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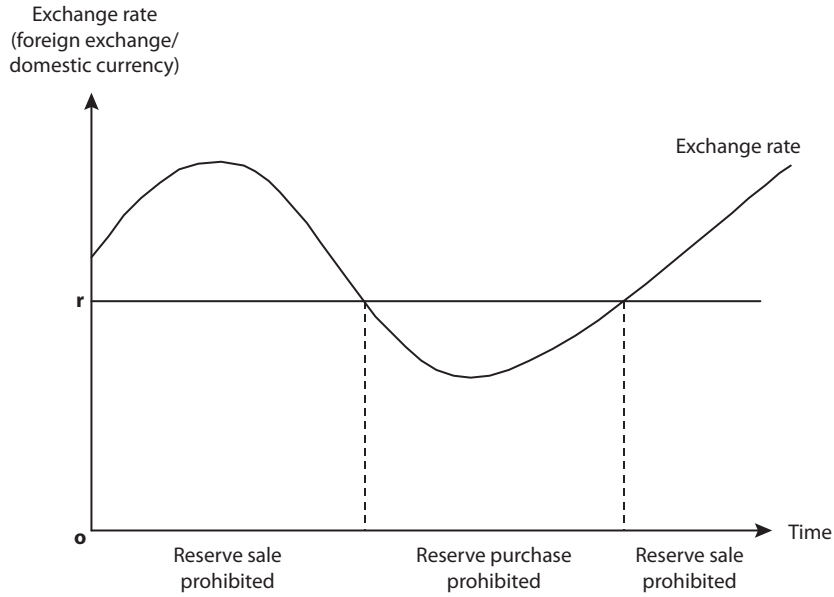
The Reference Rate Proposal

The reference rate proposal suggests that countries' authorities should be forbidden from intervening in order to push the exchange rate away, or at least much away, from what is termed the "reference rate." Wilfred Ethier and Arthur Bloomfield first developed this proposal in a conference paper presented in 1974, with the definitive version published as Ethier and Bloomfield (1975). They were concerned with developing a set of rules that would discipline countries' intervention policies in the brave new world of floating exchange rates that had just emerged. They suggested that two rules would suffice:

1. No central bank would be allowed to sell its own currency at a price below its reference rate by more than a certain percentage (possibly zero) or to buy its currency at a price exceeding its reference rate by more than the fixed percentage. This is the sole restriction imposed on central bank intervention.
2. The structure of reference rates would be revised at periodic prespecified intervals through some defined international procedure.

It is important to note that the proposal neither obligates nor prohibits intervention that would tend to push the exchange rate toward its reference rate. A country is entitled to allow its currency to float freely if it desires to do so, but it is also allowed to intervene, though if and only in a direction that one can assume is in accord with the perceived international interest. I say "one can assume" that it is consistent with the international interest because rule (2) specified that the reference rates are to be agreed

Figure 2.1 The reference rate rule (canonical version)



through "some defined international procedure." I turn later to the problems of how an agreed set of reference rates would be determined.

Operation of the Proposal

The operation of the reference rate proposal is illustrated in figure 2.1, which expresses the exchange rate Anglo-Saxon style as units of foreign exchange per unit of domestic currency (so that a devaluation reduces the exchange rate). Assume first that the "certain percentage" referred to in rule (1) above is indeed zero. Then the reference rate proposal would prohibit the purchase of reserves when the currency was weaker than its reference rate *r*, since that would tend to weaken the exchange rate still further and push it further away from the reference rate. Similarly, it would prohibit the sale of reserves when the currency was stronger than *r*, so that the country would be constrained from deliberately strengthening its currency further when that would be disequilibrating.

An important question Ethier and Bloomfield discuss in passing is the relevant concept of the exchange rate to use in defining reference rates. It is clear that one wants to define a reference rate in terms of the concept that is macroeconomically important. It is the effective rate, the average trade-weighted exchange rate against all trading partners, rather than the bilat-

eral exchange rate against any single other currency, that has an impact on macroeconomic stability, whether one thinks of inflation or demand (and thus unemployment). Reference rates should therefore be defined in terms of effective exchange rates. The nominal effective rates would need to be periodically adjusted by differential inflation to maintain rates constant in real terms.

