
MACROECONOMIC MANAGEMENT, FINANCIAL GOVERNANCE, AND DEVELOPMENT: SELECTED POLICY ISSUES

A. Introduction

Amongst the topics of the agreed annotations to the provisional agenda for UNCTAD IX was the consideration of national and international policies needed to enable full advantage to be taken of the opportunities for growth and development offered by the new global context while minimizing the risks of new imbalances and instabilities, including those in international financial markets. Greater integration of financial markets has increased the amounts and categories of financing potentially available to entities throughout the world economy. However, so far only a small minority of entities have actually achieved access to this financing. Moreover, the capital movements which have accompanied financial globalization have been associated with greater instability, and it has been frequently shown how greater financial openness can restrict autonomy in macroeconomic management. These features of financial glob-

alization have been recurring themes of recent issues of the *TDR*, which have monitored the effects of, and policy responses to, increased financial inflows into certain developing countries resulting from their progressive integration into the global network of financial markets,¹ and have reviewed major features of the legal framework of international financial liberalization as well as selected policy proposals aimed at the achievement of a more stable international financial system.² The observations concerning these subjects which follow are based largely on papers presented and subsequent discussion at the conference, *Capital Flows in Economic Development*, organized by the Global Interdependence Division of UNCTAD in cooperation with the Jerome Levy Institute of Bard College on 7-9 March 1996 at Blithewood, the home of the Institute on the campus of Bard College in Annandale-on-Hudson, New York.

B. Floating exchange rates and the liberalization of international capital movements

The abandonment of fixed exchange rates by major OECD countries at the beginning of the 1970s was widely believed at the time to lead to a system in which countries would have consider-

able autonomy in the pursuit of appropriate national macroeconomic policies, while exchange rates themselves would gravitate towards levels set by purchasing power parities. However, the out-

come proved to be different. Under the new regime of floating exchange rates the international financial system has been subject to instability in currency and other financial markets, and has been notable for levels of exchange rates which have obstinately diverged for long periods from those corresponding to economic fundamentals.

Currency volatility under the new regime has tended to fluctuate, with periods of increased volatility being interspersed with periods of calm. There have also been shorter episodes of exceptional instability in international financial markets, outstanding recent examples being the disruptions of the Exchange Rate Mechanism of the European Monetary System in 1992 and 1993. The effects on developing countries of the resulting instability take place through several channels. A large part of both their exports and their imports, as well as of their debt service obligations, are denominated in major currencies. Owing to mismatching of the denomination of external receipts and outflows their balance-of-payments positions are generally sensitive to relative movements in the values of different currencies and to changes in major interest rates. Moreover, increases in debt-service obligations resulting from higher interest rates often coincide with weakening export prospects, also closely related to dearer money. More recently, as the scale of foreign investment in the financial markets of certain developing countries has increased, these markets have become directly vulnerable to large shifts in sentiment among in-

ternational investors. An early example of the possible effects of such vulnerability was provided by the collapse of the stock market in Hong Kong during the crash of October 1987,³ and a more recent one by Mexico's financial crisis of late 1994 and early 1995, which not only led to a collapse of the exchange rate of the peso and of the value of other Mexican financial assets but also had spillover effects on other emerging financial markets.

Unsound economic policies can contribute to global financial instability. However, a recurrent lesson of recent experience of such instability is its frequently tenuous or non-existent connection to fundamentals such as countries' relative price levels, microeconomic performance and the stance of their macroeconomic policies. This appears to reflect the lack of a systematic relation between these fundamentals and the indicators used by actors in financial markets to guide their decisions as to holdings of different currencies. For example, much evidence suggests that many of these actors extensively use trading rules that rely on extrapolation of past movements and that are thus capable of perpetuating and accentuating movements of exchange rates frequently divorced from fundamentals.⁴ Such behaviour by traders also probably helps to explain the failure of economic models to account for short- and medium-term variations in major exchange rates in terms of variables such as money supplies, real incomes, interest and inflation rates, and balances on current account.⁵

C. Problems for developed and developing countries due to financial instability

Concern over international financial instability reflects the pervasive economic effects of fluctuations in capital flows and exchange rates on the prices of goods, services and financial assets, and is related to a number of different issues. The most important of these issues for policymakers is misalignment of exchange rates. Misalignment results from movements of exchange rates which are extended in time and should be distinguished from short-term currency volatility. The

term denotes exchange rates which, at reasonably full employment for the economy in question, are inconsistent with a sustainable external payments position as determined by the balance on current account and the longer-term propensity to attract or export capital. Misalignment is capable of distorting resource allocation through its impact on relative prices, of exerting perverse effects on activity, employment and the price level, and of generating protectionist pressures. In economies

with relatively small financial markets - for example, those of developing countries - misalignment due to large capital inflows is also frequently accompanied by booms in asset prices, the sequel to which is likely to be collapse when the capital flows eventually undergo a reversal.

Difficulties can also result from short-term volatility of exchange rates. The severity of these difficulties varies with the extent to which firms and other economic agents possess skills of financial risk management and have access to different instruments designed for this purpose. For large financial firms, as well as for non-financial firms with well-developed treasury-management functions, the hedging of fluctuations in exchange rates and other financial variables can be highly effective. Such hedging comprises long-established techniques such as the matching of assets and liabilities denominated in different currencies, price adjustments and invoicing practices, geographical diversification of operations, the timing of payments and receipts of foreign exchange, and the use of instruments such as forward, futures and options contracts designed to provide protection against exchange- and interest-rate fluctuations.⁶ Although the expansion of markets for hedging

instruments in recent years has facilitated the use of such techniques, it is not possible to achieve complete protection against financial volatility by these means. This impossibility is partly due to gaps in the coverage of hedging instruments (an example being the lack of forward and futures contracts for many currencies and maturities) and partly to the problems posed for current techniques of financial risk management by fluctuations in volatility itself outside specified ranges.⁷ Moreover for many firms and economic agents, especially those of developing countries, access to these techniques remains restricted or highly expensive, and fluctuations in volatility itself can be expected to be a source of still greater difficulties for them.

Evidence on the adverse effects of currency volatility on international trade and other economic activities is somewhat fragmentary. There is none the less widespread belief that short-term currency volatility abbreviates time horizons for investment decisions, raises transactions costs and, through its close relation to volatility of asset prices and interest rates, increases wealth holders' preferences for liquid as opposed to longer-term financial instruments.⁸

D. International regimes and the scope for policy

National policy responses to the threat of exchange-rate misalignment posed by unstable international capital flows are of several kinds, and are not mutually exclusive since different kinds of measures may be used to reinforce each other. One response is official intervention in the currency markets in the form of purchases and sales of foreign exchange.⁹ If there are persistent capital outflows, such a policy on its own will eventually lead to the exhaustion of a country's exchange reserves and credit lines. In the case of capital inflows official intervention causes an increase in the country's money supply unless its effects are sterilized. However, as is documented from the experience of selected developing countries in section E below, such sterilization usually entails some loss of control over domestic monetary policy and may lead to rises in interest rates and unwanted

increases in government indebtedness. The response to capital flows may also include fiscal tightening, but such action is frequently open to the objection that in consequence exogenous developments in international financial markets are being permitted to override national objectives regarding fiscal balance and public expenditure. Faced with the problems associated with handling the effects of capital flows solely through some combination of intervention in exchange markets and fiscal measures, countries may have recourse to actions aimed more specifically at the capital movements themselves. Some of the measures under this heading are in the form of taxes or tax-like restrictions which exercise their effect on capital transactions by increasing their costs and thus reducing their profitability. Other restrictions involve more direct limits on capital transactions.

