VIII. The evolution of central banking

Highlights

The last 25 years have been an eventful time for central banking. In the monetary sphere, the period since the breakdown of the Bretton Woods system was dominated by efforts to bring inflation under lasting control after its major global rise in the wake of the first oil shock. In the financial sphere, under the aegis of the central banks of the Group of Ten countries, the period saw the first steps ever in the process of international policy coordination in prudential regulation and supervision and in the oversight of payment and settlement systems. These initiatives formed part of a broader endeavour to strengthen safeguards against instability following several episodes of financial distress and profound changes in the financial environment.

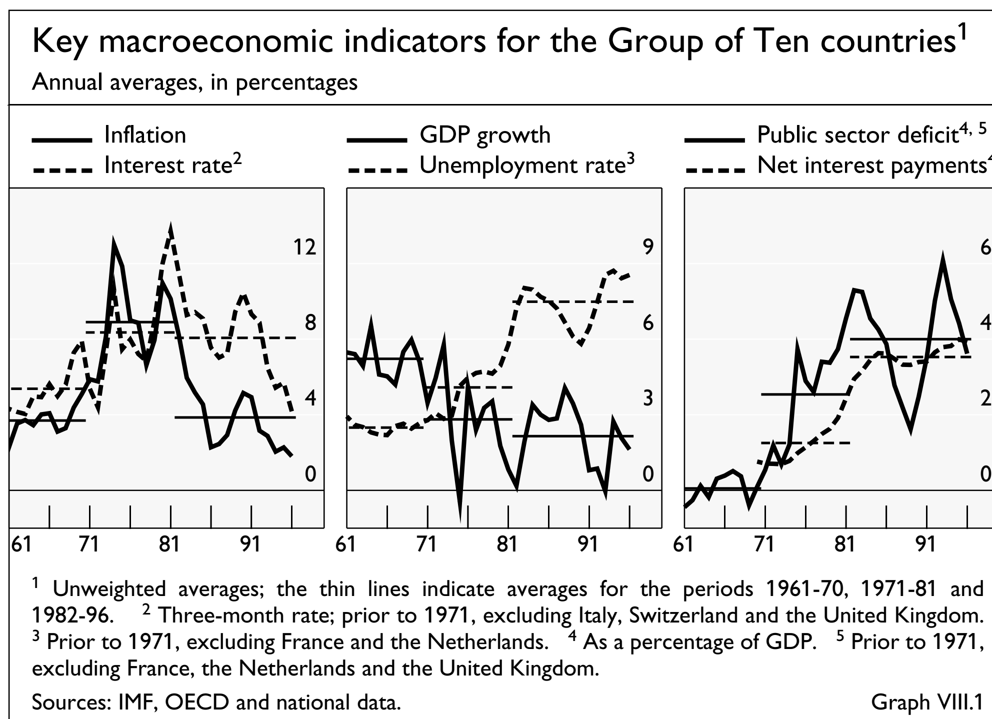
This chapter traces the evolution of central banking since the early 1970s in a historical perspective, so as to better comprehend both ruptures with, and echoes of, the past. The focus is on two objectives, namely monetary and financial stability, as pursued through three tasks, namely monetary policy, prudential regulation and supervision, and oversight of payment and settlement systems. While to varying degrees the objectives have been associated with *central banking* since its inception, not all of the tasks have invariably or exclusively been assigned to *central banks.* The intention is to stress the parallel developments in the conception and execution of the tasks as well as their increasingly apparent interrelationships.

The backdrop, objectives and constraints

Much of the history of central banking during the past 25 years can be seen as an attempt to come to grips with the implications of two new phenomena: the emergence of stagflation in the early 1970s and the radical transformation of the financial environment which gathered momentum in the 1980s under the influence of liberalisation and financial innovation.

Stagflation …

Stagflation challenged the foundations of the prevailing postwar confidence in the maintenance of full employment and in an exploitable trade-off between unemployment and inflation. The stylised response to the first oil shock, consisting of expansionary fiscal policies and accommodating monetary conditions, failed to ensure lasting gains in output or employment. Chronic inflation and the cumulative deterioration in the state of government finances demonstrated to the public at large the costs of monetary instability and revealed the limitations of macroeconomic activism (Graphs VIII.1 and VIII.2). The comparatively successful experience of those countries, such as Germany and Switzerland, which had followed more prudent policies, especially in the



