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Monetary policy and an open capital account

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In this paper the author analyses some of the difficulties encountered by monetary authorities when they are operating in a situation of international capital mobility; more specifically, he focuses on how two of their monetary policy objectives –controlling inflation and maintaining a stable exchange rate– may conflict.

It is generally agreed that a Central Bank's main objective is to control inflation. In fact, the organizational modalities and monetary policies of Central Banks around the world are, in large part, a function of their efforts to find the best way of doing just that. However, despite the fact that this objective takes precedence over other goals, it would be erroneous to assume that price stability is a Central Bank's only aim. Monetary authorities are often assigned other tasks as well; perhaps the most important of these is maintaining a stable exchange rate, but they may also include contributing to the achievement of a high and sustainable growth rate, ensuring the solvency of the financial system, and seeing to it that internal and external payments proceed normally. Obviously, these aims are not only related to the Central Bank's objective of curbing inflation, but are also interrelated. Thus, monetary policy constitutes a promising area of research, since fully satisfactory answers to many key questions in this field are still lacking.

This article does not seek to undertake a comprehensive analysis of the subject, but only to offer a number of ideas and suggestions regarding the assessment of Central Bankers' policy options with a view to contributing to a more in-depth study of this topic.

*The author is President of the Central Bank of Chile. This article is based on a paper presented at the Fifty-fourth Meeting of Central Bank Governors of Latin America and Spain (San Salvador, 5 May 1992). The author wishes to thank Rodrigo Vergara for his valuable assistance in its preparation.

I Monetary policy in the absence of international capital mobility

Before proceeding to the analysis of the main topic of this article –i.e., monetary policy features and constraints within the context of an open capital account– it is important, from a methodological standpoint, to make a few observations about monetary policy outside of that context, since this will make it easier to understand the chief types of difficulties that arise when a country opens up its economy to international capital markets.

It is well known that in order to reduce inflation, over the long term it is necessary for the Central Bank to keep the growth of the monetary aggregates under strict control. The situation is complicated, however, by the instability usually displayed by the demand for money. If the demand for money is unstable, then a monetary policy that sets rigid targets for the growth of monetary aggregates in the short term will lead to sharp fluctuations in the interest rate, which will hurt both investment and the level of economic activity. It is precisely the short-term instability exhibited by the demand for money in various countries during the past decade that has given rise to a widespread tendency to employ a monetary policy strategy based on interest rate targets.

The unstable nature of the demand for money has been attributed to such factors as technological innovations in the financial market, the deregulation of that market starting in the late 1970s (Goldfeld, 1976; Judd and Scadding, 1982) and sharp swings in the cost of maintaining money holdings owing to a highly volatile inflation rate in the short term.¹

In a monetary policy based on interest rate targets, interest rate guidelines are based on considerations of internal equilibrium (the desired inflation rate), and monetary aggregates essentially become

¹ Strictly speaking, this last situation has to do with the instability exhibited by one of the arguments of the money demand function rather than the function itself.

endogenous.² In this case, monetary figures are not an intermediate goal but rather a monetary policy indicator. In other words, short-term monetary trends are not a goal in themselves; instead, a very sharp increase in this variable is regarded as an indication, or even an alarm bell, that aggregate demand is growing very rapidly and that the economy therefore runs the risk of exceeding its targeted inflation rate.

Under these circumstances, the monetary authority can counteract inflationary pressures with an increase in the market's interest rates, which it can bring about by raising the discount rate or the interest rate for open-market operations. The increase in the interest rate discourages expenditure on both investment and consumer goods, thereby easing

inflationary pressures. If the economy is showing signs of weakening and there are no inflationary pressures, then the same procedure can be used, but in reverse (the interest rate can be lowered).

Finally, mention should be made of the fact that, following the monetarist experiments of the early 1980s and in response to the increasingly compelling evidence that there is no stable relationship between money and nominal income, most of the countries have switched from a monetary policy based on targets for monetary aggregates to one based on interest-rate targets.³ Chile is no exception. The marked instability exhibited by the demand for money in Chile in the short term has made it advisable to base its monetary policy on interest rates.⁴

II

Monetary policy in the context of international capital mobility

1. Some thoughts regarding the costs and benefits of opening up the capital account

Opening up the capital account presents the monetary authority with a policy dilemma. In order to gain a better understanding of this situation, it would be well to start out with a brief discussion of the costs and benefits of this step. In the following analysis, we will assume that the opening of the capital account leads to a net inflow of capital, i.e., that the domestic interest rate, adjusted to take into account expectations of a devaluation and the risk involved in investing in the relevant country (country risk), is higher than the external rate. This assumption is made on the basis of the experiences of Chile, other Latin American countries, European nations such as Spain and Portugal, and others during the past few years.