Both categories of restriction have been extensively used by developed and developing countries to control outflows and inflows during the postwar period.¹⁰ However, in recent years OECD countries have become increasingly subject to self-imposed restraints regarding the use of such restrictions, embodied in the international legal regimes for capital transactions.

The only global regime applying to international monetary movements is that of IMF. But the most important obligations in its Articles of Agreement relate to current transactions and not capital movements. These are set out in Article VIII (which prescribes the obligation not to impose restrictions on payments and transfers for current international transactions without the Fund's approval) and in Article XIV (which specifies transitional arrangements for countries not yet willing to accept the obligations of Article VIII). Concerning international capital movements, Article IV contains, among the general obligations of IMF members regarding exchange arrangements, the statement that one of the monetary system's essential purposes is the provision of a framework facilitating the exchange of capital among countries.¹¹ In more specific references to capital movements in Article VI, section 3 provides for the exercise by member countries of such controls as are necessary to regulate international capital movements so long as they do not restrict payments for current transactions. Section 1 of the same Article gives the Fund the authority to prevent the use of its resources to finance a large or sustained capital outflow.

Developed countries, however, are subject to obligations under the OECD Code of Liberalization of Capital Movements and (in the case of members of EU) under the EEC Council's 1988 Directive on capital movements and the Maastricht Treaty. The OECD Code classifies the great majority of capital movements into two Lists, A and B, to the former of which more stringent liberali-

zation obligations apply. For much of the period of the Code's existence List A consisted principally of operations judged to have fairly close links to international trade in goods and services and to longer-term investment, while List B included operations in short-term financial instruments. But recently the scope of operations included in List A was extended to some hitherto covered by List B, and a number of previously uncovered money-market operations were added to List B.

The 1988 EEC Directive on capital movements forbids restrictions on those between residents of member countries subject only to provisos concerning the control of short-term movements during periods of financial strain and certain measures necessary for the functioning of tax and administrative systems and for prudential supervision. Under the Directive member countries are also committed to endeavour to attain the same degree of liberalization of capital movements with third countries as with each other. The provisions of the 1988 Directive are reinforced by the pertinent articles of the Maastricht Treaty applying to the second stage of economic and monetary union, which began in 1994. Once the third stage of this union starts, the imposition of controls over short-term capital movements during periods of financial strain for single-currency countries will continue to be permitted only with regard to non-EU countries.

Under current international legal regimes developing countries, on the other hand, have considerable latitude regarding controls over international capital movements. Some of them have none the less undertaken obligations in this area as part of Treaties of Friendship, Commerce and Navigation or of regional agreements involving limited numbers of countries such as the North American Free Trade Agreement (NAFTA). Moreover, such obligations may well become more common as the number and country coverage of regional agreements expand.

E. The international financial markets and developing countries: access and challenges to macroeconomic management

Notable features of the rise in private external financing for developing countries and economies in transition in the 1990s have been its concentration on a small number of recipients and

the varying character of the flows and of national policy responses to them. Both features have implications for the shape of an appropriate international financial regime and for international

economic policy more generally. The extreme unevenness of the distribution of external financing from private sources, which for several developing countries is associated with tight restrictions on, or the virtual absence of, access to such financing, means that there remains an indispensable and substantial role in the provision of development financing to be played by the official sector.

The variety of responses to increased capital inflows reflects divergences in the policy objectives and the perceived effectiveness of policy instruments in recipient countries. Such divergences point to the need for an international financial regime with rules that are sufficiently flexible to accommodate a broad gamut of policy measures on the part of developing countries and economies in transition regarding the capital account of the balance of payments.

The concentration of financial flows applies to all the major categories of financing from international capital markets. In recent years more than three quarters of external bond issues by developing countries and economies in transition have been accounted for by four borrowers in Latin America and five in Asia. More than 60 per cent of the value of syndicated international bank lending has gone to six Asian borrowers.¹² High levels of concentration, again involving countries which were also the main recipients of categories of financing already mentioned, have also characterized international equity issues, medium-term Euronote facilities and issues of Eurocommercial paper. Thus the great majority of developing countries have not shared in the increase in financing from the international financial markets of the 1990s. For example, little money from this source has been raised in securitized form by countries in sub-Saharan Africa, and net international bank lending to this region has been widely negative (although a recent analysis of the figures suggests that this unfavourable picture may be due in part to deficiencies of countries' reporting systems for balance-of-payments statistics).¹³

The breakdown of external financing by major categories has varied even among the main recipients, as discussed in more detail above (chapter II, section B). For example, FDI as a share of new capital flows amounted to 70 per cent for Singapore in the period 1991-1994, while for the Republic of Korea the corresponding figure was less than 10 per cent. Generally, bank lending was a relatively less important source of external financing for

Latin American than for Asian countries, while a number of Asian countries received relatively little financing in the form of international bonds and international equity issues.

Furthermore, there have been marked differences in the relation of these capital inflows to major macroeconomic variables and economic performance in recipient countries, their effects being determined by, *inter alia*, the size and composition of the inflows, exchange controls and regulations governing inward and outward financial operations, and the economic policies of the countries themselves. Thus in some countries, particularly certain Asian ones, the inflows were associated with increases in domestic savings and investment, whilst in others they were a substitute for, rather than a complement to, domestic savings, in consequence contributing much less to economic performance. In several of the recipients an important effect of the inflows has been to increase the fragility of the domestic banking system. Banks have been tempted by the availability of external financing at a low cost to finance local-currency operations from this source, including the acquisition of illiquid assets. The consequence has been the mismatching of currencies and maturities, the potentially destabilizing effects of which have been particularly important in countries lacking effective systems of prudential regulation.

Few of the major recipient countries adopted a largely or completely non-interventionist stance towards financial inflows. But considerable differences have none the less characterized the measures taken to ward off misalignment and other potentially adverse effects.¹⁴

There has been widespread recourse by recipient countries to intervention in foreign-exchange markets to prevent currency appreciation. However, where capital inflows were large relative to current-account deficits, such intervention created serious conflicts with domestic monetary policy objectives.

When intervention was not sterilized, there resulted rapid increases in money supply which threatened loss of control of monetary policy. Very rarely did the increases reduce interest rates, discourage capital inflows and ease the upward pressure on the currency. Fiscal tightening has been recommended as a way of solving the problems arising from non-sterilized intervention. This

would be achieved, first, by restraining domestic absorption, and secondly, by generating a budget surplus to absorb the excess supply of foreign exchange, which could be used to reduce foreign-currency public debt. However, fiscal policy has often lacked the flexibility required. Furthermore, the scope for generating fiscal surpluses without undermining the efforts to develop human and physical infrastructure has generally been limited. Thus, very few countries have been willing to subordinate the goals of their fiscal policies to the offsetting of the impact of external capital flows.

Sterilization of intervention in foreign-exchange markets to offset its impact on money supply and prices through sales of interest-bearing government paper, on the other hand, increases interest rates, thus accelerating capital inflows. Indeed, the high-yield short-term government debt issued as part of the sterilization policy has itself often become a source of attraction for additional capital inflows. Paradoxically, in many cases a deterioration in the fiscal position has also resulted, since the rate of interest earned on the increased exchange reserves thus required was almost always below that paid on short-term government debt. These quasi-fiscal deficits also were themselves a source of increases in money supply in countries where intervention was sufficiently large and interest differentials were substantial.

Other methods of sterilization have also been used, including restrictions on domestic credit expansion through increases in statutory reserve requirements, window guidance and direct controls, and increases in discount rates. Some countries have also used central bank swaps, selling foreign currency to domestic financial institutions that are required to invest it abroad with the implicit guarantee that the central bank would make good any losses due to interest-rate differentials or exchange-rate adjustments. However, such methods have typically provided only temporary relief and, by creating losses and pushing up interest rates, have often aggravated the problem to which they were a response.