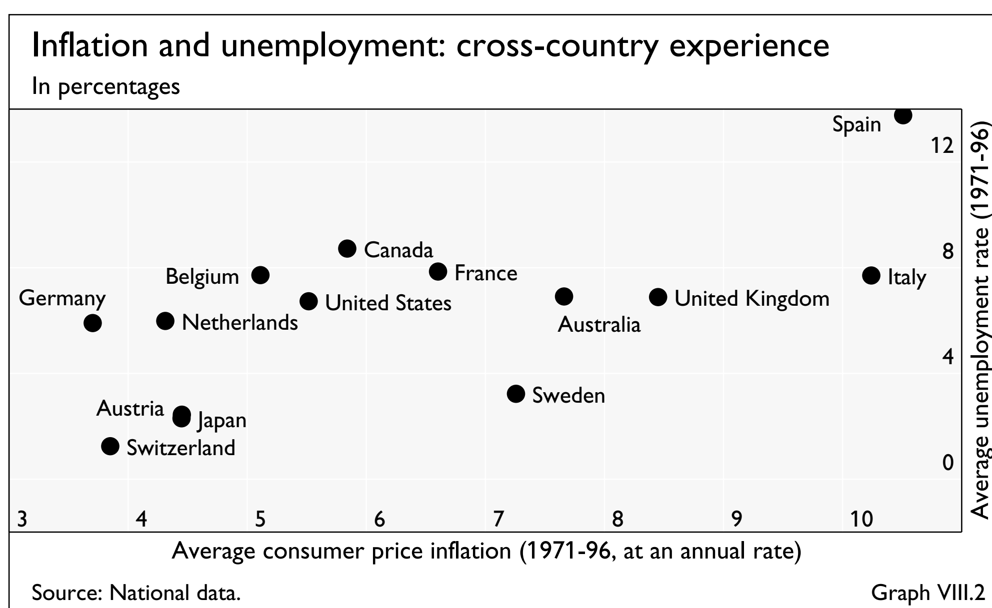
[1] Unweighted averages; the thin lines indicate averages for the periods 1961-70, 1971-81 and 1982-96. [2] Three-month rate; prior to 1971, excluding Italy, Switzerland and the United Kingdom. [3] Prior to 1971, excluding France and the Netherlands. [4] As a percentage of GDP. [5] Prior to 1971, excluding France, the Netherlands and the United Kingdom.

Sources: IMF, OECD and national data. Graph VIII.1

monetary sphere, highlighted the merits of a cautious macroeconomic approach. These developments prepared the ground for a more sober assessment of the power of the state to master economic developments and for a revival of laissez-faire philosophy. They were at the origin of the subsequent determined fight against inflation.

… and the transformation of the financial environment …

The transformation of the financial environment had equally far-reaching effects. Partly the product of the background economic conditions themselves, not least high and variable inflation rates, this process drew strength from the ascendancy of free market philosophy, an acceleration of advances in information technology and conceptual breakthroughs in finance. Its characteristics are by