² The literature regarding optimum monetary policy-making has its origins, at least in a strict sense, in a well-known article by Poole (1970). Since that time, a large body of literature on the subject has been formed. Particularly noteworthy writings in this area include articles by B. Friedman (1975 and 1988), Sargent and Wallace (1975) and McCallum (1981, 1985, 1988 and 1990).

In a static model free of market imperfections, opening up the capital account is highly beneficial

³ Actually, it would not be accurate to say that the monetary policies of most of the countries are interest-rate policies in a strict sense. It would be more accurate to say that their main focus, at least in the short term, has shifted from control of monetary aggregates to interest rate targets. A good summary of monetary policy-making in the main industrialized countries may be found in Batten, Blackwell, Nocera and Ozeki (1989).

⁴ One of the main criticisms made of monetary policies based on interest rate targets is that the lack of a nominal "anchor" will lead to price indeterminacy. This is demonstrated quite thoroughly in a well-known article by Sargent and Wallace (1975). The main idea is that, since the money supply reacts passively to the demand for money, any inflationary expectations will be validated by the monetary authority. Thus, if expectations of inflation increase, private agents will act in accordance with that new level of expectation, and the Central Bank will provide the larger nominal quantity of money demanded by economic agents, thereby bearing out their expectations of higher inflation. McCallum (1981) disputes this finding, arguing that it is valid only if the interest rate is set at random, as is assumed by Sargent and Wallace. If the interest rate is set on the basis of some specific criterion, then the price indeterminacy disappears. Strictly speaking, if there is some rule for the interest rate, then a new equation is being introduced into the system, which would then give a single solution. In the case of Chile, for example, domestic macroeconomic equilibrium is the criterion used in setting the target level for the interest rate, and this, as noted above, can be expected to result in a given rate of inflation.

because it makes it possible to diversify risk and finance more investment, as well as replacing relatively expensive domestic savings with less expensive external savings. In other words, it makes the allocation of savings and investment resources more efficient. The problem with this approach is that it overlooks the costs associated with the transition (which may take quite a long time) from a state of equilibrium with a closed capital market to a similar state with an open capital market. The following analysis of these costs suggests that although it is desirable to move towards a more open capital account, we must be very careful when choosing the specific method of doing so and determining its pace, with a gradual movement in this direction appearing to be the most reasonable avenue to take. The experiences of a number of Latin American countries in the early 1980s are instructive. Indeed, in many cases, the external and domestic debt crises were associated with indiscriminate liberalization of regulations pertaining to external borrowing. In contrast, most of the member countries of the European Economic Community (EEC) chose to open up their capital markets gradually, and gave themselves ample time to work up to total deregulation.

When the capital account is opened up, the domestic interest rate tends to descend until it is on a par with the going rates on the international market.⁵ This raises investment and reduces domestic saving, which will then be reflected in a larger current account deficit on the balance of payments. The size of this deficit will depend on how large the spread between domestic and external interest rates was before liberalization and on how sensitive saving and investment are to interest-rate variations. The problem is that, if the capital market is opened up very rapidly and this precipitates a massive inflow of capital, the deficit on current account may reach untenable proportions in the medium term. If this occurs, then sooner or later –but probably sooner– the level of risk (country-risk) or expectations of a devaluation of the local currency will increase, and the capital flow will reverse direction and throw the country into a deep recession. In short, the monetary authority must make sure that the opening of the capital account does not produce a deficit on current account that

cannot be sustained in the medium term, since this will not only have adverse consequences for real economic activity later on (when the net inflow of capital dries up) but will also often trigger an overreaction against the liberalization policy which will ultimately throw the entire process into reverse. It is therefore highly likely that if financial liberalization is carried out too hastily, the end result will be just the opposite of what was sought; in other words, the economy's capital account will be more tightly closed than ever.