The problems associated with sterilized intervention have led to other policy responses to large capital inflows. For example, import liberalization has been tried as a way of absorbing the excess supply of foreign exchange. But such liberalization can result in increased import dependence or higher imports of consumption goods. The loss of government revenue due to the tariff reductions

associated with import liberalization can also contribute to fiscal imbalance.

An approach without such adverse side-effects has been the adoption of more flexible exchange-rate policies. The avoidance of rules for official intervention and of advance announcement of devaluations, the widening of currency bands, and the linking of the currency to a basket of currencies rather than a single benchmark currency can increase the effectiveness of monetary policy and slow capital inflows by introducing uncertainty regarding movements of the exchange rate. But this approach involves the risk of sacrificing the benefits sought from exchange-rate stability.

There has also been increasingly widespread recourse to more direct controls over capital inflows, but with considerable variation among countries in the extent to which such controls were integrated into overall balance-of-payments policy as opposed to constituting an ad hoc response to the problems caused by the inflows. For example, some countries, notably the Republic of Korea, geared controls to the state of their current account: when the current account deteriorated, restrictions on capital outflows were tightened, while those on inflows were loosened, and vice versa when the current account recorded a surplus and the currency came under upward pressure. The main strategic consideration in this approach has been maintaining competitiveness irrespective of whether the current account was in surplus or deficit. Capital flows have not been allowed to govern the exchange rate and the current-account balance, but rather developments in the latter have dictated the way in which capital controls were implemented. Restrictions have been maintained on holding and issuing foreign-currency assets in the domestic market, so that shifts between domestic and foreign assets have been more likely to involve cross-border transactions. This has greatly facilitated the regulation of capital flows. Other countries, in both Latin America and Asia, have also regulated capital flows successfully but their approach has been somewhat different. They have resorted to regulation of inflows or deregulation of outflows (or both) only after capital inflows had already started to undermine competitiveness or to widen the current-account deficit (or both), or when intervention in the foreign-exchange market had already proved problematic for the reasons already described. Consequently, these countries have experienced greater instability of capital flows, current-account balances and exchange rates.

The measures used by developing countries to control capital inflows have included both the taxes and tax-like restrictions and the other, more direct, limits on capital transactions mentioned in section D above. The measures have often differentiated between FDI and portfolio investment, and between categories of capital transaction.

One of the more successful instruments of control, which is designed to close the arbitrage gap between returns on foreign and domestic assets, has been non-interest-bearing reserve requirements for inflows. Variable reserve requirements have been applied when setting the reserve requirement at a single level which did not undermine long-term investment proved ineffective in checking short-term capital inflows. In such cases the reserve ratio varied inversely with the maturity of the investment. Reserve requirements discourage capital inflows by reducing their net effective rate of return, thus having an effect much like a levy on foreign-exchange transactions. These reserve requirements were a policy tool independent of normal prudential regulations. Some Latin American countries have also actually imposed taxes on selected capital inflows.

Risk-adjusted capital requirements have been applied to banks' and institutional investors' acquisition of assets abroad. Foreign-currency deposits, foreign-currency borrowing and interbank credits have been included in defining the base for

statutory reserve and liquidity requirements. In countries which have successfully managed capital inflows, regulations designed to reduce the currency mismatch between assets and liabilities and to restrict open positions in foreign exchange have typically been a permanent feature of the financial system. A number of quantitative restrictions have also been deployed, including restrictions on issues of external bonds and American Depository Receipts (ADRs) in the form of specification of minimum issue sizes and credit rating for the issuers, the prohibition of sales of money-market instruments such as Treasury bills to non-residents, bans on commercial banks' swaps unrelated to trade, and quantitative limits on offshore borrowing by public enterprises and commercial banks and on forward transactions with non-residents.

Experience so far suggests that successful management of capital flows depends on combining in a flexible and pragmatic manner the tools of macroeconomic policy with regulations designed to reduce the volatility of such flows by deterring interest-rate arbitrage, limiting destabilizing speculation, and avoiding bubbles in asset prices and exchange rates. While macroeconomic policies characterized by consistency and by fiscal and monetary discipline have been essential prerequisites for the management of capital flows, such policies needed to be accompanied by other measures, directly affecting the capital account.

F. Other global policy actions

1. Introduction

As explained in section D above, OECD countries have now accepted obligations under the OECD Code of Liberalization of Capital Movements and the regime of the EU which substantially restrict their freedom to use capital controls. Nevertheless, there is continuing discussion in these countries concerning international policy actions consistent with these constraints which would have the aim of producing more orderly financial markets and of avoiding crises due to volatile capital

movements as well as handling such crises when they occur. The actions proposed include financial integration, macroeconomic policies aimed at economic convergence, an international lender-of-last-resort facility, arrangements for preventing difficult balance-of-payments situations from developing into full-blown financial crises, new techniques of official intervention in the currency markets, improved prudential supervision of firms engaged in international financing, and various tax and regulatory measures directed at the reduction of international financial instability.¹⁵ The policy

actions which are discussed in this section are mostly directed in the first instance at financial instability and volatile international capital movements among OECD countries. But they also take account of developments due to the integration of financial markets and its consequences for developing countries. Moreover, the benefits of more orderly financial markets generally would also extend to developing countries.

2. Monetary union and financial integration

One way to avoid the problems caused by the effects on exchange rates of volatile international capital movements is to introduce a single currency. Monetary union is not a realistic prospect at a global level but is envisaged for EU countries under the Maastricht Treaty. The attainment of monetary union is generally believed to require the convergence of potential members with respect to key economic criteria - involving for EU the stability of exchange rates, a specified permissible deviation of interest rates from a benchmark, and the avoidance of excessive government debt and deficits. However, rules such as those embodied in the Maastricht Treaty are inherently deflationary by virtue of their requirement that countries with excessive deficits should retrench without corresponding obligations regarding more expansionary monetary policies or the adoption of more expansionary fiscal policies by countries capable of doing so, while still meeting the Treaty's fiscal criteria.¹⁶ Moreover, the discussion of the behaviour of exchange rates in section B above points to doubts that progressive convergence regarding economic fundamentals will ensure achievement of the required stability of exchange rates in the presence of freedom of capital movements.

Political agreement on the introduction of a single currency is not the only approach to financial integration. An alternative, which might be described as "bottom upwards", in contrast to the "top downwards" instrument of a single currency, would rely on profit incentives at the level of banks and other financial institutions for the achievement of a continuous and orderly process of external-payments adjustment.¹⁷ All restrictions would be removed on the use of currencies of member countries, thus making them legal tender throughout the financially integrated region. Banks would thus

offer deposits in any of the region's currencies, and could consequently be expected to hold foreign-currency deposits as part of their primary reserves and short-term foreign currency assets among their secondary reserves. An external payments imbalance in any part of the region, whether caused by flows on current or capital account, would then require banks in the deficit area to sell foreign-currency assets, increasing domestic deposits of banks in the surplus area and decreasing them in the deficit area. The interest-rate differentials which could be expected to result from these actions by banks would then move in favour of the deficit area so that banks in the surplus area would be attracted by the resulting higher yields to expand their holdings of the deficit area's assets, thus automatically generating increased demand for its currency.