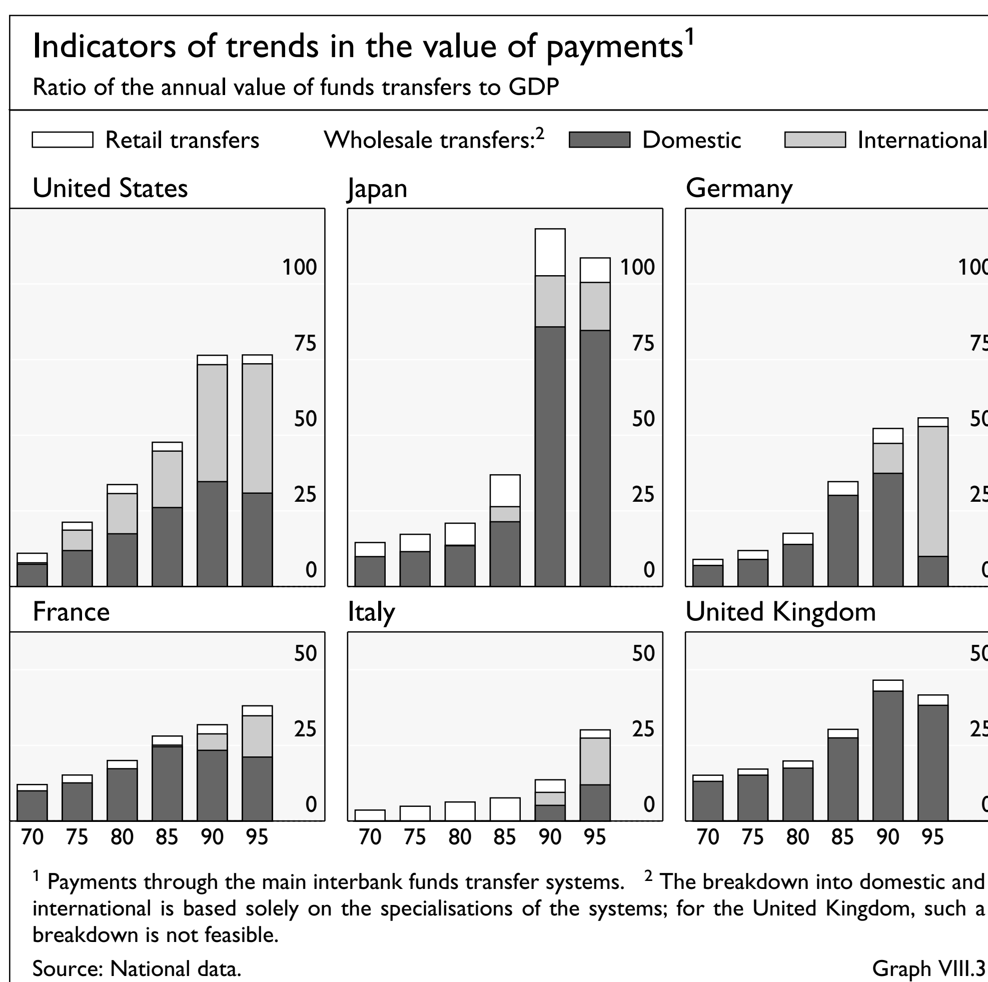


Source: National data. Graph VIII.2

now well-known (see the Bank's 62nd Annual Report): wide-ranging deregulation; a quantum leap in the spectrum of financial instruments and in the breadth and depth of markets; the internationalisation of finance; the institutionalisation of savings; a blurring of distinctions between different types of financial institution and of financial instrument; a major increase in competitive pressures; and a spectacular rise in the volume and value of transactions and hence payments (Graph VIII.3 and Table V.1 in Chapter V). The result was a substantial expansion of the financial sphere in relation to the real economy.

… have a profound impact on central banking

The impact of this expansion on central banking was pervasive. In terms of objectives, it gave renewed prominence to safeguarding the stability of the financial system. The numerous episodes of financial distress that punctuated the transformation of the industry in both industrial and emerging economies underscored the need for this shift in priorities: not since the interwar years had financial instability been so widespread. In terms of focus, the enormous growth in settlement volumes meant that for the first time specific attention had to be given to the liquidity and credit risks that arise in the process of executing transactions. In terms of strategy, the increasing globalisation of finance meant that any action could hardly be confined to modifying domestic arrangements unilaterally; joint international initiatives were called for. In terms of means, in order to be successful the pursuit of both monetary and financial stability had



Indicators of trends in the value of payments[1]

Ratio of the annual value of funds transfers to GDP

[1] Payments through the main interbank funds transfer systems. [2] The breakdown into domestic and international is based solely on the specialisations of the systems; for the United Kingdom, such a breakdown is not feasible.

Source: National data.

Graph VIII.3

to rely on mechanisms that worked with, rather than against, the grain of market forces.

Taken together, these broad developments in the macroeconomic and financial background helped to shape the evolving relationship between central banks, governments and financial markets and hence some of the key constraints under which central banks have operated during the period. From being long stifled by design, financial markets emerged as a powerful force and, potentially, a valuable source of discipline on overly ambitious policies. From this perspective, the renewed efforts by governments and central banks to safeguard financial stability are best seen as an attempt to harness this force and ensure that its discipline is effective. At the same time, the inflation experience drew attention once again to the risks that arise from combining the government's power to spend with weak or no restrictions on its monetary financing. More generally, it confirmed the pitfalls in assigning to monetary policy the pursuit of objectives for which it is not well suited. Accordingly, towards the end of the period the political environment had become more receptive to the desirability of endowing central banks with a somewhat greater degree of autonomy from government and with mandates more clearly focused on price stability.

The conception and execution of the tasks

The profound transformation of the financial environment has meant that the conception and execution of the tasks of safeguarding monetary and financial stability have evolved in similar ways. In each case, the challenge has been to redefine "anchors" or benchmarks to guide policy, taking into account the increasing constraints that result from the growing power of markets to "arbitrage" across currencies, instruments and institutions, as well as across legal, regulatory and tax jurisdictions. Over time, this process has led to a greater emphasis on transparency, market incentives and the credibility of policies.

