

CENTER FOR INTERNATIONAL MONETARY AND BANKING STUDIES

**FINANCIAL INNOVATION, INTERNATIONAL MARKETS,
AND THE CONDUCT OF MONETARY POLICY**

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I. Main features and causes of financial innovation

Financial innovation can be thought of as the result of an investment increasing the financial flexibility of households, firms and intermediaries and providing credit and investment instruments better suited to new demands. Its return is lower costs and greater availability of funds for borrowers; higher returns and liquidity and lower risks for investors; shares of intermediation, margins and fees for intermediaries.

A common feature of many new instruments and channels of intermediation has been that they facilitate circumvention of constraints imposed on financial intermediaries for the purpose of monetary control or solvency protection. Hence, it is not surprising that innovation tends to accelerate at times of high interest rates and restrictive monetary policy, since these raise the opportunity cost of respecting existing constraints. Once innovations have been made, however, in general they do not disappear with their immediate causes, instead becoming permanent features of intermediation. The interaction between market developments and regulatory environment must therefore be recognized as a major determinant of the timing and direction of innovation.

The birth and growth of international banking markets, for instance, was favored by the interest rate ceilings and reserve requirements imposed on commercial banks in national markets; and the introduction of an interest equalization tax in the United States in the early sixties led to the creation of the Eurobond market. In these markets the currency denomination of transactions was made independent of the country where the instrument was created or the contracting parties were resident.

After proceeding relatively slowly during the fifties and sixties, financial innovation picked up during the seventies. The emergence of large imbalances in international payments after the first oil shock led to very rapid growth of international banking activity. Thanks to their increasing size, sophistication and efficiency, international banking markets provided a suitable environment for the development of innovations as well as a driving force in the integration of national financial markets.

With the acceleration of inflation, rising and more variable interest rates prompted international banks to seek ways to reconcile borrowers' demand for medium and long-term finance with investors' preference for liquid assets with low interest rate risk. A solution was found with roll-over credits, i.e. medium-term loans carrying variable interest rates, which permitted them to match medium-term maturities with short-term interest rate risk. Variable interest rates were also extended to the securities market with the introduction of floating rate notes, which helped maintain the flow of savings to the long end of financial markets, since the reduction of interest rate risk makes these instruments liquid in spite of their long maturity.

Rising interest rates led to other important innovations, particularly in the United States. Non-bank intermediaries started to compete directly with banks in the latter's traditional preserve, the provision of monetary services, by offering attractive market-related returns. The creation of money market accounts -- deposit-like instruments carrying money market interest rates -- was the most prominent such development, and it led to large-scale losses of deposits by banks and thrift institutions, which were still subject to interest rate ceilings. Banks countered by introducing money market certificates (non-negotiable time deposits with maximum rates equal to those on

6-month Treasury bills), then NOW accounts (interest bearing checking accounts) and, after the removal of the ceilings on time deposit rates, ATS (automatic transfer) accounts.

Growing competitive pressure on the banking system led the authorities to remove the constraints on the interest rates that banks could pay on their liabilities. Deregulation was thus set in motion by the need to restore banks' ability to compete, and also to eliminate controls which were being increasingly circumvented with consequent distortions in the functioning of financial markets.

In the early eighties financial innovation accelerated sharply in all major international financial centres, with even more far-reaching changes in instruments and services as well as in the structure of intermediation. A number of factors were at the origin of this development.

First, there was a fundamental change in the macroeconomic environment. In all major industrial countries monetary policy was committed to the objective of a lasting deceleration of inflation: it not only turned restrictive, leading to large positive real interest rates, but remained so for several years. Also, more rigid implementation of quantitative techniques of monetary control and uncoordinated policy mixes in major countries led to an unprecedented variability of nominal and real exchange rates. In this unstable and uncertain environment, there was an enormously increased incentive to design new instruments to cope with the risks of financial transactions.

A second factor encouraging innovation was that in the new climate, more favorable to competition and free markets, deregulation of financial markets took on a momentum of its own. National financial markets were opened to foreign investors, firms and intermediaries. Many constraints on the operational scope of intermediaries were also

removed, including increasingly the traditional barriers between different types of intermediary. Deregulation was further prompted not only by the need to modify obsolete regulatory structures, but also by recognition of the key role of financial structures in determining economic performance and the ability to compete on a global scale.