The statement that when the capital account is opened up, domestic and external interest rates tend towards equality often does not take into account the differing degrees of tradability of the various financial and real domestic assets or the fact that, unless there is a strong, across-the-board increase in investment, their "equality" may be achieved at the cost of sharp changes in domestic prices.⁶ In a nutshell, a massive inflow of capital also exerts upward pressure on the prices of domestic assets. It is not at all uncommon for rising property, land and stock prices to be the first sign that a country is beginning to receive large amounts of foreign exchange in the form of massive capital inflows. This generates a wealth effect that further spurs consumption, thereby increasing the deficit on current account and, thus, the probability that the country will be faced with balance-of-payments problems in the future.

Clearly, however, a number of these arguments require some qualification. For example, the probability of a future balance-of-payments crisis is lower if saving is not very sensitive to the interest rate and the above-mentioned wealth effect is not produced. In this case, domestic saving would be affected only minimally, and the likelihood of a significant current account deficit on the balance of payments would be reduced. Hence, it is advisable to provide incentives to boost domestic saving during the liberalization process. Furthermore, if, in addition to complementing domestic saving, capital inflows help to increase production capacity –particularly in sectors producing internationally tradable goods– then the country will be covering itself in the event of a subsequent decline in capital inflows, and this too would reduce the probability of future balance-of-payments difficulties.

⁵ A more detailed examination of arbitrage between domestic and external rates which takes expectations of devaluation and country-risk into consideration is presented in section 2.

⁶ For a thorough explanation of this point, see Zahler and Valdivia (1987).

It should be emphasized that these arguments do not invalidate the liberalization of the capital account. Rather, they merely point out that, while it is desirable for the country to establish an increasingly solid position for itself in international financial markets, it is crucial for policy-makers to understand that the success of this process depends, to a large extent, on their ability to avoid generating major disruptions in the national economy; consequently, financial liberalization must be carried out both carefully and gradually.

2. Monetary policy

When a country is opened up to international capital flows, the monetary authority's ability to control interest rates and to use them to curb excess expenditure is reduced. This is because, if the domestic interest rate (defined as the rate which ensures that domestic spending will be in keeping with the targeted inflation rate) is higher than the external rate, an inflow of capital will be generated that will increase the economy's liquidity and thus push down the interest rate, which will in turn lead to increased spending; as a result, the country may fail to achieve its inflation-control target. Moreover, the influx of capital will bring down the real exchange rate, paving the way for a larger current account deficit (which is the counterpart of a capital inflow). Of course, in order to keep inflation under control, the monetary authority may prevent the interest rate from dropping by sterilizing the incoming stream of foreign exchange; to do so, the Central Bank must be willing to buy up huge amounts of foreign exchange, or else allow the real exchange rate to fall. Obviously, the authority can also opt for a combination of sterilization and currency appreciation. If this last option is chosen, it should be borne in mind that very gradual adjustment of the exchange rate may generate expectations of a revaluation. As will be discussed later on, such expectations tend to exacerbate the problem even further.

Before moving on, we need to clarify the relationship between interest rate arbitrage and capital flows. To this end, the relationship may be presented in mathematical terms:

$$i = i^* + E_t(\text{dev}) + p \quad (1)$$

where i is the nominal domestic interest rate, i^* is the external rate, $E_t(\text{dev})$ is the expectation of a

devaluation in percentage terms during period t , and p is a measure of country risk. The same equation expressed in real terms is:

$$r = r^* + E_t(\text{dep}) + p \quad (2)$$

where r represents the real domestic interest rate, r^* the real international interest rate, and $E_t(\text{dep})$ the expectations of a real depreciation of the local currency.

Capital will flow into the country if the domestic interest rate is higher than the external rate after it is adjusted for expectations of devaluation and country risk, i.e., if the value on the left side of the above equations is greater than the right side. In other words, capital will enter the country if expected financial returns, adjusted to take account of the risk of investing in the country in question, are higher than the expected returns on investment in the source country. The combination of a rise in the domestic interest rate, reduced country risk, a drop in international interest rates or expectations of a currency revaluation (in response to improvements in the country's external accounts or because it is believed that the exchange rate will be used as an anti-inflationary tool, for example) will boost capital inflows by making it more profitable to invest in that country.