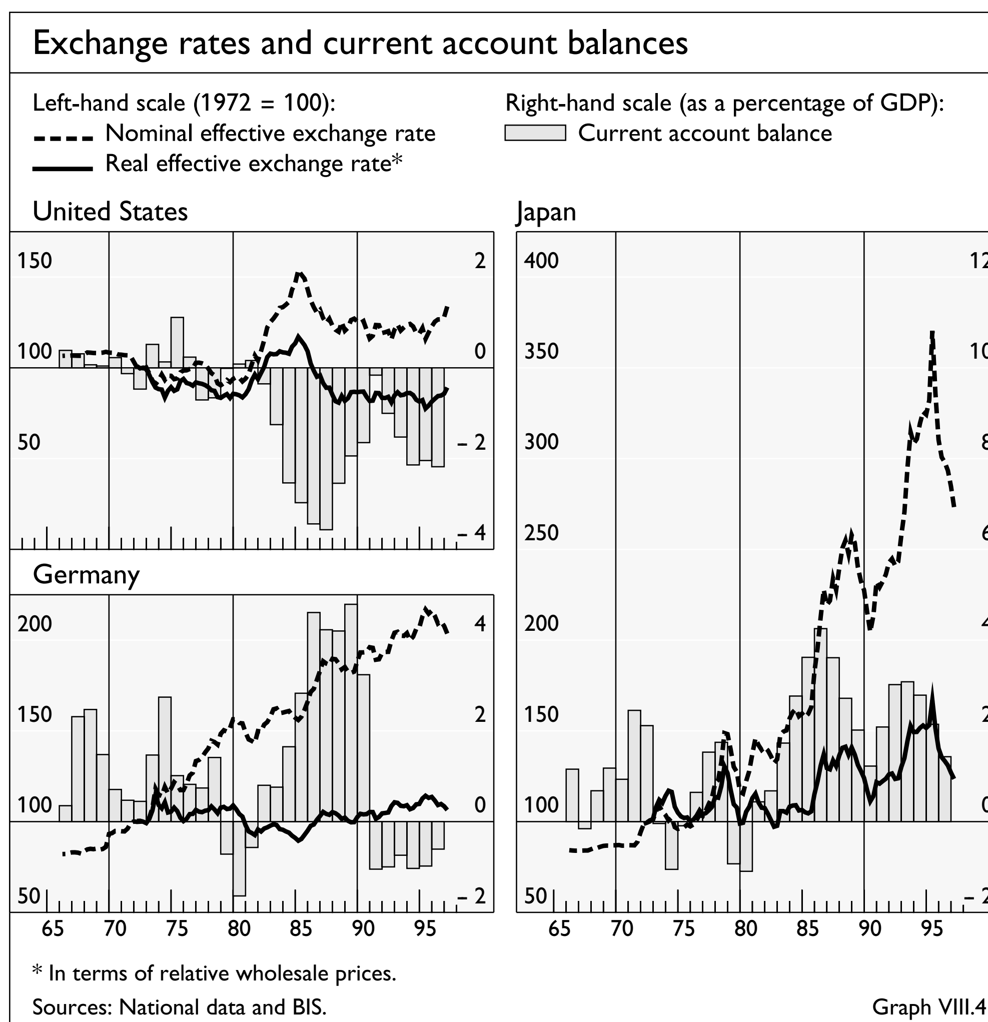
Anchors and arbitrage

Monetary stability:

In the *monetary sphere*, the increasing constraints arising from arbitrage have had a major effect both on the relationship between monetary policies across countries and on their design within countries. The end result has been to raise the degree of interdependence between national policies, to encourage a shift in emphasis from financial quantities to financial prices in their design and to heighten the need for judgement in their execution. These developments have complicated the search for reliable *nominal anchors* aimed at ensuring satisfactory price performance.

financial arbitrage complicates the viability of external …

Increasingly free capital flows posed a double-edged challenge to monetary authorities. On the one hand, they made exchange rate commitments harder to sustain. By the turn of the 1970s, international capital flows had already become a force to be reckoned with and had helped to precipitate the breakdown of Bretton Woods. In subsequent years, especially during the 1980s and early 1990s, they gained in scope and strength, as was vividly demonstrated by the ERM turbulence in the autumn of 1992 and again in the summer of 1993. Technically, the resources that the markets could mobilise at short notice to test currency



parities were far greater than those that the authorities could deploy in their defence. And without resorting to non-market means to limit the rise of interest rates, the economic and political costs of defending an exchange rate peg could easily become unacceptable. On the other hand, under floating exchange rates that same capital mobility appeared in a new guise as a sometimes significant and unexpected constraint on the ability of central banks to pursue autonomous monetary policies. The high sensitivity of capital flows to yield prospects over short horizons on assets denominated in different currencies and their failure to respond adequately to longer-term factors such as relative price competitiveness meant that domestic monetary policies were closely conditioned by exchange rate movements (Graph VIII.4). Similarly, policies designed to influence exchange rates through intervention in foreign exchange markets, without eventually altering interest rates or making broader policy changes, became increasingly ineffective.

Thus, since the early 1970s international monetary arrangements have evolved into a unique historical configuration: virtually unrestricted capital movements now coexist with purely fiat money and a varied constellation of exchange rate regimes. No single “anchor” exists for the system as a whole, such as gold under the gold standard or, de facto, US monetary policy under Bretton Woods. At the global level, there have been only a few high-profile attempts to

limit medium-term swings in exchange rates, most notably the Plaza Agreement of 1985 and the Louvre Accord of 1987, following the major appreciation and subsequent depreciation of the dollar. By undermining the feasibility of heavily managed exchange rate systems, the force of capital flows has complicated the use of exchange rates as nominal anchors by individual, or groups of, countries. Increasingly, countries are effectively having to choose between free floating or substantial monetary integration. The recent moves towards European monetary union can partly be viewed in this context.