3. Policies for macroeconomic convergence

Macroeconomic policies designed to lead to convergence with regard to fundamental variables such as inflation, interest rates and fiscal deficits are often put forward as the key element of a strategy aimed at achieving greater international financial stability. A major difficulty with this approach would be that of obtaining international agreement covering the United States, EU countries (both those eventually entering the monetary union and those staying outside), Japan and other countries on the required levels of these fundamentals and on the measures necessary to attain them. Furthermore, and perhaps more fundamentally, the evidence discussed above in section B casts doubts on whether currency markets and international capital flows are closely connected to economic fundamentals as presupposed by this approach. Indeed, experience suggests that the theories underlying advocacy of convergence with regard to such fundamentals have little or no relation to indicators widely used by actors in financial markets to guide their decisions concerning their holdings of different currencies.

4. An international lender of last resort

National central banks typically are called upon to provide support to financial institutions facing temporary liquidity shortages in order to prevent them

from growing into more generalized insolvencies. An analogous institution at the international level is lacking, although volatile international capital movements are now capable of subjecting entire economies to severe strain (often in situations where such movements cannot easily be justified on the basis of the economies' fundamentals). An international lender of last resort would require large financial resources and access to all major currencies.

A role with several features of an international lender of last resort was originally envisaged for IMF as part of the postwar international financial system. However, this role was to apply only to current-account transactions, and its extension to capital transactions would require reinterpretation of Article VI (described above in section D). Current proposals for a Short-Term Financing Facility (STFF) are designed to allow IMF to play a more active role as lender of last resort to developing, and possibly other, countries.¹⁸ Resources under this Facility might be available for rapid disbursement to offset the impact on countries' external payments of capital outflows due to changes in market sentiment and speculative pressures which do not reflect economic fundamentals. In such situations the Facility would contribute to the avoidance of excessive currency depreciations and deflation, and would reduce the risk of default on external obligations.

The case for such a facility was dramatized by the recent Mexican crisis. Establishing it would require decisions concerning issues such as country coverage, the procedures for disbursement of funds, the conditions associated with drawing rights, the level of access in relation to IMF quotas, the maturity of loans, and the amount of the facility's financial resources and the modalities of raising them. The size of any such facility presents a particularly difficult problem, since the financial support mobilized for countries during recent currency crises has frequently amounted to large multiples of existing IMF quotas. Some of the problems which would have to be confronted are indicated by the difficulties being experienced over the implementation of the initiative of the Group of Ten to increase the resources of the General Arrangements to Borrow, which provide a line of credit to IMF. Under this initiative the group of countries which would make available resources for this line of credit would be expanded, but there have been disagreements over the association of the new countries involved in the decision-making process regarding the use of these resources.

Tighter surveillance of countries' policies and performance could be expected to accompany the establishment of a STFF. Moreover, it would be reasonable to expect, as a complement to the provision of an international lender-of-last-resort facility, pressures for various types of action which might contribute to more orderly international financial markets.¹⁹ One proposal frequently put forward in this context, concerning policies for macroeconomic convergence, was mentioned above. The two which immediately follow were partly or wholly inspired by the policy debate in the aftermath of the Mexican crisis, whereas those taken up subsequently are proposals of longer standing.

5. More orderly arrangements for handling emergent external payments problems

The Mexican financial crisis has led to a revival of discussion of formal arrangements for the handling of external debt and payments problems which would be less ad hoc than current ones, and less likely to generate controversy concerning appropriate international policy responses. Such arrangements would be intended, *inter alia*, to prevent incipient problems in a debtor country from developing into full-blown crises marked by the collapse of the exchange rate and economic activity and a threat to its banking system as well as possible spillover effects on other countries' financial markets.

One of the more fully articulated proposals²⁰ for this purpose would have the following principal elements: a signalling role for IMF under which in appropriate circumstances the Fund would indicate to a debtor country its approval of a temporary suspension of debt-service payments, subsequently also disclosing its action to the financial markets in order to help in the avoidance of a panic; the creation of a representative bondholders' committee, which would minimize uncertainty as to the terms of authority in negotiations on the restructuring of debts in the form of external bonds; a mediation and conciliation service designed to speed negotiations between the debtor and the bondholders' council; changes in bond covenants designed to permit a majority of creditors to alter the terms in the interest of the speedy settlement of debt restructurings, thus preventing small minorities from holding up the progress of negotiations; and an arbitral tribunal to which dissident credi-

tors could have eventual recourse - an arrangement which, it is hoped, would make contractual innovations regarding bond covenants more palatable. The role of IMF under this proposal would be closely related to that envisaged for it in the event of the establishment of a STFF. Solutions to the problems of countries imposing temporary standstills on debt-service payments would be found primarily through negotiations with creditors. But IMF would be provided with additional resources which would be available for rapid disbursement in situations where the stability of the debtor's banking system was threatened, there was a danger of contagion in the form of the spread of instability to other emerging financial markets, or the run on the debtor country had a self-fulfilling character unconnected to weak fundamentals.

The proposal's contribution to more orderly financial markets would depend on whether an IMF-approved standstill on debt-service payments preceding recourse to more orderly arrangements for working out a debtor's problems would prevent a run by investors. The authors believe that in the case of Mexico in late 1994 approval by the Fund of a suspension of debt-service payments on *tesobonos* and *cetes* would have helped to contain the crisis by halting the run on Mexican assets, thus eliminating the need to bail out private investors with public funds, though not necessarily avoiding many of the other adverse developments such as the spillover effects on other financial markets.²¹ In their view, however, the policy response to the Mexican crisis is extremely unlikely to be repeated, and their proposal would contribute to reducing the instability associated with future crises, since it would be known in advance that massive rescue packages would no longer be forthcoming. Doubts regarding their proposal concern the difficulty of anticipating both the dynamics of international financial crises and creditors' responses.

6. International standards of prudential supervision

At the national level the regulatory framework for financial systems includes not only a lender-of-last-resort facility and orderly arrangements for handling insolvencies but also prudential supervision of financial firms. Recent years have witnessed efforts to develop an international regime of prudential supervision which would cover the rapidly expanding cross-border operations of such firms.

International initiatives to improve the prudential supervision of banks with such operations date from the 1970s, and were a response to the awareness of regulatory authorities in countries with large financial centres that a major banking default could have a destabilizing effect that extended beyond the jurisdiction in which it took place. The main sources of these initiatives have been the Basle Committee on Banking Supervision and the Bank for International Settlements (BIS).²² The early work of the Basle Committee was concerned with strengthening the standards of prudential supervision of international banks and improving international supervisory cooperation, better internal controls for banks' international credit risks and internationally uniform standards for the capital set aside for banks' credit risks. More recently the Basle Committee's attention has been turned to capital requirements for market risks, namely risks due to changes in the prices of different components of banks' trading books. Other bodies associated with BIS have focused on reducing the risks of payments and settlement systems, the development of statistics for the global market for foreign exchange and closely related financial instruments, and supervisory and accounting standards for financial conglomerates. These initiatives can be expected to contribute to greater financial strength and improved risk management for international banks.

The effects of these initiatives are not limited to members of the Basle Committee and BIS. Standards promulgated by the Basle Committee are accepted in many other countries. This process will be reinforced by the insistence of many countries during the negotiations on financial services in WTO on inclusion of observance of these standards by regulators in banks' home countries among conditions for the granting of market access. However, the main focus of international supervisory initiatives has been default risk. Better internal controls and improved allocation of capital to banks' different activities may reduce, but will not eliminate, their involvement in speculation. Moreover, the remit of banking supervisors in many countries does not include non-bank securities firms (whose supervisory bodies are represented in other multilateral organizations, such as the International Organization of Securities Commissions (IOSCO)), let alone the increasing number of non-financial institutions which now take large positions in the international financial markets. The activities of these non-bank participants in the markets are widely believed to be major sources of recent international financial volatility.

