability of prices of financial assets. This has been the case with the dollar, yen, and DM/euro in the past 20 years. Thus countries with truly floating exchange rates should exhibit variability comparable to these major currencies. These countries should also have low variability of international reserves, since they would be refraining from intervention in the foreign exchange markets. Since floating is linked to independence of monetary policy, the latter would be aimed at domestic targets, such as inflation. This would suggest less volatility of interest rates than if domestic monetary policy were being used to stabilize the exchange rate. In the case of a fixed exchange rate,

the exchange rate itself would be less volatile, reserves more volatile, and as in the impossible trinity, interest rate movements tied to world interest rates.

Calvo and Reinhart (2000) study the volatility of exchange rates, reserves, and interest rates for countries that claim to be floating, relative to the same variables for the U.S., Japan, and Germany (the G-3). These are taken as the benchmark floaters. Reinhart (2000) also provides a useful summary. Tables 2-4 are taken from Calvo and Reinhart. Each table provides a statistic to measure volatility for the relevant variable for the group of IMF "floaters," and compares it to the U.S. and Japan. The statistic is the probability that the monthly change in the variable falls within a band of alternatively +/- 1 percent and +/- 2.5 percent.

Table 2 shows the Calvo-Reinhart results for exchange rate volatility. From the beginning of the G-3 float in 1973 through 1999, the probability of the monthly change in the $/DM rate falling in the +/- 1 percent band was 26.8 percent; for the $/yen rate it was 33.8 percent. For most of the "floaters" in the table, the probability of the monthly change being within the same band was higher, with an average of 51.7 percent, twice that of the $/DM rate. Thus the floaters were substantially less volatile, or more stable, than the G-3.

The mirror image of exchange rate stability would be a combination of volatility of foreign exchange reserves and interest rates. The former would be the case if foreign exchange intervention were used to stabilize the exchange rate; the latter if domestic monetary did the stabilization. Table 3 shows the Calvo-Reinhart results for foreign exchange reserve volatility. There the probability that the monthly change in reserves is in the +/- 1 percent

band is 28.8 percent for the U.S. and 44.8 percent for Japan. For the floaters it is much

lower, averaging 16.2 percent. Thus reserves were more volatile, less stable, in the

"floaters," consistent with the use of intervention to stabilize the exchange rate. Table 4

shows the results for interest rate volatility. There the probability for the monthly change

in the short-term interest rate to fall in the +/- 1 percent band is 59.7 for the U.S. and 67.9

for Japan. The average for the "floaters" is 33.3 percent. Thus domestic interest rates

were also more volatile, less stable, in the "floaters," consistent with the use of domestic

monetary policy to stabilize the exchange rate.

The Calvo-Reinhart results support the proposition that many countries that are

categorized as floating by the IMF stabilize their nominal exchange rates compared to the

fluctuations in the G-3, thus their term "fear of floating." This is consistent with the

widespread use of intermediate regimes of one sort or another.

Calvo and Reinhart concentrate on volatility to detect exchange-rate management.

Another way to discriminate between floating and managing is to study the average

relationship between local interest rates and international interest rates. According to the

impossible trinity, fixers, or more broadly, managers, have interest rates constrained to

move with international rates, on average, as in equation (1) earlier. On the other hand,

floaters can exercise independent monetary policy, and should be able to move interest

rates independently of international interest rates. This approach to discriminating

between floating and managing, or even fixing exchange rates is taken by Frankel,

Schmukler, and Serven (2000). They estimate regressions of domestic money-market

interest rates on the U.S. T-bill rate over time using monthly data for the 1970s, 1980s, and

1990s. They study countries grouped by IMF exchange rate regime, by income level, by level of development, and by decade. The equations include control variables including relative inflation and dummies for turbulent vs tranquil periods. They expect the slope coefficient on the U.S. rate to be 1 with fixed rates, approximately 0 with floating rates, and somewhere in between for intermediate regimes. Table 5, taken from their study, shows fairly typical results. The coefficient on the U.S. rate is around 1 independent of regime, except for Mexico. This indicates that independently of exchange rate regime, countries are not exercising independent monetary policy.