… and internal nominal anchors

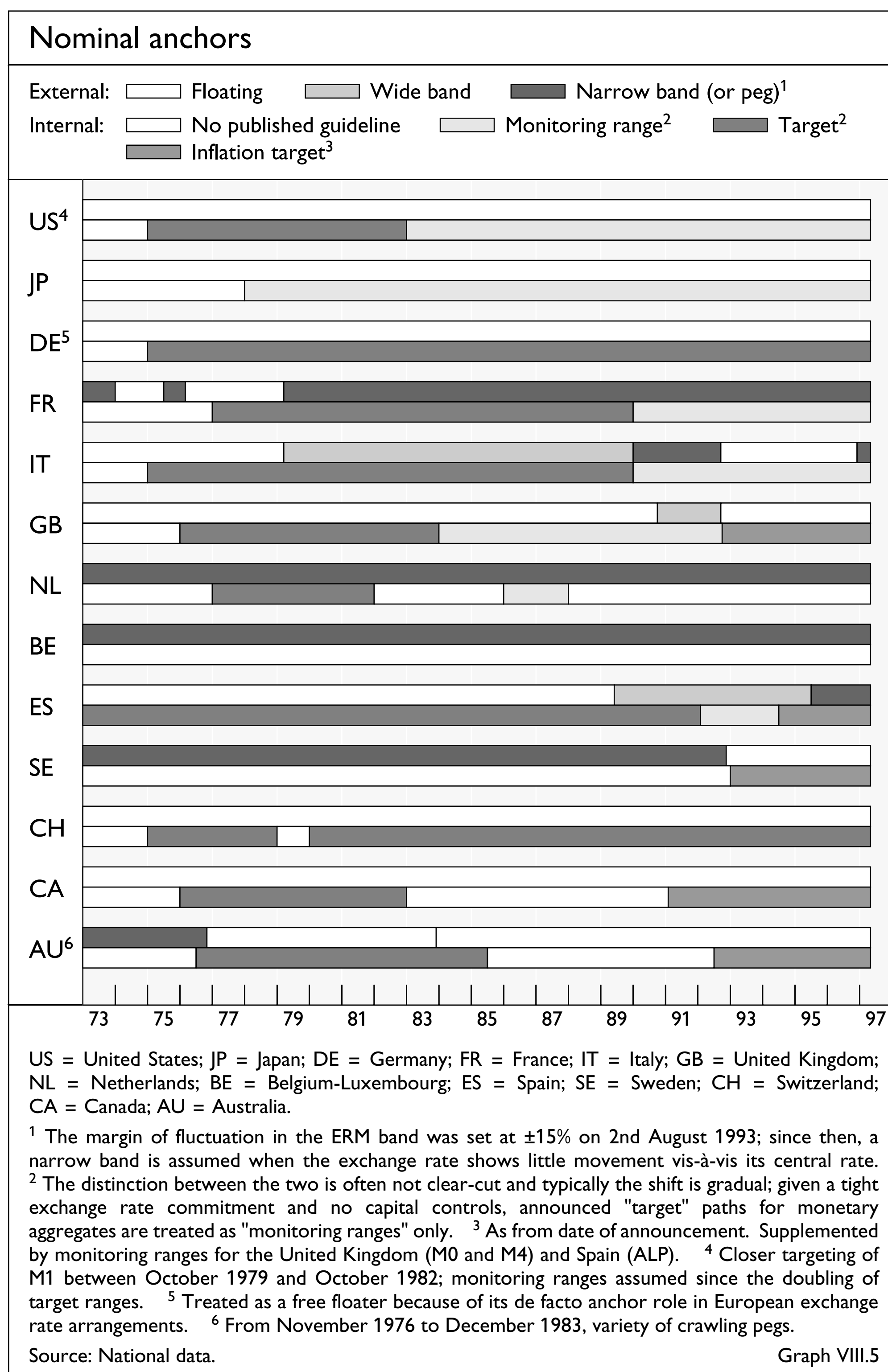
The transformation of the financial environment was equally significant in complicating the choice of nominal anchors for countries not relying exclusively on exchange rate commitments. In particular, it gradually eroded the usefulness of the most popular anchors adopted in the 1970s, namely *monetary targets* (Graph VIII.5).

Monetary targets had a number of functions whose relative importance varied considerably both across countries and according to economic and political circumstances. After a long period in which monetary policies had typically accommodated other objectives, their adoption in some cases underlined the authorities' greater resolve to bring inflation under control. Expressing policy in terms of monetary aggregates rather than interest rates could help to clarify the need for unpalatable and sometimes unprecedented increases in interest rates. When announced as part of a clear framework linking money to prices, as in Germany, the targets could contribute to convergence in inflation expectations. At a more technical level, focusing on nominal quantities rather than interest rates as policy guides was a safer strategy at a time when, because of historically high inflation, it was particularly difficult to gauge inflation expectations and hence the required stance of policy. Such a focus could limit the risk of adjusting short-term interest rates too late and in too small steps, a widespread criticism of previous countercyclical policies, and act as a check on cumulative errors.

In any event, regardless of its specific architecture, a precondition for an effective targeting strategy is a stable relationship between the quantity targeted and the final goal, at least in the medium term; and it is precisely this precondition which was undermined by the quickening pace of financial arbitrage, particularly in the 1980s. While other factors also played a role, the emergence of new instruments and payment technologies, heightened competition, the redefinition of institutional and business boundaries in the financial industry, the increased openness of economies to capital flows and easier access to a wider range of sources of credit were all key forces behind the erosion of previously stable statistical relationships.