It is now easy to appreciate the policy dilemma confronting the Central Banker who, on the one hand, has an objective of reducing inflation and, on the other hand, has an objective relating to the real exchange rate. If the interest rate that would be in line with his inflation target is higher than the international rate, then the resulting capital inflow will cause the real exchange rate to fall, thereby jeopardizing his achievement of his exchange-rate target. If the domestic interest rate is allowed to drop, then the attainment of both objectives is jeopardized, since the increased spending prompted by that lower rate will push up prices and push down the real exchange rate.

We might then ask ourselves: Why worry about the real exchange rate? Why not simply let it fall to a level where growing expectations of devaluation or increased country risk will offset the spread between domestic and external interest rates? The answer has to do with the types of forces that are producing the inflow of capital and, hence, the drop in the real exchange rate. If we were dealing with structural forces—such as a permanent improvement in external trade accounts, a change in the trend of foreign direct investment in the country, or greater access on a more

stable and sustained basis to international capital markets (due, for example, to political changes)—then it would make no sense to cling to a real exchange rate above the new equilibrium level. However, if the forces stimulating an inflow of external resources—and the resulting drop in the real exchange rate—are of a temporary nature, then the situation is different. This is because the volatility of a key price such as the real exchange rate generally has an adverse effect on the inflation rate, trade flows and investment, due to the uncertainty it creates. In turn, lower levels of investment and trade have an adverse impact on the growth of the economy as a whole. Thus, it is better to smooth out movements in the real exchange rate that are transitory and will therefore be reversed in the near future. In support of this conclusion, it should be noted that there is abundant empirical evidence concerning the negative effects which exchange rate volatility has on investment.⁷ In any event, it is clear that the more developed a capital market's hedging instruments are (options, futures, mutual credits), the less of a role the Central Bank will play in stabilizing the exchange rate, since the existence of such instruments enables private agents to protect themselves against unexpected fluctuations in the dollar on their own.

A word should also be said about the importance of the elasticities of external accounts (exports and imports) relative to the real exchange rate. In countries which primarily export raw materials and import capital goods, the trade balance will usually be fairly inelastic to the real exchange rate. A very sharp drop in the real exchange rate may therefore be required in order to stop excess foreign exchange from flowing into the country. In this case, the instability of the exchange rate and the negative impact on real economic activity will both be greater.

From a macroeconomic perspective, the consequences of an "excessive" inflow of capital on the level of the real exchange rate may be even more serious than the effects of greater exchange-rate volatility. If the exchange rate remains below equilibrium for too long, it will have at least two undesirable effects. First, the tradables sector of the economy may be hurt. As is well known, many of the economies that have met with success in recent years (especially the smaller ones) have based their

development on the growth of their export sectors. This sector has been the leader of progress and of technological innovation in these countries and, as a result, has become a mainstay of their growth. An appreciated currency, if it remains so over a long period of time, can push businesses into bankruptcy and discourage investment in that sector, thereby slowing down development. Second, as mentioned earlier, sooner or later the value of the dollar can be expected to return to its long-term equilibrium level (or perhaps even climb above that value for a time), which will put pressure on prices and thus reduce the chances of keeping inflation under control.

It is worth taking a moment here to think about the nature of the exchange rate's short-term deviations from its long-term level. We saw earlier that this constitutes grounds for intervention by the monetary authority, but how can the market err in determining what the long-term level of the exchange rate should be? If the long-term rate is higher than the short-term rate, then why is it that speculators do not buy foreign exchange in expectation of a rise in the exchange rate? Such action on the part of speculators would have a stabilizing effect, since it would cause the spot exchange rate to rise. There are at least two different answers to these questions. First, it could be argued that the market has less information than the monetary authority does. The Central Bank has more reliable balance-of-payments and capital-flow projections and, even more importantly, it knows for certain what it is going to do in the future. These projections give it a more accurate idea of exactly where the long-term equilibrium level for the real exchange rate is. Second, the speculator's planning horizon is quite short. Speculators may believe that the exchange rate is going to climb within the next year, but what really concerns them is what it is going to do within the next month or the next few weeks. Hence, in the presence of an interest rate spread, they will continue to bring short-term capital into the country, thereby generating pressure for an appreciation of the currency in the immediate future. This type of situation is analogous to a speculative bubble. The price of domestic assets is temporarily higher than their underlying value. Speculators know this, but all that matters to them is that the bubble should not burst until they have completed the speculative transaction in question.