It is worth quoting from the conclusion to their study:

   "The main result of the paper is that over the last decade all exchange rate regimes exhibit high sensitivity of local interest rates to international ones. Indeed, in the 1990s we find very few instances of less-than-full transmission (i.e., a slope coefficient significantly smaller than one), regardless of exchange rate regime. This result emerges both from the country-specific estimates and from close inspection of the pooled estimates.

   The main exception to this rule is provided by a few large industrial countries, which according to the evidence in the paper appear to be the only ones that can or choose to benefit from independent monetary policy." Frankel, Schmukler, and Serven (2000, p21). These results are consistent with fear of floating, and suggest that countries are not moving toward the float corner.

A third empirical approach to detection of *de facto* exchange rate regimes is used by

Benassy-Quere and Coeure (2000). They use a regression technique similar to that used in

Branson (1981) to estimate implicit weights for basket pegs. They estimate the equation

(4)   a($, i)dE($, i) + a(EU, i)dE(EU, i) + a(Y, i)dE(Y,i) = B + u,

on monthly data for each of 111 currencies, the i countries in equation (4). Here the a's

are regression coefficients; the dE's are monthly percentage changes in the currency's

exchange rate against the dollar, the euro, and the yen respectively; B is a constant, and u

is a random error. The estimates are performed by the generalized method of moments

with the coefficients a( ) constrained to sum to unity.

The interpretation of the estimates of the a coefficients in (4) is straightforward. A

significant coefficient of unity for any single a means that the currency of the country i is

effectively pegged to that currency. A single significantly positive coefficient less than

unity is interpreted as a partial peg. Two or three significant coefficients indicate a basket

peg. The equation is estimated for each currency over the period April 1995-June 1997

(before the SE Asian crisis), and October 1998-December 1999.

The results are shown in Table 6, taken from Benassy-Quere and Coeure. The unitary

pegs on a single currency are the cases in which one of the a coefficients is one; the partial

pegs are the cases where one coefficient is significantly positive but less than unity; the

basket pegs are the cases where two or three coefficients are significant; the free floaters

are the cases where no coefficient is significant.

The results in Table 6 should be compared with the stated distribution of regimes for 1999 in Table 1. There are two striking results. In Table 1, 15 percent of the countries report a dollar peg; in Table 6, half the countries are revealed to follow a dollar peg. In Table 1, 31.6 percent of the countries report a free float; in Table 6, about 4 percent are revealed to float in practice. In addition, in Table 6, 14 percent follow a dollar/euro basket, and 7.5 percent follow a three-way basket. These numbers will be relevant when we calculate illustrative basket weights at the end of the paper.

The empirical evidence summarized here points to the prevalence of intermediate exchange rate regimes. By and large, countries are not giving up their currencies and adopting hard currencies, and they are not freely floating. They are managing or stabilizing their exchange rates against one of the G-3 currencies or a basket. In the next section we move on to discuss why this is a good idea for most developing countries.

IV.   Stabilizing the Real Effective Exchange Rate (REER) as the Intermediate Regime.
The argument for stabilizing a REER against a currency basket as optimal exchange rate policy for developing countries was put forward in Branson and Katseli (1980), (1981), (1982). Rules for adjusting the REER to keep it in the vicinity of equilibrium were developed in Branson and Macedo (1982). Williamson (1996) proposed adjusting the REER using a crawling band. He has called this arrangement the "BBC" rules (basket, band, and crawl). The idea of stabilizing the REER was applied in Branson (1983) and Branson and Macedo (1989). It was incorporated into an overall macro policy package as the pre-pegging exchange rate regime (PPERR) for potential entrants to the EU in Branson and Macedo (1996). There the natural currency basket for the Central Europeans was the

ECU. Here we summarize the line of argument for stabilizing the REER as it applies to the current discussion of intermediate regimes.