7. Capital requirements and restraining currency speculation

Suggestions have been put forward for more direct use of prudential regulation regarding banks' capital as an instrument for restraining currency speculation. The primary function of banks' capital is to absorb losses which might otherwise threaten their continued operation. But if the size of balance-sheet positions permitted under banking regulations is linked to the capital supporting them, such requirements can also restrict the scale of banks' involvement in particular activities. Accordingly, it has been proposed that an internationally agreed surcharge should be imposed on capital requirements for banks' open positions in foreign exchange so as to increase the costs to them of currency speculation.²³ The agreement would have to extend to all financial centres to prevent its frustration by the flight of currency trading to jurisdictions where the surcharge did not apply.

A major problem to which such a surcharge on a permanent basis would give rise is that it would be at variance with the approach to managing market risks embodied in the procedures for determining capital requirements for such risks adopted by the Basle Committee at the beginning of 1996.²⁴ Under these procedures, which are intended to serve as the basis for regulations which will be implemented by the end of 1997, banks will be permitted to use proprietary risk-management systems to measure market risks. The core of these procedures is the setting of a bank's capital charge on the basis of a measure generated by its in-house model of the value at risk of its trading book, that is to say of the maximum loss on the trading book expected during some period at a specified level of confidence. Some allowance for offsetting correlation effects between broad categories of risk (interest rates, exchange rates, equity and commodity prices) will be permitted, so that the market risk associated with foreign exchange positions will not be segregated. Use of an alternative method for calculating capital requirements, which does segregate positions in foreign exchange and precious metals, is also possible, but widespread use by banks of proprietary models to generate their capital requirements will mean that estimation of these requirements will not be carried out on a uniform basis. Thus, while the imposition of capital charges as a measure to restrain currency speculation remains a policy option, such action would now be at variance with the approach to managing market risks embodied in the 1996 guide-

lines of the Basle Committee. Recourse to such charges seems more likely as part of an emergency policy response to a crisis in the foreign-exchange markets than as a measure imposed on a more permanent basis (in spite of the likelihood that their effectiveness will often be limited in such circumstances).

8. New methods of intervention in foreign-exchange markets

Recent financial innovations designed to facilitate risk management have furnished new opportunities not only for private-sector participants in international financial markets but also for monetary authorities. There is a long tradition of intervention by central banks not only in the spot but also in the forward foreign-exchange market. Creation of forward markets as a vehicle for intervention was urged by Keynes during the interwar period. In view of the relationship of forward premiums to international interest-rate differentials, Keynes proposed intervention in the forward market by the central bank as a way of influencing capital flows without changing official interest rates. The possibility of defending the spot exchange rate in this way at no immediate cost to official reserves has been extensively analysed in the literature,²⁵ and such intervention played an important part in the defence of sterling in the 1960s. Forward exchange contracts are a form of derivative instrument, so that unsurprisingly the recent proliferation of derivatives has been accompanied by proposals for the use by central banks of the new instruments for the purpose of hedging their foreign exchange reserves and of intervention in the foreign exchange market.

For example, the former Director of the Group of Thirty has proposed that central banks purchase far-out-of-the-money put options on their currencies as a technique for defending the exchange rate against the effects of large speculative outflows.²⁶ The technique would have relatively low costs since the out-of-the-money options would have low premiums. In the event of downward pressure on the currency, the options could be exercised, thereby providing additional reserves to limit the depreciation. The reserves could also be used to sterilize the funds used to exercise the put contract.

There are many other potential uses of options for official intervention in the foreign-

exchange markets. For example, the sale of covered calls on foreign currency could also be used as part of the defence of an upper limit for a country's exchange rate. Likewise, in order to prevent an undesired currency appreciation due to excessive capital inflows, the central bank might write put options on a foreign currency. The Hannoun Report even raised the possibility that by writing currency options and thus reducing option premiums central banks might also reduce implied volatility, thus producing a desired signalling effect helping to counter disorder in the foreign-exchange market.²⁷ However, the ultimate result of such intervention is not clear, since changes in prices due to reduced implied volatility would have an additional effect on the delta hedging of options positions by dealers.²⁸

Derivative products clearly provide banks with additional instruments for intervening in foreign-exchange markets, but two caveats are in order. Firstly, not only must a market for options in the currency exist (a condition which is likely to require the existence of a futures market, as most options are written on futures contracts), but also, if intervention via options is to provide an effective alternative to that in the forward market, the market for options should be reasonably liquid. Secondly, a central bank might have to confront criticism, similar to that which it faces if it fails to defend its currency through intervention in the forward market, that it has provided the counterpart of speculators' profitable forward sales. Where the recourse to put options is a means of defence against capital outflows the criticism might take the form that the central bank was speculating against its own currency and, if its initiative were successful, that it had generated profits for banks in exchange for instruments which had expired unused.

9. Taxation of foreign-exchange transactions

In recent debate on ways to control instability in the international financial markets there has been much discussion of the idea of taxing foreign-exchange transactions, originally proposed by James Tobin in the 1970s.²⁹ Such a tax, which has also attracted interest as a potential source of revenue for various internationally agreed purposes, presents a series of difficult, though not necessarily insuperable, practical problems. Decisions

would be necessary concerning the locations at which the tax would be imposed, the level of the tax, and the coverage of instruments.

The question of location has been subjected to a thorough discussion by Kenen in a recent volume on different aspects of the Tobin tax.³⁰ Kenen plumps for the location or locations at which the deal is made in preference to the site or sites at which the deal is booked (which would not be identical if booking is done at the head offices of the overseas branches of the dealers' banks) or to the country in which settlement takes place (when settlement, for example, involves the transfer of sums between banks' correspondents). One difficulty frequently raised in connection with the Tobin tax is the possibility that some financial centres would refuse to impose it, with the consequence, as in the analogous case of a surcharge on banks' capital requirements discussed in the preceding subsection, that these centres would attract large amounts of additional currency trading from other locations. Kenen also suggests a possible solution to this problem, namely the taxing of transactions with tax-free trading sites at a punitive rate. But, as he admits, while this could act as a strong disincentive to the migration of currency trading to smaller financial centres, it would not be an effective response to the refusal of a major financial centre already used by many traders (say, London) to join the scheme.

Decisions on the level and coverage of the tax cannot be divorced from consideration of its likely effects. Yet conclusions as to these effects are still speculative. Proponents of the tax have noted the way in which the expansion of currency trading has been accompanied by increased exchange-rate volatility. Thus, if the tax succeeds in reducing the volume of trading, so the argument continues, it should also reduce volatility.³¹ There is indeed evidence that low percentage taxes or charges can have significant effects on both the levels and the character of financial transactions. To take one recent example, the fee of 10 basis points imposed by the Federal Reserve on daylight overdrafts in April 1994 reduced their amount by 40 per cent in the subsequent six months.³² Another example is given in analysis of the stock market crash of October 1987 in the publication, *The Quality of Markets Report*, which attributed the limited role of programme trading in London at that time partly to tax and stamp duty.³³ More mundanely it should also be recalled that mutual funds sometimes impose exit fees on shareholders which vary inversely

with the holding period.³⁴ These charges act as a disincentive to herd selling by shareholders (though the consequent impact on the funds' investment managers is only indirect).

Quantitative research on the relation between trading volume and volatility is to be found mainly in studies of stock markets, which have investigated such subjects as the influence of the absence of trading on the volatility of daily returns on stocks³⁵ and the effects on stock markets of the introduction of transaction taxes or of increases in transaction costs. Two studies under the latter heading are of special interest in the context of the Tobin tax. The first³⁶ shows that the introduction of transaction taxes in the Swedish stock market caused an increase in volatility, and that daily volatility was greatest when the tax was at its highest level. The second³⁷ concerns the effects on volatility of the elimination in May 1975 of the New York Stock Exchange's 193-year-old system of fixed commission rates, and the results confirm the lack of an inverse relation between the level of transaction charges and volatility. Although the conclusions of these studies are not directly applicable to the foreign-exchange market, they should give pause to advocates of transaction taxes for restraining volatility in that area.