Heightened role of asset prices …

In addition to undermining the usefulness of monetary targets, the evolution of the financial environment progressively enhanced the role that financial "prices", broadly defined, could play in influencing the conduct of policy. As indicators of market expectations, their potential value in helping to anticipate market responses or future economic developments grew in line with the greater breadth and depth of markets. As factors capable of affecting economic activity, their heavier weight naturally made it harder to downplay their movements in the setting of policy. As possible causes of financial instability, their large medium-term swings came to command increasing attention. At the same time,



US = United States; JP = Japan; DE = Germany; FR = France; IT = Italy; GB = United Kingdom; NL = Netherlands; BE = Belgium-Luxembourg; ES = Spain; SE = Sweden; CH = Switzerland; CA = Canada; AU = Australia.

[1] The margin of fluctuation in the ERM band was set at ±15% on 2nd August 1993; since then, a narrow band is assumed when the exchange rate shows little movement vis-à-vis its central rate. [2] The distinction between the two is often not clear-cut and typically the shift is gradual; given a tight exchange rate commitment and no capital controls, announced "target" paths for monetary aggregates are treated as "monitoring ranges" only. [3] As from date of announcement. Supplemented by monitoring ranges for the United Kingdom (M0 and M4) and Spain (ALP). [4] Closer targeting of M1 between October 1979 and October 1982; monitoring ranges assumed since the doubling of target ranges. [5] Treated as a free floater because of its de facto anchor role in European exchange rate arrangements. [6] From November 1976 to December 1983, variety of crawling pegs.

Source: National data. Graph VIII.5

the difficulties in interpreting asset price behaviour added significantly to the inevitable need for judgement in policy-making.

As a result of these developments, the search for internal nominal anchors has in some respects come almost full circle. Nowadays, arguably the only major industrial country still strongly emphasising a monetary target is Germany, a country whose financial system, partly by design, has been less vulnerable to change. Even there, the strategy has become harder to maintain. Elsewhere,

monetary aggregates have generally been downgraded to the status of indicators, sometimes with several under observation. Except where there are exchange rate commitments, interest rates have regained their former prominence as the main "symbols" of policy. And the need for discretion in interpreting economic developments to guide policy is regarded as more important than ever. Against this background, the stronger focus on price stability as the longer-term policy objective, sometimes underlined by quantified inflation targets, can best be interpreted as a way of limiting the risk of repeating previous policy errors. In other words, less discretion regarding final objectives can compensate for increased discretion in their pursuit as an anchor for policy.

… regained visibility of interest rates …

… and stronger focus on price stability

Financial stability:

The safeguarding of *financial stability* has been based on two complementary strategies: promoting the soundness of individual institutions through prudential regulation and supervision (the "micro-prudential" level) and improving the robustness of the linkages across institutions and markets (the "macro-prudential" level), primarily by upgrading payment and settlement systems. In each case a particular notion has played the role of anchor, respectively *capital standards* and *timely settlement.*

the key anchors are …

The transformation of the financial industry called for a fundamental revision of the approach to preserving the soundness of individual financial institutions. This could no longer be left to the rigid web of regulations that, regardless of their original aim, had compartmentalised the financial system and provided firms with a comfortable cushion of economic rents. It was the framework of *prudential regulation and supervision* that had to be strengthened to take account of the new freedoms and the risks inherent in a much more competitive environment. The main strategy was to rely more heavily than in the past on capital standards. The underlying philosophy was that firms' capital cushion should be adequate to sustain the risks they incurred.

In contrast to what was occurring in the monetary sphere, the need for active cooperation to establish global anchors in global financial markets was a powerful motivation for joint policy initiatives, all too often triggered by episodes of financial distress with international ramifications. Indeed, common prudential standards were typically first agreed for internationally active banks and subsequently extended to other domestic institutions. The principal vehicle for cooperation has been the Basle Committee on Banking Supervision, established in 1974, initially with a different name, under the aegis of the central banks of the G-10 countries in the wake of the failure of Bankhaus Herstatt, and including as members central banks and other banking supervisory authorities (Table VIII.1). The first steps did not involve capital standards per se, but addressed the need to ensure proper consolidated supervision of internationally active banking establishments and a clear allocation of responsibilities between home and host-country supervisory authorities (Basle "Concordats" of 1975 and 1983). The landmark Capital Accord that followed in 1988 had as its primary objectives strengthening banks' capital cushion and levelling the playing-field across regulatory jurisdictions.

… capital standards at the individual firm level …

The process of arbitrage posed a challenge to each element of this dual strategy. First, the accelerating pace of change in the financial environment called for continuous refinements of prudential standards lest they became obsolete.