Financial markets responded to the new environment by developing techniques to "unbundle" the different risks of financial transactions: the interest rate, liquidity, currency denomination and maturity of financial instruments began to be separately priced and negotiated on separate markets, with an unprecedented proliferation of possibilities to invest, borrow, hedge or speculate. A larger share of intermediation started to flow through securities markets, which were able to respond rapidly to the demands for new instruments. This is the essence of the process of "securitization", so often referred to by the mounting literature on innovation, which is reflected in the increased share of negotiable instruments in financial portfolios.

Securitization and the shift of intermediation towards direct credit markets found additional impulse in the foreign debt crisis and in the emerging payments imbalances between the main industrial countries. The "flight to quality" by savers and intermediaries seeking outlets for their funds thus coincided with rising demand for funds on international markets by industrial countries' public and private borrowers, which remained creditworthy and had access to the securities markets, reserved to prime borrowers.

Certain changes in the structure of intermediation further strengthened the trend towards securitization. In both the debt and the equity markets, savings were increasingly channeled through institutions such as insurance companies, pension and investment funds. Run by sophisticated financial experts, these institutions do not need the

assistance of traditional intermediaries in managing their portfolios and tend to deal in large amounts directly with investment banks and brokerage houses. Underwriting has also been profoundly modified. The increased volatility of financial markets has made issuers of securities unwilling to wait while large syndicates of underwriters are assembled. That method has been replaced by "block" competitive bidding for newly-issued stock, which greatly increases underwriters' capital needs. Consequently, there has been powerful pressure for concentration on both sides of the market.

Faced with a decline in their traditional business and with more stringent supervisory requirements on the quality of their assets, banks started to look for ways to reduce the need for capital while preserving their share of intermediation. They have thus expanded their activities as suppliers of services in the capital and foreign exchange markets; in particular, they have provided back-up facilities for securities issues and other kinds of financial assistance to their customers that do not increase the size of their balance sheets. The rapid expansion of banks' off-balance-sheet operations is indeed a main feature of financial market developments in recent years.

The increased importance of financial and advisory services in the activities of banks and other intermediaries has also produced another consequence, which, though less visible, may actually be the most important. In today's financial markets where the traditional matching of functions with intermediaries has lost relevance, competition turns basically on intermediaries' ability to create new instruments and operations. These, however, can be quickly imitated, so that no permanent competitive advantage is ever gained. Hence, keeping ahead in the market is strictly linked to a capacity for constant

innovation. Innovation thus becomes a permanent feature of competition in financial markets.

Finally, a major factor facilitating innovation and the worldwide integration of financial markets has been technological advances in communications and data processing. The pricing of instruments, the analysis of continuously updated positions and market developments, the rapid exchange of instruments in unprecedented amounts, would all be inconceivable without the improvement which has taken place in communications and computer technology. This progress has also eliminated space and time barriers between national markets, so that the participants in the main financial centres have basically the same information at the same time. Trading continues around the clock in a global world market in which information is processed instantaneously.

A brief description of the distinguishing features of some of the new instruments will help show how they perform their tasks. Market risk -- that is, the risk of adverse changes in interest or exchange rates -- can be hedged against with contracts such as options, financial futures and forward rate agreements (FRAs). The latter make it possible to fix an interest rate in advance for a set future date, thereby protecting the operator from an undesired level of interest rates on that date. Of course, the same purpose could be achieved by negotiating a deposit or a loan for future delivery. The truly innovatory feature is that FRAs can hedge risks without necessarily involving a lending or borrowing operation, thus separating the financing from the hedging function.

This feature is also shared by options, another instrument to manage interest or exchange rate risk whose market has been expanding very rapidly. An option is a contract conveying the right, but not the obligation, to buy or sell a specified financial instrument at a fixed

price before or at a future date; it is thus possible, for a fee, to limit to a predetermined maximum amount the interest or exchange risk of a transaction.

Market and credit risk can also be managed without changing balance sheet aggregates through resort to a swap. An interest rate swap, for instance, can be used to exchange a stream of floating rate interest payments for one at fixed rates. Both parties in the transaction benefit insofar as they can raise the money they need in the market where they can obtain the best terms, and are then able to convert their loans into the kind of financing they need on better terms and conditions than they could have obtained directly. This example shows that swaps also perform the function of opening markets to borrowers for whom direct access would be more difficult or costly. Swaps have indeed become a main force in promoting the integration of world financial markets.