Sterilized intervention in the foreign exchange market by buying or selling foreign exchange against the domestic currency is the most obvious way of managing the exchange rate. But it is not the only possible way, and one may also want to impose an international discipline on other forms of management. The most important of these other policies has traditionally been monetary policy. The question is whether the policy interest rate has been set appropriately for domestic objectives (such as achieving an inflation target or internal balance for a central bank that subscribes to a more Keynesian description of its policy objectives). If not, the presumption is that its deviation was attributable to an attempt to influence the exchange rate. One would then ask whether the deviation of the interest rate is consistent with the level of the exchange rate relative to its reference rate. For example, a country with interest rates lower than seem appropriate for domestic needs would be acting contrary to its international obligations if the exchange rate were weaker than its reference rate. On the other hand, a low interest rate (relative to domestic needs) would be internationally acceptable if the country also had a strong exchange rate (relative to the reference rate), because the interest rate would be tending to weaken the exchange rate, i.e., to shift it toward the reference rate.

Another policy that may be employed to influence the exchange rate has been around for a long time but has only recently received systematic notice or even a name. The policy is now called "oral intervention" (see Fratzscher 2004), perhaps more familiarly known as jawboning. It consists in the authorities expressing their opinions of where exchange rates ought to be. A familiar example is the habit of US treasury secretaries in recent years of averring their love for a strong dollar. Perhaps no one takes any notice, and so these declarations do no harm, but if they have an effect—and the evidence of Fratszcher is that they do—then they ought to be subject to the same sort of discipline as intervention. Under a reference rate system, it would be illegal to express support for a strong currency when the currency in question is stronger than its reference rate, or to try to weaken a currency by jawboning it down when it is already weaker than its reference rate.

A similar test should be applied to various other policies that have on occasion been used to influence exchange rates. Thus, a country with an exchange rate stronger than its reference rate should not increase export incentives, because that would tend to strengthen the domestic currency and thus drive it even further from its reference rate. Capital account policies can also affect the exchange rate, so a country with a weak exchange rate (relative to its reference rate) should not intensify controls on capital

imports or artificially promote capital exports. Either of those would be expected to weaken the capital account balance and depreciate the currency.

To summarize, a weak-currency country (as measured by the reference rate) should not

- accumulate reserves,
- hold the policy interest rate lower than is appropriate for domestic reasons,
- issue statements expressing support for a weaker currency,
- decrease encouragement of exports,
- intensify controls on capital imports, or
- artificially promote capital exports.

The rules for a strong-currency country would be symmetrical, except that it would be worthwhile to augment them so as to constrain a strong-currency country from borrowing in a foreign currency. A country with a strong currency (as measured by its reference rate) should not

- run down reserves,
- hold the policy interest rate higher than is appropriate for domestic reasons,
- express support for a strong currency,
- impose controls on current account expenditures except for non-economic reasons,[1]
- undertake sovereign borrowing in foreign currency,
- intensify subsidies to capital imports, or
- impose controls on capital exports.

Another issue on the design of a reference rate proposal merits discussion: What would happen if the IMF and a member country disagreed on what the latter's reference rate should be? My preferred approach would be to prevent such an issue from arising by requiring countries to accept the reference rate that the IMF's Executive Board ultimately decided. However, this approach could involve an unacceptable derogation of national sovereignty. A possible alternative would be to allow a country that failed to reach agreement on its reference rate to do as it pleased. This alternative hardly seems advisable, however, since it would amount to gutting the

1. Examples of legitimate controls would be controls on the import of firearms or drugs.

proposal: A country that wished to intervene despite a weak currency would simply have to refuse to accept a reasonable figure for its reference rate. Another possible alternative would be to forbid a country from intervening at all in the absence of an agreed reference rate. IMF surveillance would then be devoted to making sure that there was no intervention or resort to policies with similar effects. I assume in my analysis here that only a country that had a reference rate agreed by the IMF would be allowed to intervene.

It would be wrong to suggest that the introduction of reference rates is the only conceivable way of moving from the present nonsystem to an arrangement with well-specified rules. In fact, at least two other possibilities have already been discussed in the literature.

Free Floating

By far the best known would be to prohibit intervention and legislate the version of floating often held dear by economists—a system of freely floating exchange rates. At times some economists have worried about whether it is possible to have a pure system of floating rates, because the authorities normally have some of their own transactions in the foreign exchange market and the timing of these transactions might in principle influence the path of exchange rates. One might seek to counteract this concern by requiring that government purchases or sales of foreign exchange be spread out evenly over time and announced for several days or weeks in advance. However, such intervention is hardly likely to have a pronounced influence on exchange rates, and so the alternative is just to ignore it. A system that incorporated an obligation of free floating could simply allow both intervention designed to finance government transactions and smoothing intervention intended to minimize the impact of temporary blips without any intention of influencing the level of the rate. There would be a simple test of whether intervention was "nonsubstantive" (i.e., just aimed at smoothing the rate and financing government transactions), which is that the level of reserves should stay roughly constant over time (or at least increase no faster than can be accounted for by interest on the reserves or an announced trend buildup of reserves).