Although it is true that the monetary authority may have more information than is available to the market, however, its information is still limited, and

⁷ For a synthesis of the literature on the subject, see Servén and Solimano (1992).

holding on to a single exchange rate can therefore be dangerous. Instead, it may be best to use a currency band based on a benchmark exchange rate, such as those used by the European Monetary System.

If it is better to avoid temporary fluctuations in the real exchange rate, then the next question is: How can this be done without compromising efforts to hold inflation to its target level? One option might be to find a way of boosting domestic saving. A higher rate of saving makes it feasible to keep interest rates at a lower level, which will discourage capital inflows and thus forestall revaluation of the currency. However, although raising saving rates is certainly an attractive option and everything possible should be done to implement it, we also have to be realistic. Private saving's response time is usually quite long, and it is therefore difficult to base the attempt to smooth out temporary exchange-rate fluctuations on this variable. Public saving might be a more suitable tool, but in many cases it is also quite difficult to change a budget once it has been passed by Congress. Furthermore, many budget items are quite inflexible, at least in the short run. Nor is it certain that it would be wise to alter the policy on fiscal expenditure in order to address a temporary phenomenon. In addition, the fiscal saving effort necessary to sustain a change of a few points in the real exchange rate may be politically and economically unfeasible. Finally, it should be noted—since we are talking about Central Banks—that fiscal savings measures are not decided by the monetary authority. Be that as it may, the important point is that if some way could be found to encourage national saving (private or public), the equilibrium level of the real exchange rate would be higher not only in the short run but also in the long term (or, at least, for as long as the higher saving rate is maintained). Thus, a policy aimed at raising saving rates will also have a positive impact in terms of monetary policy management, since it will give the authorities more leeway in their management of interest rates (and, thus, of aggregate domestic demand) without generating wide swings in the real exchange rate.

Another option that is often mentioned is the possibility of reducing tariffs in order to increase the demand for imports. Tariff policy should be based on a trade, taxation and long-term development strategy, however, not on cyclical circumstances. This is not to deny the importance of keeping tariffs low as a means of improving the system of resource allocation and contributing to the country's growth; rather, all

that is being called into question here is the wisdom of modifying a country's tariff policy in order to deal with a temporary oversupply of foreign exchange. Much the same can be said of proposals that the liberalization of the capital account should be hastened in order to facilitate an outflow of foreign exchange. Those who make such proposals have often forgotten that the scope and pace of the capital market's liberalization should be determined on the basis of the development strategy and considerations of micro-economic efficiency (e.g., risk diversification) rather than transitory phenomena. On the other hand, a decision to ease restrictions on outbound capital flows as a way of dealing with an oversupply of foreign exchange will provide greater security for inflows of external financing. Consequently, the net effect on the exchange market of a move towards financial liberalization is uncertain.

Another option is for the Central Bank to buy up the foreign exchange as it enters the country and sterilize it through the sale of domestic debt. In fact, this is the most natural course of action when dealing with a temporary inflow of capital. However, the situation can become quite difficult if the sums involved are large and if the inflow lasts for longer than was initially projected. Under such circumstances, this type of intervention can siphon off a considerable portion of the Central Bank's reserves. This happens because the Central Bank will invest this foreign exchange at the international rate on deposits, which, given the nature of the problem being addressed, is necessarily lower than the rate at which the Bank could place its domestic debt; in other words, the cost of the money is higher than its returns. These losses, which are part of what is known as the quasi-fiscal deficit, constitute dissavings for the public sector as a whole; they therefore lead to an increase in domestic spending, along with the inflationary pressures that entails. Moreover, if the loss sustained by the Central Bank is too large, it may compromise the Bank's monetary policy in the future, when the time comes to service the debts it has incurred. If the Central Bank's domestic debt should become so large as to threaten its solvency, then the Bank would be unable to place any more non-monetary debt. At that point, only two options would be left: fiscal support or higher inflation.

The Central Bank's position becomes even more difficult if there are expectations of a revaluation. When it steps into the market to buy up foreign exchange, the Central Bank prevents the exchange rate

from dropping. However, if the situation is prolonged or if it seems likely that lasting changes have taken place in the exchange rate's equilibrium level, then economic agents will begin to expect a revaluation. These expectations tip the arbitrage balance even further towards an increased capital inflow, since an expected revaluation lowers the expected cost of foreign borrowing, which spurs capital inflows. It also reduces the Central Bank's ability to manage the interest rate and, hence, inflation. If, for example, the level of expenditure is felt to be too high, then the logical thing to do would be to raise the interest rate. However, this would further stimulate the inflow of capital. A drop in the interest rate, on the other hand, would help resolve the arbitrage problem, but it would also heighten domestic inflationary pressures. In essence, then, the problem faced by a Central Bank when it opens up the capital account is how to reconcile two objectives: controlling inflation and holding the real exchange rate within a specified range.