Note issuance and revolving underwriting facilities (NIFs and RUFs) deserve special mention since they extend the traditional functions of syndicated Euromarket loans. These facilities are back-up credit lines provided for several years by underwriting banks in connection with short-term note issues. Borrowers raise the needed financing through repeated issues of short-term paper, placed with other intermediaries or directly in the market, and only turn to the underwriting banks if their notes cannot be placed or an increase in interest rates makes their placement too expensive. Here again the innovation consists in a separation of functions: finance is provided by sources other than the banks that organize the facility; investors are protected against interest rate risk since they provide finance by purchasing negotiable short-term paper, though they remain liable for the credit risk of the operation; borrowers can rely flexibly on the back-up facility as a liquidity reserve for protracted periods.

II. Implications of innovation for monetary policy

As a result of financial innovation, deregulation and international integration of financial markets, international capital flows have become more mobile and sensitive to fluctuations in interest rate differentials and to changes in expectations regarding exchange rates. As a consequence, the exchange rate takes on a greater role in the transmission of monetary policy impulses, since actual or perceived shifts in relative monetary conditions in major markets lead rapidly to exchange rate changes. The external sector thus becomes more important in determining the effects of monetary policy on actual and expected inflation, relative prices, the level and composition of output.

On the other hand, the different adjustment speeds of the real and monetary "sectors" of the economy imply a tendency for the exchange rate to overshoot. There is thus an increased danger that active use of monetary policy may destabilize exchange rates and, through this channel, the real economy. The increased sensitivity of exchange rates to individual countries' policies also implies that there will tend to be larger spill-over effects on other economies, particularly when the major countries are involved.

Traditional "channels" and instruments of monetary policy have also been substantially affected.

With intermediation concentrating in the banking system, almost everywhere controls on banks -- e.g. reserve requirements, interest rate ceilings, constraints on the growth and composition of banks' assets -- have played an important role in monetary control techniques. Credit rationing mechanisms also enhanced the effectiveness of raising interest rates in checking loan demand, since banks reassessed the financial position and creditworthiness of their debtors

accordingly. The development of close substitutes for bank credit and the decline in banks' share in intermediation have reduced the relative weight of these mechanisms.

Quantitative rationing of bank credit tends to be offset either by recourse to new bank operations that cannot be controlled by traditional instruments or by an expansion of credit from unconstrained financial institutions. More in general, the creation of monetary instruments not subject to reserve requirements and interest rate ceilings tends to decrease the direct "mechanical" impact of monetary base changes on the overall supply of credit and on monetary conditions. Of course, the relevance of this issue may vary a great deal from country to country, and can only be assessed with reference to specific situations and institutional settings.

Indeed, the very notion of monetary policy rests on the existence of "outside" assets (monetary base) whose supply is under the authorities' control. It has been argued that technological innovation, with the reduction in transaction costs it implies, will eventually make the demand for monetary base disappear. This line of argument, however, should not be stretched too far. Although transaction costs have come down considerably in recent years, cash is still far from being an economically inefficient means of payment for many categories of transactions. Even in the countries where the new technologies have been most widely adopted, there are no signs of cash disappearing.

It is true, however, that the burden traditionally placed on banks for prudential and monetary control purposes has contributed to making bank credit relatively less efficient compared with other forms of financing. Bank customers have been induced to seek alternative sources of funds.

It is difficult to predict how much further bank disintermediation will run. It has been suggested that the erosion of banks' market share will soon reach a limit because of the specific information content of bank credit. According to this view, credit granted by banks rests on information that is both more detailed and more confidential than that freely available in the market. Certain categories of borrowers, it is argued, have no alternative to bank credit, since information asymmetries and transaction costs prevent them from going directly to the market.

Historically banks have also indirectly produced information through their lending, but there are indications that the situation is changing. Credit-rating companies are spreading through financial markets, providing an alternative solution to the information problem. Banks themselves are taking steps to mobilize their assets: "loan stripping" in the United States already contains the potential for creating a secondary market for bank loans.

Altogether, there seems to be little doubt that the reduced role of direct controls on the banking system will not be reversed even if bank disintermediation stops tomorrow. In general, the ability of intermediaries to cushion and absorb restrictive impulses is likely to have increased, and monetary control has probably become less precise as regards the results its instruments will produce as well. Indeed, the very definition of "money" becomes considerably more uncertain, and reference in monetary control procedures to specific monetary or credit aggregates as intermediate targets becomes more difficult and liable to errors of judgement. Therefore, monetary policy will have to rely more on indirect, interest-rate mechanisms to achieve its objectives.