We can begin with fear of floating. Why do developing countries that declare that their exchange rates are floating still manage them? The answer given in Branson and Katseli (1981) was that they are afraid that their exchange markets would be unstable. For many developing countries there is little demand by international portfolio investors for assets denominated in the country's currency. In this sense, the country's financial markets are not well-integrated into the international financial system.

The U.S., Germany, and Japan can float with confidence because international investors hold portfolios diversified across assets denominated in Dollars, DM, and Yen. Small movements in relative returns will eliminate short-run disequilibria in their foreign exchange markets. This is not the case for many developing countries with little demand for their financial assets. This is evidenced by their interest rate volatility and the sometimes extremely high interest rates needed to keep investors in their currencies. In this sense, fear of floating is warranted, and the exchange market must be managed. The Central Bank must be the market maker.

How should exchange rate management proceed in these cases? One extreme is the corner solution of adopting one of the hard currencies. This could be appropriate if that country is a dominant trading partner and the developing country in question wishes to give up on any independence of monetary policy. Revealed preference in the small number of countries rushing to this corner requires other options. Most developing countries have

diversified trade, so a currency basket defining an effective exchange rate (EER) may be useful for management. Then the question comes down to managing, or stabilizing, a nominal or real EER. Advocates of importing price stability prefer stabilization of the nominal rate as providing a "nominal anchor." An alternative is to incorporate the exchange rate into a program for internal and external balance, following Mundell (1962). This leads to the choice of stabilization of the REER, targeting the current account, as developed in Branson, Macedo, and Von Hagen (1998) for the Central European countries.

The exchange rate as nominal anchor approach works back from the exchange rate to fiscal control. Targeting the nominal exchange rate is meant to import price stability and remove monetary independence. This eliminates the ability of the Central Bank to finance a fiscal deficit, and therefore is intended to impose control on fiscal policy. This is not likely to succeed if fiscal policy is truly out of control, and is not necessary if it is not. A better approach may be to achieve fiscal control directly, and target fiscal policy to internal balance. This is the Multi-annual Fiscal Adjustment Strategy (MAFAS) of Bilss and Macedo (1990), applied to the Central European countries in Branson, Macedo, and von Hagen (1998). Once fiscal control has been established, monetary policy and the exchange rate can be targeted toward external equilibrium. In this case, the REER can be aimed at a current account target, with gradual adjustment as the equilibrium REER changes. Adjustment could be done with a crawling band, centered on a declining weighted average of past actual values of the REER. This arrangement would follow Williamson's BBC rules. This gives us REER stabilization as the intermediate regime.

A remaining important question is the weights for the REER. A natural starting point is total trade shares for major partners. These change slowly over time and provide a stable basis for the REER. These might be adjusted for stable capital flows associated with the concept of basic balance in the balance of payments. This raises the problem of defining stable capital flows in a world of globalization of the capital account. A source of instability in recent crises has been the instability of capital movements. A second adjustment might be made for trade elasticities for countries that are not price-takers in world markets. An example of this adjustment is provided in Branson and Katseli (1980) Another example is the IMF multi-lateral exchange rate model (MERM), which provides implicit weights for counties that are included. Below in section VII we provide illustrative weights for groups of developing countries.

V.   Speculation, Contagion and Cascading: Arguments for Group Arrangements.

The last two decades have seen an increase in regional trade arrangements. These are based on similarities of trade patterns among geographically close groups of countries. In the industrial countries, the similarities tend to be based on trade with each other, frequently intrasectoral trade. Examples are North America (NAFTA) and Europe (EU). Among the developing countries, the similarities tend to be based on trade in similar products with similar origins and destinations, frequently based on intersectoral trade based on resource differences. Examples are SE Asia (ASEAN), and South America (Mercosur and the Andean Pact). West and East Africa also display such similarities, although regional trade arrangements are less formalized. In the developing country groups, trade tends to be competitive in third markets. This is also the case in some sub-groups of the industrial countries, especially the northern and Mediterranean Europeans.

In these cases, devaluations tend to be competitive, and cooperation in avoiding this form of competition may be useful.