The disadvantage that some of us see in a system of floating exchange rates is that they give noisy signals of one of the most crucial macroeconomic prices, namely the exchange rate. The Meese and Rogoff (1983) finding that a random walk outperforms any economic model in predicting the exchange rate at short horizons, which has never been decisively overturned, is proof enough that the signal is a noisy one. If this noise were a question solely of short-run volatility, then one might overlook it, because while a few of the many studies devoted to examining the impact of exchange rate volatility on trade flows claim to have found a negative impact, the overwhelming

impression they leave is that any effects are small. But there are also misalignments, defined as large and persistent deviations of the exchange rate from some concept of equilibrium, which have also been large on occasion (as anyone familiar with the exchange markets is aware). Some of us have long felt that it is misalignments that constitute the major problem with floating. So long as the exchange rate between currencies whose value is left to the market (like the dollar and the euro) can vary by more than 50 percent in an era of price stability, there is a case for expecting governments to play a more active role in the foreign exchange market. It is not asking much of them to intervene in a way that will have a stabilizing impact.

The conventional model of the foreign exchange market that underlies the prescription of freely floating exchange rates assumes that the market is composed entirely of those who base their forecasts on fundamental considerations. But in fact the majority of foreign exchange traders use chartist techniques for forecasting exchange rates rather than fundamentalist ones. Paul De Grauwe and Marianna Grimaldi (2006) recently studied a "behavioral" model postulating that the market consists of both types of traders and that traders migrate from one group to the other depending on the profitability of their trading strategies. It turns out that such a model can explain the major ways in which the standard model is inconsistent with the facts:

- Exchange rates generally do not respond to changes in the underlying fundamentals.
- Exchange rates frequently (but unpredictably) follow bubble-and-crash dynamics.
- Chartism is a persistently profitable trading strategy in the foreign exchange market.
- Exchange rate changes exhibit fat tails rather than following a normal distribution.

It is difficult to understand how anyone who accepts that these facts apply to freely floating rates can feel happy with such a system. Dysfunctional instability is excessive. One alternative is the current system, in which intervention is purely ad hoc. Some exchange rates (like that between the dollar and the euro) float fairly freely, others (like that between the dollar and the yuan) are pegged (albeit nowadays with periodic small changes in the peg), others (like that between the US and Hong Kong dollars) are firmly fixed, and still others (like that between the dollar and the won) are at times allowed to float and at other times are heavily influenced by intervention. It is a historical fact that this "system" has spawned a buildup of global imbalances. If one worries about this buildup, it is natural to ask whether a rules-based system might not be able to do better. Almost by definition, such a system requires a set of management rules that can be codified.

Leaning Against the Wind

How might such rules be specified under floating? One way is through the reference rate proposal. An alternative was suggested many years ago by Paul Wonnacott (1958), as a formalization of Canadian policy when the Canadian dollar was floating in the 1950s. He suggested that countries should be allowed to intervene in order to resist the *trend* of the exchange rate. Thus a country could legally intervene in order to buy reserves if and only if its currency were appreciating, to slow but not reverse the movement. Similarly, a country with a depreciating currency could legally intervene in order to sell but not to buy reserves. Such a rule could be extended in order to cover the other ways of managing the exchange rate that were discussed above.

This rule would be relatively difficult to police, since it would require the policeman (presumably the IMF) to inform itself of the precise dates and times of intervention and whether the exchange rate was appreciating or depreciating at the time of intervention. But this rule has a far more important problem: It makes little sense if misalignments occur.[2] In that case a depreciation may be a benign movement back toward equilibrium, which one might want to encourage, rather than the presumptive move away from equilibrium that it would make sense to resist, as permitted by the Wonnacott rules. The only way to decide whether a move is toward equilibrium, and should therefore be encouraged, or away from equilibrium, and should therefore be resisted, is to estimate equilibrium rates. That naturally takes us to the reference rate system.

2. It should be noted, however, that De Grauwe and Grimaldi (2006, chapter 9) found that this intervention rule "worked," in the sense of precluding bubbles and crashes.