The consequences of innovation for the effects of interest rates on the interest-sensitive components of aggregate demand are also

debated. In principle, wider recourse to variable rate financing and to the new risk management techniques makes the financial system more responsive to the actions of the monetary authorities. Changes in the interest rates under the authorities' control are reflected more rapidly and fully in the whole structure of interest rates. In particular, rising interest rates will spread to a larger share of outstanding debt and hence affect debtors' cash flows more quickly. Leveraged borrowers may thus encounter liquidity problems, which would intensify the restrictive impact of monetary policy and the responsiveness of aggregate demand to interest rate increases. In some cases this may actually become a constraining factor on the willingness or ability to tighten monetary conditions, when the potential adverse repercussions on cash flows and liquidity assume macroeconomic proportions. We may recall in this regard the direct influence played by developing countries' debt difficulties on US monetary policy in certain recent periods; similarly, in some countries the presence of a large stock of public debt carrying floating rates has made their central banks more wary of large rises in interest rates.

On the other hand, some of the effects of financial innovation tend to weaken the interest rate link between monetary policy and the real economy. The greater flexibility of the new financial instruments has made it possible for an increasing number of non-financial enterprises to engage in liquidity management. Debtors may thus be partially shielded against rising interest rates. Moreover, monetary policy can rely less on locking-in effects: in the past, when interest rates were "high" and thought likely to remain so only temporarily, the private sector was induced to postpone its borrowing decisions for fear of being "locked in" at the higher interest rates. Extensive recourse to floating rates makes this behavior less common.

Consequently, even though monetary impulses spread through the financial system more rapidly, they may be attenuated by portfolio adjustments. Monetary authorities will find it harder to influence interest rate differentials. In particular, the presence of monetary assets carrying market yields will make it difficult to induce a shift in money demand via interest rate control.

What ultimately matters, of course, is whether monetary policy alters the relative rates of return on financial and real assets. If so, monetary policy will continue to have an impact on aggregate demand, with increased financial flexibility tending to reduce its effects and increased sensitivity and ability to react to interest rate changes of agents and markets making for greater responsiveness.

III. Implications of innovation for systemic stability

As I recalled earlier, financial innovation can be regarded primarily as a market response to the specific needs of certain categories of operators and to their interaction with external constraints on intermediaries. Thus in general innovation will increase the micro-efficiency of financial markets, by allowing economic agents to match their financial assets and liabilities more closely to their preferences, objectives and expectations. But it may also entail a rise in systemic risks and instability, particularly since innovation has led to the erosion or removal of a number of regulatory provisions designed to enhance the stability and solvency of intermediaries.

Financial innovation can affect systemic risk in several ways. First, when markets for new financial assets develop at a very rapid pace, precise assessment of the risks involved becomes more difficult,

among other things for lack of a "past experience" yardstick. Market participants will tend to follow rule-of-thumb pricing approaches based on their experience with traditional instruments. This is what happened, for instance, in the currency options market during 1984 and 1985, leading to sizeable losses for many operators.

Competition may also result in risks being underpriced. There is indeed already some evidence of this: for instance, the fees associated with NIFs are generally little more than half those on stand-by commitments associated with commercial paper, even though the two instruments are fairly close substitutes and involve similar risks.

Another important feature of the new instruments is that they are more easily exchanged in the market. As the chain of transactions gets longer, though, it may become increasingly difficult for the last buyer to have an accurate picture of the ultimate debtor's credit-worthiness. A similar "dilution" of the assessment of credit risks occurred in the second half of the seventies for syndicated loans, which were exchanged extensively in the interbank market, thus encouraging many small banks with little experience of international banking to get involved in what seemed a safe and profitable business.

A problem of a different nature arises with instruments such as foreign currency and interest rate options, which involve asymmetrical risks for the parties involved. There is no limit, for instance, on the profit the buyer of an option can make if prices move in his favour, whereas the loss is limited to the premium paid to the writer if prices move against him. By contrast, the writer's gain is limited to the premium, while there is no limit to the loss he can incur, unless of course he too hedges his risk. The development of the options market has been characterized by the presence of a large number

of buyers and a comparatively small number of large institutions acting as writers. Thus, the transfer of risks through this instrument has probably resulted in the ultimate exposure becoming more concentrated.

Whether or not financial innovation is conducive to higher systemic risk ultimately depends on agents' attitudes towards the new techniques. It needs to be recognized that risk remains an inextricable element of financial transactions: somewhere the buck has to stop. Even though some of the new instruments appear to improve individual operators' liquidity and risk position, they do not, and cannot, eliminate risk from financial markets.