The financial markets see the potential for competitive devaluation in these groups, and that appears to inform the pattern of speculation when one of these groups appears to have a disequilibrium in the REER. In these cases, the markets seem to tend to attack the weakest member of the group first, and then to work down a schedule of perceived competitive weakness. Once the weakest member devalues, the pressure moves to the next weakest, and so on. Weakness here could have several guises. It could be simply trade imbalance, unstable debt dynamics, or vulnerable financial markets. This movement of speculative pressure has been termed *contagion*, and it has led to *cascading* of devaluations. Two examples are the EMS crisis in 1992, analyzed in Branson (1994), and the SE Asian crisis of 1997.

The German reunification in 1990-91 generated a large shift in the German fiscal position from surplus to deficit, and a sharp increase in German interest rates. The conventional wisdom of the Mundell-Fleming model says that the equilibrium response to these events was a real appreciation of the DM. The Bundesbank asked its EMS partners for a unilateral upward realignment to relieve the pressure of the disequilibrium, but they refused, thinking that they were importing anti-inflationary credibility from the Bundesbank. The markets saw the disequilbrium, and first attacked at the weakest point. This was Finland, which was pegging to the EMS grid, but was not part of its reserve-sharing arrangements, and whose exports to Russia had collapsed with the dissolution of the USSR. Once Finland devalued in August 1997, the pressure turned to Sweden. After

Sweden devalued, the pressure turned to the UK, and so on. The markets seemed to be following a competitive weakness measure such as that discussed subsequently by Eichengreen and Wyplosz (1993). In this case, collective action within the EMS, allowing the upward realignment of the DM, might have prevented the cascade of speculative attacks.

The second case was the East Asian crisis in 1997. These countries, especially Thailand, Malaysia, Indonesia, and South Korea, had experienced both external and internal shocks that pointed toward real devaluation. The external shocks came from the decade-long slowdown in growth in Japan and the depreciation of the yen against the dollar after 1995. The internal shock was a domestic investment boom, with investment rising relative to saving. This led to a growing current account deficit, financed by capital inflows that were facilitated by low interest rates in Japan. At the same time, with their currencies stable against the dollar, they had appreciating real exchange rates. Thus their debt dynamics were unstable. Debt denominated in foreign exchange was growing, the current account deficits were growing, adding to the speed of debt accumulation, and the real exchange rates were appreciating. In addition, the financial sectors of these countries were fragile, so that any devaluation would lead to pressure on financial institutions.

This situation was seen by the markets, which started speculative pressure on Thailand in Spring 1997. Finally Thailand gave way in July. Once Thailand devalued, competitive pressure came immediately on Malaysia and Indonesia, which export similar products to the same markets as Thailand. This was an obvious case of contagion. Eventually, both Malaysia and Indonesia devalued. The speculative pressure cascaded across SE Asia.

Similar competitive pressures arise in Africa and South America. The devaluation in the franc zone in Africa put pressure on the Anglophone countries exporting similar products to Europe and North America. A devaluation in Argentina puts the same sort of pressure on the other Mercosur countries.

This contagion and cascading leads to overshooting in individual devaluations. This is particularly clear in SE Asia. The deep devaluations, one at a time, have all been partially reversed. The concentration of speculation on one market at a time leads to maximum pressure on that market and an overly deep devaluation when it comes. This adds to the competitive pressure on the next market, and a series of overly deep devaluations that will eventually be at least partially reversed. This situation could be eased if members of the group managed their BBC systems for REER stabilization jointly against a common basket.

This sort of group arrangement would spread a given amount of speculative pressure across a broader area, minimizing the pressure on any single country. It could eliminate cascading of devaluations and the consequent overshooting. It would also minimize the possibility of competitive devaluations within the group. The arrangement would resemble a reserve-sharing arrangement. It would require provision for occasional realignments within the group to account for differential productivity trends. The early EMS, with its PPP-based realignments and reserve-sharing arrangement, might be a useful model for these group exchange-rate arrangements. Potential groups could be East Asia, East Africa, West Africa, Mercosur, and the Andean countries.