Selected joint central bank initiatives: micro-prudential level*		
Year	**Area**	**Summary**
1975	Cross-border banking	*Basle "Concordat".* Establishes guidelines for the division of responsibilities for the supervision of banks' foreign establishments between "home" and "host" supervisors.
1983	Cross-border banking	*Revised Basle "Concordat".* Introduces the principle of *consolidated supervision*. Strengthens the original Concordat so as to avoid supervisory gaps arising because of inadequately supervised financial centres or specific holding company structures.
1988	Capital adequacy	*Basle Capital Accord.* Agreement aimed at securing international convergence of capital adequacy measurement and standards. Addresses explicitly only credit risk. Defines: (a) eligible capital elements; (b) variable risk weights applicable to several main categories of on and off-balance-sheet exposure; and (c) overall minimum capital ratio of 8% of risk-weighted assets, with core (Tier 1) capital – the fully harmonised definition in terms of components – being not less than 4%.
1990	Relations between supervisors	*Exchanges of information between banking and securities supervisors.* Agreement on the need for the progressive removal of barriers to the exchange of prudential information between the two sets of supervisors. Examines ways of facilitating information flows.
1992	Cross-border banking	*Minimum standards for the supervision of international banking groups and their cross-border establishments.* Strengthens the Basle Concordat by introducing minimum standards for certain of its features, notably through conditions designed to prevent the setting-up of cross-border banking establishments not subject to effective consolidated supervision or belonging to opaque conglomerate groups.
1994	Derivatives	*Risk management guidelines for derivatives* (jointly with IOSCO). Sets out guidelines for supervisory authorities and banking organisations designed to promote sound internal risk management of banks' derivatives activities; brings together practices used by major international banks. (Followed up in 1995 by a *framework for supervisory information about derivatives activities for banks and securities firms.*)
1995	Derivatives/ trading	*Public disclosure of the trading and derivatives activities of banks and securities firms* (jointly with IOSCO). Provides an overview of disclosure practices and recommendations for their improvement, stressing the need to make public sufficient information to evaluate the adequacy of risk management systems (builds on 1995 report (see previous item) and draws partly on concepts developed in a 1994 discussion paper on *public disclosure of market and credit risks by financial intermediaries* (*Fisher Report)* by the Euro-currency Standing Committee (G-10 central banks)).
1995	Relations between supervisors	*The supervision of financial conglomerates.* Report by the (informal) Tripartite Group of banking, securities and insurance supervisors examining the relevant issues and making a number of recommendations for the improvement of supervisory practices.
1996	Capital adequacy	*Amendment to the Capital Accord to incorporate market risks.* Establishes minimum capital standards for market risks (those arising from changes in interest rates and equity prices (trading book only) as well as exchange rates and commodity prices). Envisages two possibilities: (a) a standardised method, based on a common risk measurement framework; and (b) an internal model-based approach, which allows banks to use their internal models for the measurement of risk subject to a number of qualitative and quantitative criteria as well as to successful "backtesting".
1996	Capital adequacy	*Multilateral netting of forward value foreign exchange transactions.* An amendment to the Capital Accord effective from end-1995 had extended the recognition of bilateral netting schemes (as mechanisms for reducing credit risk exposures) to all those deemed effective under the relevant laws and in compliance with the minimum standards set forth in the Lamfalussy Report (Table VIII.2). The new document provides guidelines for the establishment of the capital requirement in the case of multilateral netting schemes.
1996	Cross-border banking	*The supervision of cross-border banking.* Report prepared jointly with the Offshore Group of Banking Supervisors containing 29 recommendations aimed at reducing impediments to the effective supervision of cross-border banking.
1997	Interest rate risk	*Principles for the management of interest rate risk.* Consultative paper setting out 12 principles for evaluating the adequacy of banks' management of interest rate risk.
1997	Core principles	*Core principles for effective banking supervision.* Consultative document laying down 25 supervisory principles covering preconditions for effective supervision, licensing and structure of institutions, prudential regulations and requirements, methods of ongoing banking supervision, information requirements, formal powers of supervisors and cross-border banking. Intended as reference for supervisory and other authorities in all countries and internationally.

* Basle Committee on Banking Supervision, whose members are representatives of the central banks and, where applicable, other banking supervisory authorities of the G-10 countries.

Table VIII.1

Part of the arbitrage process had a momentum and direction of its own; but part was also a deliberate attempt to economise on regulatory capital. Advances in financial engineering provided firms with new opportunities to reduce their regulatory capital without necessarily altering, and possibly even raising, their risk exposures. Secondly, as different types of institution increasingly encroached on each other's territory and the overlap between their activities grew, the pursuit of a level playing-field could not be confined to banks. Pressures in this direction came both from supervisors, concerned with the scope for regulatory arbitrage, and from firms themselves, worried about a loss of competitive advantage. Furthermore, the dismantling of other restrictions on banks' operational freedom highlighted the potential influence of capital standards on competitive conditions.

In response to these forces, cooperation was gradually extended beyond banking supervisors to encompass securities and insurance regulators, both nationally and internationally (Table VIII.1). Yet the combined challenges raised by arbitrage made it unexpectedly difficult to reconcile the prevailing laissez-faire philosophy with safeguards against financial instability. Some of the more recent initiatives have attempted to strike a better balance (see below).