Clearly, it is a complex situation. The Central Bank sees its ability to conduct monetary policy diminishing at the same time that, in order to prop up the real exchange rate, it may be building up its reserves to higher levels than it would like. As we have already said, given the temporary⁸ nature of the situation, it would not be wise to permit the exchange rate to fall so far that capital has no incentive at all to flow into the country. However, it would not be wise to lose control over short-term monetary policy either. This is why the countries that have found themselves in this situation have chosen to use a series of measures to discourage the inflow of short-term capital—which is attracted primarily by interest rate differentials—and thus increase their control over monetary policy.

These measures seek to even out the cost of credit for all economic agents, which entails raising the cost of borrowing in foreign currency in order to discourage the inflow of capital. The most typical measures of this sort involve taxing or increasing the

reserve requirements of foreign-currency lenders. Raising the cost of external credit will narrow the spread between domestic and external interest rates, thereby slowing the inflow of capital. In effect, this places a "wedge" between the two interest rates which gives monetary policy-makers some manoeuvring room without forcing them to sacrifice their objective in regard to the exchange rate. In terms of the arbitrage equation:

$$i = i^*(1 + t) + E_t(\text{dev}) + p \quad (3)$$

where t represents the reserve requirement applying to external finance.

It should be noted that, by raising the international interest rate applicable to domestic economic agents, the establishment of reserve requirements for external credits tends to bring the external and domestic interest rates into line with one another. This restores control over monetary policy and, therefore, over inflation. Thus, as was said earlier, if the monetary authority allows capital to flow into the country unchecked, it is in effect applying the international interest rate to the domestic economy. However, this rate may not be consistent with the economy's target inflation rate if it will cause consumption and investment to expand faster than aggregate supply. Applying a reserve requirement to external credits is one way that the monetary authority can raise the domestic level of the international interest rate and thus dampen inflationary pressures without having to buy up huge quantities of foreign exchange or allow the currency to appreciate sharply in real terms.

Although the main objective of a measure such as this is to control inflation, it also has desirable effects on the exchange rate. This is because when the cost of external borrowing rises, the inflow of capital will diminish, thus causing the exchange rate to climb—or to fall more slowly. Actually, the two effects are part of the same process, since a decrease in the inflow of capital helps to reduce aggregate demand (by undermining the viability of a lower interest rate) and to raise the exchange rate.

Another advantage of measures such as the institution of reserve requirements on external finance is that they give policy-makers time to decide whether a situation or event is temporary or permanent. It is obviously quite difficult to distinguish one from the other in many cases, and therefore the

⁸ Of course, it is not so easy to tell the difference between temporary and lasting changes, and this usually complicates the situation. If the Central Bank feels it is witnessing a temporary phenomenon, then it should defend the exchange rate. If, however, the market feels there is some significant probability that this situation is not transitory, then speculators will act on the assumption that a revaluation is likely, and this, as noted earlier, makes it even more difficult to manage the monetary variables.

monetary authority usually needs time to obtain more precise information and analyses. For example, an increase in the flow of external financing may be due to the fact that the country is perceived as being in a better position than before—which could mean that it will receive a greater inflow of capital on an ongoing basis— or to a short-term circumstance, such as an interest rate spread, which cannot be expected to last. In the first case, the monetary authority should not try to prop up the exchange rate; in the second case, it should try to do so because it is dealing with a one-time situation. But how is it to know beforehand whether it is witnessing a permanent flow of external resources or simply a temporary movement? If the monetary authority regards short-term fluctuations in the exchange rate as undesirable, then it should wait, gather more information and see how events unfold before deciding what course of action to take in regard to the exchange rate. Once the Central Bank has a clear picture of the situation, it will be in a better position to take the appropriate steps.