VI.   Institutional Development within Currency Groups.

Maintenance of a currency group would require, in the first instance, central bank

cooperation. This would include information sharing and computing as the REER band is

maintained. It would also require some degree of common decision-making and perhaps

joint or delegated exchange-market intervention. This could lead to a welcome

institutional development in the central banks and financial markets, especially in the

African groups.

The group arrangements with the central banks aimed at maintaining the common REER

band would also require some degree of coordination of domestic macro policies. Budget

policies would have to be aimed at internal balance. This would benefit from cooperation

among finance ministries, perhaps along the lines of Ecofin in the EU. Here again,

information sharing and discussion of common policy problems could stimulate

institutional development.

Maintenance of the common REER would virtually rule out competitive devaluations

among the groups. This could stimulate common trade arrangements. These could

include common positions on external trade negotiations, common external tariffs, and

common trade institutions such as export development and credit arrangements. These are

examples of institutional development that could advance institutions in common,

reducing the aggregate human capital required, relative to that needed if the institutions

were all developed separately. This would be an important side effect of joining in a common exchange-rate arrangement.

VII.   Potential Groups for Exchange Rate Arrangements.

This section presents some initial and very approximate examples of weights for REERs for several groups of developing countries. These are based on geographical trade shares, without adjustment for stable capital flows or market power. For serious calculation of weights, research is needed on trade similarity indexes to determine optimal potentially competitive groups. Eventually, if any proposal such as this were to be adopted, the weights would have to be calculated and agreed by the countries involved. Thus the calculations here are strictly illustrative. We begin with the East Asian countries, for which Williamson (2000) has calculated trade similarity indexes. Then we look at South America and Africa, where these indexes remain to be calculated.

A.   East Asia.

Williamson computes trade similarity indexes for the East Asian countries. He shows that, of the nine countries listed in Table 7, all but Indonesia (surprisingly!) has at least half of its principal competitors in the region. Each except Indonesia and the Philippines is one of the principal competitors of at least four other countries in the region. Singapore differs from the other countries in the low proportion of its trade with Japan, as shown in Table 7. Williamson computes external trade shares for each of the countries, and provides weights for a common three-currency basket for all nine countries, eight excluding Singapore, and six excluding further Indonesia and the Philippines. These weights are shown at the bottom of Table 7. The variation among the weights depending on the number of

countries is minimal. For simplicity and transparency, we could approximate these weights by 1/3 each on the dollar, the euro, and the yen.

B.   South America.

Trade shares for selected South American countries are shown in Table 8, taken from Benassy-Quere and Coeure (2000). These exclude trade within Latin America. In Table 8 two groups stand out. Except for Argentina's exports to the USA, Argentina, Brazil, Colombia, and Ecuador have external trade dominated by the USA and the EU. These are all Atlantic countries. This group could use ½ weights for the dollar and the euro. Argentina and Brazil are already tied in Mercosur, and Argentina recently moved to these weights for its commercial transactions. A trade similarity calculation would have to be used to ask whether these four countries, and possibly others, could form a cohesive group. The other group is the Andean pair, Chile and Peru. They have a more substantial weight on trade with Asia, so that 1/3 weights on the three currencies might be more appropriate.

C.   Africa.

While trade similarity indexes have not been calculated for the Sub-Saharan African (SSA) countries, it seems likely that they would show strong competition among them. This would be in exporting agricultural and mineral products mainly to Europe, and importing capital goods and industrial inputs, again mainly from Europe. Shares in total trade for the USA, the EU, and Japan for the African countries are shown in Table 9, calculated from the IMF Directions of Trade. Surprisingly, two groups are evident in Table 9: West and East Africa. West Africa has substantial trade with the USA. Its

external trade is about 1/3 with the USA and 2/3 with the EU. These might be appropriate

starting weights for discussion on West Africa. East Africa's trade is dominated by the

EU. Thus simply stabilizing the real exchange rate vs the euro might be best in the case of

East Africa.

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