Moreover, financial innovation may have somewhat impaired banks' ability to provide liquidity support for other market participants. Besides losing market shares in recent years, commercial banks have suffered a deterioration in the quality of their assets, as their prime customers have switched to the direct credit market and other channels of intermediation offering better terms. They are also more dependent on liability management at market conditions for their own funding. As events at Continental Illinois clearly showed, a bank that relies heavily on liability management while keeping an asset portfolio of less than prime quality is vulnerable to liquidity strains.

IV. The role of prudential regulation and supervision in the face of innovation

In view of the developments I have described, the supervisory authorities are concerned lest a greater share of the risks in the economy should ultimately be carried by the banking system, hence threatening its stability.

In general, the risks connected with the various new operations are similar to those normally associated with lending. However, the commitments associated with NIFs and in general with stand-by credit lines need to be regularly assessed in light of market liquidity and the likelihood of their being drawn on. Besides that of illiquidity, other risks may be involved. In some circumstances a credit risk may materialize, since NIFs and RUFs can involve banks in financing customers that the market has turned down. Interest and exchange rate risks are incurred whenever banks enter into swap, option or forward-rate contracts with the aim not so much of hedging as of taking up open positions. What is relevant is the multiple combination of risks now often found, which makes it difficult to assess the riskiness of individual operations and may cause operators to be unduly optimistic or to accept unprofitable pricing.

I could give other examples, but these are sufficient to highlight the fact that specialist staff and managers versed in the new activities are an essential prerequisite for any bank operating in these markets. Technical know-how is not enough, however. Banks must also set up internal recording systems that classify the new operations according to their type and riskiness so as to permit centralized control of the risks incurred and of their interconnections. The need for such control is, of course, all the greater for bank groups, in which overall exposure must be assessed on a consolidated basis.

In order to determine their overall risk positions, banks have to overcome other difficulties and take further precautions. The liquidity gained by transforming loan contracts into negotiable financial instruments may evaporate at the very moment the funds are required, if market conditions change. Moreover, banks cannot stop

assessing the creditworthiness of borrowers just because the debt is now negotiable -- it is so only if it is highly rated.

The maintenance of stability thus depends as much on banks' ability to develop adequate managerial resources and internal control systems as on their capital strength. The warning issued by the G-10 Governors last September was explicit on this last aspect.

The precautions banks are required to take do not relieve the supervisory authorities of their obligation to scrutinize the new types of business. Prudential returns must be supplemented so that the authorities' assessment can take banks' off-balance-sheet business fully into account. The first response to the problems raised by financial innovation, then, is appropriately modified regulation of what is already regulated, i.e. the banking industry. Indeed, supervisory authorities in various countries have already decided to take account of off-balance sheet operations in the calculation of capital ratios.

Complementary measures covering other financial operators are also required, in order to preserve financial stability and, in addition, to avoid the creation of competitive disadvantages for banks, which would then be confronted with the alternative of losing market shares or circumventing the rule. In general, a decline in the share of regulated business would weaken the overall effectiveness of supervision. Moreover, attempts to improve the stability of an integrated system by concentrating controls on a single part can be frustrated by the possibility of crisis situations spreading from other, unregulated parts of the system. Financial conglomerates, of course, are particularly vulnerable in this respect. Finally, setting prudential ratios at consolidated level is only feasible with certain group structures and within the framework of specific supervisory regulations. Such ratios

become less and less satisfactory as more non-banking activities are included.

It ought therefore to be recognized that deregulation in the banking industry proper needs to be accompanied by enhanced controls in other parts of the financial system now subject to little or no regulation.

In countries with a highly integrated financial services industry, considerable interest has emerged in functional, as opposed to institutional, supervision. Under functional supervision a given activity is always subject to the same set of controls, regardless of the financial institution involved. Even under this approach, however, effective supervision would still require as a minimum that within each financial institution the different activities should be managed by separate departments.

An alternative approach would be to try to maintain a separation via regulation between markets and intermediaries providing different services. The need for transparency and effectiveness in banking supervision is indeed an argument in favor of this approach, especially when the services provided are quite distinct. Conceivably, access to a given market could then be made conditional on meeting certain requirements, to be assessed through an authorization procedure. Rules and controls would obviously have to be tailored to the specific features and requirements of each single market. Indeed, it is not possible to identify general, universally valid solutions to these problems, since they inevitably depend on existing institutional structures.