The difficulties of forecasting the effect of the introduction of a Tobin tax are enhanced by the complexity of the techniques through which traders now take positions in the foreign-exchange market. These positions often involve combinations of transactions, including recourse to derivatives. As a result, currency volatility depends on trading behaviour in a number of different, though closely related, markets. To be effective, a transaction tax should thus presumably apply to all these markets. But owing to this multiplicity of markets, forecasting the effects of a transaction tax becomes correspondingly harder.

A tax with the required comprehensiveness with regard to coverage of instruments and transactions would entail the solution of several awkward and sometimes novel problems of tax design. Spot and forward foreign-exchange transactions seem relatively straightforward: the tax could be assessed at a percentage rate of the transactions' value. Since foreign-exchange swaps, which combine simultaneous spot and forward transactions, are typically priced in the market as a single transaction, they might be treated in the same way for the purpose of the tax, being assessed

on the same basis as simple spot or forward deals. But this does not exhaust the problems of tax design for these transactions since, for example, the timing of the tax obligation must still be decided. Currency futures might also be taxed at a percentage rate on the notional value of the contract. In this case the tax, if imposed when the contract is initiated, would have an effect on cash flow similar to an increase in the initial margin.³⁸ For currency swaps³⁹ the transaction tax might be imposed on the streams of netted payments⁴⁰ and on exchanges of principal, since these payments seem to correspond most naturally to the actual foreign-exchange transactions associated with such swaps.

Designing a transaction tax for currency options is likely to be particularly difficult. One solution might be to tax them only when they are exercised. However, this would leave untaxed options positions settled through offsetting in the options market (i.e. in the form of sales of contracts by longs or buyers, and purchases by shorts or sellers), and could be expected to enhance the attractiveness of currency options in comparison with other transactions as an instrument for hedging and portfolio management as well as for currency speculation. Stiglitz has proposed taking an option's strike price as the base for the transaction tax.⁴¹ Puts and calls would then be taxed at 50 per cent of the rate applying to other foreign-exchange transactions, the rationale being that the pay-off to a long position in a call combined with a short position in a put at a time near the maturity of the contracts is approximately equivalent to the pay-off on an investment in the underlying asset.⁴² But this equivalence applies when the exercise price of the option is equal to the price of the underlying asset and thus does not hold in all circumstances. Nevertheless, the idea may point towards a fruitful approach to tax design for currency options, namely the breaking-down of options positions into equivalent combinations of other contracts for which the design of transaction taxes is easier.

10. Alternatives to the Tobin Tax

A number of alternatives to Tobin's proposal have been advanced with similar objectives. These are framed to avoid problems such as those due to the difficulty of defining what is and what is not a foreign-exchange transaction. Dornbusch, for example, has proposed taxing all cross-border

payments.⁴³ While this approach has the virtue of simplicity, it would not eliminate all forms of evasion, since it would not be applicable to back-to-back transactions.⁴⁴ Moreover, since it adds to the costs of a wider variety of transactions than the Tobin tax, there is a risk that the proposal would meet with correspondingly stronger political resistance. The proposal is also open to the objection that the tax would be borne disproportionately by current, rather than capital, transactions.

An alternative to taxing foreign-exchange transactions for the purpose of reducing currency speculation, and one which might naturally occur to many economists, would be to tax the short-term profits of currency trading at a punitive rate.⁴⁵ Such a tax might be regarded as an instrument designed to achieve objectives analogous to those sought for stock trading from the 100 per cent tax on short-term gains proposed by the famous United States investor, Warren Buffet.⁴⁶ An internationally agreed tax of this kind would have to raise the taxation of short-term profits from currency trading to a uniform level if it were not simply to lead to the transfer of foreign-exchange business to lightly taxed jurisdictions.⁴⁷ Putting such a tax in place would seem a tall order, but the problems involved are none the less worth a somewhat closer examination.

Profits from trading, including that in currencies, are generally already subject to taxation, so that the base for an internationally agreed tax could be readily identified. But pre-existing tax systems would pose difficulties to the design of a supplementary international tax. These systems vary considerably among countries and, in respect of the newer instruments through which foreign-exchange positions can be taken, are often underdeveloped.⁴⁸ Moreover, in several countries the systems incorporate concepts inconsistent with the across-the-board approach on which an internationally agreed tax on trading profits would presumably have to be based.

For example, in many countries the tax treatment of profits associated with positions in currency futures and currency swaps depends on whether they are held for the purpose of hedging or speculation, the distinction frequently being related to the corresponding accounting treatment.⁴⁹ Since the objective of taxing short-term profits on foreign-exchange trading would be precisely to restrain speculation, there might seem to be an argument for incorporating the same distinction in

the internationally agreed tax. However, achieving agreement on this subject, as on many other technical aspects of such a tax, could be expected to be, if anything, still more difficult than on the practicalities of a transaction tax.

11. Concluding remarks

Discussion of ways to bring greater stability to international financial markets has so far proved inconclusive. Those emphasizing the need for policies to achieve the "right" levels of fundamentals appear to ignore the frequently tenuous connection between fundamentals and the decisions of participants in the foreign-exchange market. Those who put forward measures directed at the processes associated with transactions have to confront the difficulty of delimiting the foreign-exchange market and dealing with the wide-ranging effects of rapid financial innovation.

For some financial markets their institutional structures make possible the imposition of rules designed to keep speculation within bounds and to prevent excessively large short-term movements of prices. These rules include daily price limits, circuit breakers under which trading is halted if prices fall by specified amounts, and position limits restricting the number of contracts which a speculator may hold. However, the global nature of the foreign-exchange market and the multiple channels linking it to the markets for other financial assets seem to rule out the application to it of such measures.⁵⁰ In consequence, there have been calls for the establishment of a central clearinghouse for foreign-exchange transactions, but technical, financial, organizational and political impediments make the idea seem utopian.

Financial innovation has in recent years produced an environment in which not only have there been large changes in the elements of financial markets that are the subject of tax and regulatory measures but also the traditional conceptual framework for classifying these elements has lost some of its relevance. Of special importance in the latter connection is the way in which derivative instruments have eliminated any sharp distinction between long- and short-term investments, with the result that the traditional association of an investment's maturity with its degree of permanence no longer holds as it once did. Derivatives now make it possible to construct synthetic equivalents of

long-term investments through the combination of such instruments with positions in short-term assets. As a result, there is a risk that the benefits of any reduction of speculation due to increased transaction charges (following, say, introduction of a Tobin tax) might be offset by the costs of disrupting arbitrage processes and what are now normal methods of managing cross-border financial risks. Moreover, international agreement on the imposition of increased transaction charges would have to be reached in circumstances in which those responsible for national frameworks of taxation and regulation are struggling to adapt them to what one famous analyst of financial markets has called “the new financial world”.⁵¹

However, the difficulties of international action to control financial instability should not divert attention from the possible adverse economic consequences of such instability. Concern over financial

instability tends to peak in the aftermath of periods of disorder in the currency markets, progressively subsiding as calm returns. It is possible to conceive a future in which periods of disorder would become less frequent and their effects less pervasive. For example, monetary union may be successfully introduced in the EU, its coverage being progressively extended to more member States, while improved risk management and tighter control of open foreign-exchange positions within financial firms could easily reduce their involvement in speculation. But even this optimistic scenario would leave important parts of the foreign-exchange markets open to the influence of speculative forces, and more pessimistic scenarios can also be envisaged. If the misalignments and volatility which are associated with foreign-exchange instability persist, they are capable of threatening countries’ trading relations and more generally of posing a challenge to greater coherence in global economic policy making, a goal now publicly endorsed by Governments.⁵² ■