Yet another advantage of reserve requirements for external finance is that they allow the monetary authority to draw a distinction, at least to some degree, between short- and long-term capital. Reserve requirements may be set for short-term capital flows while long-term capital is exempted, since the capital flowing into a country on a temporary basis due to interest rate differentials is essentially short-term capital; in other words, it may flow back out of the country at any time, especially if it is felt that conditions are about to change. This is the type of flow that destabilizes the exchange rate and that should therefore be discouraged. Long-term flows are, by definition, of a more permanent character and for that reason it is not in a country's interest to hinder them. In practice, however, it is difficult to exempt long-term capital entirely, because a typical method of evading such requirements is to "disguise" short-term capital as long-term capital when it first enters a country. One way of dealing with this problem is to apply different marginal reserve requirements to holdings of differing terms. The longer the term, the lower the reserve requirement. The benefit of this method is that it limits the "leakages" from this mechanism; its cost is that truly long-term capital is also subject to the reserve requirement (although the average rate decreases as its term increases).

Reserve requirements and taxes on incoming capital also have other costs, however. First of all, the

practical experience of a number of countries indicates that the effect of this type of measure declines over time because the market slowly but surely finds ways of evading the higher cost of foreign-currency finance. One method of evasion is simply not to declare the external credit. The cost of this form of evasion will depend on the nature of the regulations and controls that are in place in the exchange and financial markets, but some leakage is inevitable. The longer a reserve requirement or other type of levy is in effect, the more ways of evading it are devised. The monetary authority must therefore be on the watch for them so that they can be prevented or, if possible, forestalled.

Second, reserve requirements or taxes have microeconomic costs because they make credit more expensive for domestic businesses and residents of the country. The basic (macroeconomic) rationale in respect of these mechanisms, however, is that the benefits of a more stable exchange rate (and, thus, of the maintenance of a deficit on current account in the medium term) and of a more satisfactory form of monetary management outweigh the above-mentioned costs.

Before drawing this discussion to a close, something should be said about the interest rate structure. Up to now, we have been talking about the interest "rate", in the singular. This rate, as mentioned earlier, influences both aggregate demand and capital flows. It is important to realize, however, that the interest rate which affects aggregate demand is not the same rate that affects speculative capital flows. Speculative short-term capital reacts to the spread between short-term domestic and external interest rates, since over longer periods the level of exchange risk will be very high. Aggregate demand, on the other hand, largely acts in response to the long-term interest rate. Considered in this light, the monetary authority's dilemma in choosing whether to control inflation or the real exchange rate would appear to have a ready solution. In the presence of inflationary pressures, the authority should simply take steps to raise the long-term interest rate while keeping the short-term interest rate low. The high long-term rate would dampen aggregate demand, while the low short-term rate would discourage the entry of short-term capital. The problem with this, of course, is that the monetary authority cannot shape the interest rate structure exactly as it pleases. If the authority tries to push up long-term rates, short-term rates will inevitably rise

along with them to some extent. A tight monetary policy, for example, tends to produce an across-the-board increase in interest rates. Depending on expectations about the future and the size of the liquidity premium, it may well be the market, rather than the Central Bank, that will determine the slope of the interest rate's return curve. Clearly, if the Central Bank could "shape" this return curve, it

would increase its monetary policy's degrees of freedom. Experience generally indicates, however, that little can be done in this respect and whatever action can be taken is unlikely to have a lasting effect. This leads to the conclusion that, in dealing with the type of problem being considered in this article, there is some justification for referring to the interest "rate" rather than "rates".

III

Concluding remarks

The aim of this article has been to underscore some of the problems confronting a country's monetary authority when the economy is wide open to external financial flows. Specifically, we have analysed what happens when a conflict arises between two of the Central Bank's objectives: controlling inflation and maintaining a stable exchange rate. This dilemma is of increasing importance today since the countries of the region are receiving large amounts of foreign exchange in the form of repatriated capital at the same time that they are gaining—in some cases quite rapidly—increasing access to various sorts of voluntary external financing (although this does seem to be more volatile than in the past) and experiencing heavy inflows of capital in response to the extraordi-

narily low interest rates being registered in the United States economy.

Opening up the capital account deprives the monetary authority of a degree of freedom in that the domestic interest rate cannot be very different from the external interest rate after adjusting it for expectations of devaluation. In this article we have discussed the problems this raises in terms of exchange policy, as well as the costs and benefits of various ways of recovering that lost degree of freedom. We have also analysed the costs and benefits of opening up the capital account and have suggested that a gradual approach in this area is preferable to hasty, unplanned processes which generally end in resounding failure.

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