Controls on non-bank operators could be less thorough than those on banks, while still providing a minimum of protection for savers. Furthermore, as already mentioned, the regulatory system as a

whole must ensure that in each market similar competitive conditions prevail for all operators. In a system of this kind risks of contagion within a group can be minimized by establishing capital requirements for each operator.

Both the functional and the compartmentalization approaches leave open a number of issues with no ready solution.

The need for a comprehensive vision of financial groups is satisfied only in some cases, e.g. by the "bank holding company" model established in the United States and the banking groups subject to consolidated supervision under EEC regulations. We have in fact already experienced cases in which no authority was responsible for supervising an entire group, or was even in a position to do it.

Problems of cooperation and coordination also arise at the national level among authorities with different supervisory responsibilities and purposes. At the international level, of course, there is the added complication of different national legislative frameworks.

Banking supervisors have had considerable experience with difficulties of this kind. Since the seventies they have been working on allocating responsibilities in the supervision of banks' foreign establishments. After twelve years, and thanks to the work of the Basle Supervisors' Committee, a solution has been found in principle, though its implementation is not yet complete.

V. Concluding remarks

Financial innovation and the worldwide integration of financial markets are confronting monetary and supervisory authorities with major challenges. It is fair to say that we have only just begun to

appreciate their scope: an important contribution in this regard has been provided by a comprehensive study prepared, under the aegis of the Bank for International Settlements, by a study group of central banks chaired by S. Cross of the New York Fed, which was published a few days ago.

The changes under way in our financial structures provide for reduced costs and larger and more flexible availability of financing. Unprecedented opportunities are available to borrow and to invest and profitable new businesses are open for intermediaries. At the same time, these changes entail risks of increased systemic instability. New instruments are changing risk management fundamentally, and the perception of this may yet not be as full as desirable.

What attitude, then, should monetary and supervisory authorities take in the face of these developments? Of course, I cannot provide exhaustive answers, only some preliminary thoughts.

One thing ought to be clear. Our financial environment has been permanently altered. These changes are not going to recede. Indeed, as I have argued, there is ground to believe that innovation has become a permanent feature of our environment. Therefore, we have to learn to live with innovation, to cope with the new problems while at the same time reaping all the benefits it provides. Indeed, I see no reason in principle why we should discourage a process that is improving the overall efficiency and effectiveness of our financial structures.

The task for monetary and supervisory authorities is to ensure that this process does not endanger the stability of the financial system. At the micro-economic level, the authorities must seek ways to reduce potential threats to stability without discouraging innovation, first of all by making sure that markets and intermediaries develop a full understanding of the risks involved in new operations and that this

results in appropriate pricing and management techniques for their portfolios. This outcome can be favored by preventing the blurring of dividing lines between intermediaries from going too far. At all events, it is essential that intermediaries develop accounting and management techniques that permit full and separate evaluation of the new risks within their overall activities.

The new risks assumed by the banks have to be explicitly taken into account and included in capital ratios. Ratios must be computed on a consolidated basis in bank groups and must reflect an adequate allotment of own funds to each unit within the group, in relation to its assigned function. Suitable forms of regulation and supervision must be extended to cover all financial operators.

For these controls to work effectively, however, continuous regulatory coordination and cooperation among the various supervisory authorities within each country and internationally are indispensable.

At the macro-economic level, now that inflation is under control in the major industrial countries, maintaining a stable and sound financial framework may mean first of all avoiding the generation of large new shocks with monetary policies.

In the seventies, inflation and instability in the real economy had led central banks to stress quantitative aggregates as intermediate targets and to assign less weight to interest and exchange rate stabilization. Financial innovation has rendered aggregates a less reliable guide for policy and has led to placing greater emphasis on interest rates. Also, the role of exchange rates in the transmission mechanism of monetary policy has increased. The enhanced responsiveness of the financial sector, including international capital flows, and the associated greater uncertainty over the effects of monetary policy, seem

to imply that greater attention should be paid to avoiding excessive oscillations in interest and exchange rates.

One important component of this proposition has to do with international coordination of policies. As is now widely acknowledged, to a significant extent the large misalignments in the exchange rates of the main currencies and the instability in international liquidity conditions of recent years were the result of uncoordinated monetary policies and monetary-fiscal mixes in the major countries. Increased financial integration, capital mobility and exchange rate responsiveness to monetary policy strengthen the need for international coordination in this area, since the potential external repercussions and interactions of national policies are also much greater. Reinforcing cooperation in this regard should thus be an integral part of our policy strategy for maintaining a more stable financial environment.