Notes

- 1 Notably *TDR 1992*, Part Two, chap. I and annex II; *TDR 1993*, Part One, chap. III, and Part Two, chap. III; *TDR 1994*, Part One, chap. III; and *TDR 1995*, Part One, chap. II.
- 2 See *TDR 1990*, Part Two, chap. I, and *TDR 1994*, Part Two, annex to chap. II.
- 3 See the survey of the views of international investors concerning the stock exchange of Hong Kong undertaken as part of the aftermath of the crash of October 1987 and described in Securities Review Committee, *The Operation and Regulation of the Hong Kong Securities Industry: Report of the Securities Review Committee* (Hong Kong, 1988), appendix 9.
- 4 See, for example, M.R. Rosenberg, *Currency Forecasting: a Guide to Fundamental and Technical Models of Exchange Rate Determination* (Chicago, etc.: Irwin, 1996), pp. 337 and 379. A more radical critique of the very idea of identifiable fundamentals as determinants of market outcomes has been put forward by one of the best-known actors in the global currency markets, George Soros. According to this critique, market participants’ understanding of such outcomes is necessarily imper-

- fect but none the less serves as the basis for their decisions, which determine subsequent outcomes. This theory (which Soros dubs “reflexivity”) “connects facts to perceptions and perceptions to facts in a shoelace pattern, [yielding] a ‘shoelace’ theory of history”. It can easily be visualized that in the foreign exchange markets such interactions are capable of generating cumulative movements in currency prices. G. Soros, *The Alchemy of Finance: Reading the Mind of the Market* (London: Weidenfeld and Nicholson, 1988), chaps. 1 and 3.
- 5 See, for example, J.A. Frankel and A.K. Rose, “A survey of empirical research on nominal exchange rates”, *NBER Working Paper No. 4865*, 1994.
- 6 For a fuller non-technical account of the techniques of financial risk management see D. Ross, I. Clark and S. Taiyeb, *International Treasury Management* (New York: New York Institute of Finance Corp., 1987), chaps. 3 and 4. Case studies of the management of currency risk can be found in G.J. Millman, *The Floating Battlefield: Corporate Strategies in the Currency Wars* (New York: AMACOM, 1990).

- 7 It should also be noted that financial and competitive risks may be interdependent. This point can be illustrated with an example from Ross, Clark and Taiyeb (*op. cit.*, p. 7). Consider a hypothetical company which imports wine from country B into country A. Unlike its main competitors, it covers its requirements for B's currency early in a particular year in the forward market. However, during the year there is a depreciation of the spot rate for B's currency of about 25 per cent. If the costs of the hypothetical company were locked in at the forward rate prevailing early in the year, while its competitors were in a position to sell at prices up to 25 per cent lower, the company might be in danger of being forced out of business. Recently developed risk-management instruments have facilitated the task of extricating companies from situations of this kind. For example, break-forward contracts can now be purchased, providing customers at an additional cost the option of reversing forward contracts if the spot exchange rate reaches a certain level.
- 8 For surveys of estimates of the effects of fluctuations in exchange rates on international trade see section B of the study by the UNCTAD secretariat, "The exchange-rate system", in *Compendium of Selected Studies on International Monetary and Financial Issues for the Developing Countries* (UNCTAD/ST/MFD/4), United Nations publication, Sales No. E.87.II.D.3, and *Exchange Rate Volatility and World Trade*, IMF Occasional Paper No. 28 (Washington, D.C.: IMF, 1984), chaps. IV-VI. The somewhat inconclusive nature of these empirical estimates should not be a source of surprise, according to a the former chairman of the United States Federal Reserve System, Paul Volcker, since "in a world in which so many things are happening at once, it is hard to pin down the effects of any one factor. But the logic of the situation suggests to me that, over a long period of time, the costs in economic efficiency must be substantial." P. Volcker and T. Gyohten, *Changing Fortunes: the World's Money and the Threat to American Leadership* (New York: Times Books, 1992), pp. 292-293.
- 9 Official intervention in foreign-exchange markets may also be used to restrain shorter-term currency volatility (see below, section F).
- 10 Such restrictions by developing countries in response to recent capital inflows are discussed in the next section.
- 11 As part of its surveillance function over exchange arrangements IMF is frequently supportive of varying degrees of liberalization of capital transactions by member countries. See P.J. Quirk, O. Evans *et al.*, *Capital Account Convertibility: Review of Experience and Implications for IMF Policies*, IMF Occasional Paper 131 (Washington, D.C.: IMF, October 1995), pp. 5-7 and 22-24.
- 12 For the concentration of the distribution of external financing in 1995 see chap. II, sect. A above.
- 13 See L. Kasekende, D. Kitabire and M. Martin, "Capital inflows and macroeconomic policy in sub-Saharan Africa", paper presented at the conference, *Global Capital Flows in Economic Development*, p. 7.
- 14 The discussion which follows makes extensive use of G. Le Fort and C. Budnevich, "Capital account regulations and macroeconomic policy: two Latin American experiences", and Y.C. Park and C.-Y. Song, "Managing foreign capital flows: the experiences of Korea, Thailand, Malaysia and Indonesia", papers presented at the conference, *Global Capital Flows in Economic Development*.
- 15 This list of proposed global policy actions is by no means comprehensive, limited as it is principally to ideas raised at the conference, *Capital Flows in Economic Development*.
- 16 See *TDR, 1993*, Part Two, chap. I, sect. C.
- 17 An approach of this kind has been suggested as a solution of the problems of financial instability between the United States, Japan and EU by Toyoo Gyohten (in *Changing Fortunes ...*, pp. 309-310). The mechanics of external payments adjustment under such an approach were fleshed out by James Ingram in a series of publications of the 1960s and 1970s, which are digested in L.B. Yeager, *International Monetary Relations: Theory, History, and Policy*, 2nd edition (New York, etc.: Harper and Row, 1976), pp. 634-636.
- 18 Concerning this proposal see J. Williamson, "A New Facility for the IMF?", *International Monetary and Financial Issues for the 1990s, Research Papers for the Group of Twenty-Four*, Vol. VII (United Nations publication, Sales No. E.96.II.D.2).
- 19 Concerning elements of an improved system of governance for the international monetary system see E.V.K. Fitzgerald, "Intervention versus regulation: the role of the IMF in crisis prevention and management", paper presented at the conference, *Global Capital Flows in Economic Development*, reproduced as UNCTAD *Discussion Paper No. 115*.
- 20 B. Eichengreen, R. Portes *et al.*, *Crisis? What Crisis? Orderly Workouts for Sovereign Debtors* (London: Centre for Economic Policy Research, September 1995), chap. 5, which served as the basis for a presentation by Eichengreen at the conference, *Capital Flows in Economic Development*.
- 21 The reference of Eichengreen and Portes to suspension of debt-service payments on domestically issued short-term debt instruments of the Mexican Government in this context points to the blurring of traditional distinctions regarding foreign and internal debt that has resulted from the global integration of financial markets.
- 22 Concerning the work of the Basle Committee see, for example, *TDR 1992*, Part Two, annex I, and *TDR 1995*, Part Two, chap. III, sect. D.
- 23 For a discussion of this proposal see *TDR 1994*, Part Two, annex to chap. II, sect. D.5.
- 24 The proposal for a capital surcharge was consistent with the approach to the measurement of market risks due to positions in foreign exchange for the purpose of setting banks' capital requirements set out in Basle Committee on Banking Supervision, *The Supervisory*

- Treatment of Market Risks. Consultative Proposal by the Basle Committee on Banking Supervision* (Basle, April 1993). However, this proposal encountered strong criticism from banks (as described in *TDR 1995*, Part Two, chap. III, sect. D.3) and its approach was subsequently replaced by that set out in the Committee's *Amendment to the Capital Accord to Incorporate Market Risks* (Basle, January 1996).
- 25 The *locus classicus* of historical information on forward exchange markets is the work of Paul Einzig, in particular his two books, *The Theory of Forward Exchange* (London: Macmillan, 1937) and *A Dynamic Theory of Forward Exchange* (London: Macmillan, 1961).
- 26 C.R. Taylor, *Options and Currency Intervention* (London: Centre for the Study of Financial Innovation, October 1995). A put grants its buyer the right (without obligation) to sell an asset at a pre-set price (the strike price) to the seller or writer of the option.
- 27 Bank for International Settlements, *Macroeconomic and Monetary Policy Issues Raised by the Growth of Derivatives Markets*, Report prepared by a working group (chaired by Hervé Hannoun, Banque de France) established by the Euro-currency Standing Committee of the central banks of the Group of Ten countries (Basle, November 1994), pp. 49-50.
- 28 The delta of a derivative instrument is defined as the rate of change of its price with respect to the price of the underlying asset. A delta-neutral position is one in which an investor's gain from a change in the price of the underlying asset is offset by a corresponding loss from the change in the price of the derivative instrument (and vice versa). This concept can be generalized to an entire portfolio consisting of several assets and derivative instruments, and is the basis of the portfolio strategy denoted as delta hedging.
- 29 J. Tobin, "A proposal for international monetary reform", *The Eastern Economic Journal*, July/October 1978. In explication of his proposal at various times Tobin himself has put greater emphasis on the increased autonomy for national interest-rate policies that would result from the tax than on consequent reduction of exchange-rate volatility.
- 30 P.B. Kenen, "The Feasibility of Taxing Foreign-exchange Transactions", in M. Haq, I. Kaul and I. Grunberg (eds.), *The Tobin Tax: Coping with Financial Volatility* (Oxford, etc.: Oxford University Press, 1996).
- 31 See, for example, D. Felix, "Financial Globalization versus Free Trade: The Case for the Tobin Tax", *UNCTAD Discussion Paper No. 108*, sect. 3B and annex, which served as the basis for a presentation by the author at the conference, *Capital Flows in Economic Development*. Felix's assertion that the Tobin tax could be expected to reduce currency volatility is related to his belief that such volatility reflects the impact of speculation, and that speculation is carried out mainly through short-term transactions, which are those for which profitability would be most reduced by such a tax (*ibid.*, p. 39).
- 32 H.R. Richards, "Daylight overdraft fees and the Federal Reserve's payment system risk policy", *Federal Reserve Bulletin*, December 1995, p. 1071.
- 33 "The International Stock Exchange of Great Britain", *The Quality of Markets Report*, Winter 1987/1988 (at p. 333, as reprinted in R.W. Kamphuis, R.C. Kormendi, and J.W.H. Watson (eds.), *Black Monday and the Future of Financial Markets* (Homewood, Ill.: Dow Jones-Irwin, 1989).
- 34 J.C. Bogle, *Bogle on Mutual Funds. New Perspectives for the Intelligent Investor* (Burr Ridge, Ill.: Irwin Professional Publishing, 1994), pp. 193-194.
- 35 For a summary of such studies see W.F. Sharpe and G.J. Alexander, *Investments*, fourth edition (Englewood Cliffs, N.J.: Prentice-Hall, 1990), chap. 15, appendix A.2.2.
- 36 S.R. Umlauf, "Transaction taxes and the behaviour of the Swedish stock market", *Journal of Financial Economics*, vol. 33, No. 2, 1993.
- 37 C.M. Jones and P.J. Seguin, "Transactions costs and price volatility: evidence from commission deregulation" (mimeo.), 1996.
- 38 Initial margin consists of the sum in the form of money and securities posted by buyers and sellers of futures upon initiation of contracts. The sum is typically in the range of 5-15 per cent of the price specified in the contract, the precise proportion being related to the contract's volatility.
- 39 Currency swaps (which are to be distinguished from the foreign-exchange swaps mentioned above) involve the exchange of series of payments denominated in different currencies. Under currency swaps, unlike interest-rate swaps, which entail the exchange of payments denominated in the same currency, the payments typically include both interest and the underlying principal.
- 40 Netting refers to the practice of setting off payment obligations between two counterparties so that only a single net payment is made to settle the residual obligation.
- 41 J.E. Stiglitz, "Using tax policy to curb speculative short-term trading", *Journal of Financial Services Research*, 3:1989, p. 14.
- 42 For puts see footnote 26. A call grants the purchaser the right (but without obligation) to buy an asset at a pre-set price (the strike price) from its seller or writer.
- 43 R. Dornbusch, "Cross-border Payments Taxes and Alternative Capital Account Regimes", paper prepared for the Group of 24, 1995 (to be published in UNCTAD, *International Monetary and Financial Issues for the 1990s, Research Papers for the Group of Twenty-Four*, Vol. VIII).
- 44 Back-to-back transactions can be illustrated by the example of an arrangement under which one company lends in its national currency to another company or to another company's subsidiary in return for an offsetting loan in the national currency of the borrower for itself or one of its subsidiaries. Such an arrangement enables the avoidance of cross-border payments in connection with the loans.

- 45 Melitz has proposed a 100 per cent levy on foreign-exchange profits on positions held for less than one year (with no corresponding tax deduction for losses). J. Melitz, "Comment on the Tobin tax", presented at the conference, *Globalization of Markets: Theoretical and Empirical Challenges and Prospects for Advances in Research*, sponsored by CIDEI, Università di Roma "La Sapienza", 27-28 October 1994 (CIDEI Working Paper).
- 46 Under Buffet's proposal all gains from the sale of stocks or derivatives securities held for less than a year would be subject to the 100 per cent tax. The proposal could be expected to lead to a drastic reduction in the trading of options and index futures. Concerning Buffet's proposal see L. Lowenstein, *What's Wrong with Wall Street? Short-Term Gain and the Absentee Shareholder* (Reading, Mass., etc.: Addison-Wesley, 1988), pp. 86-87 and 200-208.
- 47 As in the case of the surcharge on banks' capital requirements (section F.7) and the Tobin tax (section F.9), countries wishing to attract the business of currency trading would have an incentive to remain outside the agreement.
- 48 Ernst & Young, *International Bank Taxation*, 2nd edition (London: Euromoney Publications, 1993).
- 49 See, for example, the discussion of the taxation of banks' profits in the chapters on Belgium (by J. Buelens and W. Vandenberghe) and France (by N. Dejean) in Ernst & Young, *op. cit.*
- 50 The following characterization of the foreign-exchange market in a book by a currency trader brings out well relevant features in this context: "... the foreign-exchange market was never incorporated or chartered to perform any specific functions. To this day it has no headquarters and no official bureaucracy. The centers of this market remain diversified, and to a large degree its operations are improvisational. Essentially, there are as many foreign-exchange operations as there are computer display terminals and telephone hookups." A.J. Krieger, *The Money Bazaar: Inside the Trillion-Dollar World of Currency Trading* (New York: Times Books, 1992), pp.210-211.
- 51 H. Kaufman, *Interest Rates, the Markets, and the New Financial World* (New York: Times Books, 1986).
- 52 For example, in the Ministerial Declaration adopted at the conclusion of the Uruguay Round, in December 1993, on the Contribution of the World Trade Organization to Achieving Greater Coherence in Global Economic Policymaking.