The spectacular growth and internationalisation of *payments and settlements* can be regarded as an inevitable by-product of financial arbitrage. Its effect has been to modify the perceived role of the payment system in propagating financial turmoil. Historically, this role had been primarily associated with a generalised flight from one means of payment to another, namely from bank deposits to cash. During the last 25 years, the focus shifted clearly to the credit and liquidity risks incurred in the process of executing transactions. Albeit short-lived, the corresponding exposures sometimes became very large in relation to on-balance-sheet exposures and the institutions' capital. This was especially true for active providers of wholesale payment services. Episodes such as the 1974 crisis involving Bankhaus Herstatt (a relatively small bank active in foreign exchange dealings), the stock market crash of 1987 and the failures of Drexel Burnham Lambert in 1990 and Barings in 1995 are just a few of the incidents that underlined the potential of payment and settlement systems for transmitting and amplifying financial difficulties.

As the institutions typically in charge of overseeing the payment system, central banks were naturally well-placed to orchestrate a policy response. Just as in the case of prudential supervision, international cooperation by the G-10 central banks played a crucial role in advancing a common understanding of the issues, in identifying lines of action and in promoting initiatives (Table VIII.2). The anchoring principle in this case has been "timely settlement". The underlying logic is that securing the final settlement of transactions removes a major additional source of uncertainty in the financial system and can limit the excessive concentration of exposures on providers of settlement services. Through these channels, it can contribute to distinguishing temporary liquidity difficulties from underlying solvency problems and to containing the spread of financial strains.

… and timely settlement at the system-wide level

Guided by the notion of timely settlement, policy has paid specific attention to four interrelated areas of particular concern: large-value interbank funds transfer systems (LVTS), and the settlement of securities, foreign exchange and derivatives transactions (see the 64th Annual Report). Depending on the specific

Selected joint central bank initiatives: macro-prudential level		
Year	Area	Summary
1990	Interbank netting	*Report of the Committee on Interbank Netting Schemes of the central banks of the Group of Ten countries (Lamfalussy Report).* Recommends a set of minimum standards for the operation of cross-border multicurrency netting schemes and sets out the principles of cooperative central bank oversight. Stresses the need for a well-founded legal basis and well-structured mechanisms for the management of credit and liquidity risks. At a minimum, such systems should ensure timely (daily) settlement in the event of the failure of the participant with the largest single net debit position. Basic blueprint for all subsequent multilateral netting schemes, including purely domestic systems (builds on a 1989 report).
1992	Securities settlement	*Delivery versus payment in securities settlement systems (G-10).* Defines and analyses the types and sources of risk associated with securities settlement between participants in a single settlement system. (Followed up in 1995 by a report on cross-border securities settlement.)
1993	LVTS	*Minimum common features for domestic payment systems (EU).* Sets out minimum standards for LVTS and recommends the adoption as soon as possible of an RTGS system into which as many large-value payments as possible should be channelled. In line with this philosophy, in 1994 the EMI sets out a project to link domestic RTGS systems (TARGET), followed up by a detailed report in 1995.
1994	Electronic money	*Report on prepaid cards (EU).* Analyses this new payments technology and recommends that only credit institutions (banks) should be allowed to issue multipurpose prepaid cards.
1996	Forex settlement	*Settlement risk in foreign exchange transactions (G-10).* Provides a clear definition of foreign exchange settlement risk, a corresponding method for its measurement and a strategy for reducing it. The strategy involves encouraging action by individual banks, industry groups and central banks.
1996	Derivatives markets	*Proposal for improving global derivatives market statistics (G-10).* Sets out a detailed proposal for the regular (semi-annual) collection and publication of statistics on OTC derivatives (follow-up to a 1995 report).
1996	Electronic money	*Implications for central banks of the development of electronic money (BIS).* Analyses the policy issues of particular concern to central banks, including those related to the oversight of payment systems, seigniorage, monetary policy and banking regulation and supervision.
1997	Securities settlement	*Disclosure framework for securities settlement systems (G-10 and IOSCO).* Encourages transparency in the operation of securities settlement systems so that participants have a clearer understanding of their rights, obligations and risk exposures.
1997	LVTS	*Real-time gross settlement systems (G-10).* Addresses the risks involved in, and the design of, RTGS systems.
1997	Derivatives settlement	*Clearing arrangements for exchange-traded derivatives (G-10).* Describes the structure of existing clearing arrangements and identifies potential weaknesses. These can include the inadequacy of the resources of clearing organisations in the event of member defaults following large price movements, a lack of intraday controls on members' positions and the use of payment arrangements not providing for timely intraday settlement.

Table VIII.2

role played by individual central banks in each area in the various countries, the type of action has ranged from encouragement of private initiatives to direct implementation of the necessary measures.

The soundness of LVTS, the linchpin of modern payment arrangements, has been strengthened by promoting the introduction of real-time gross settlement (RTGS) and the upgrading of multilateral net settlement systems. In the latter case, the adoption of loss-sharing and backup liquidity mechanisms aimed at ensuring settlement of the system in the event of failure to settle by individual institutions has been particularly useful. Improvements to the safety of securities settlement systems have relied mainly on a shortening of the time interval between trading and settlement and on the introduction of delivery versus payment, which eliminates the sizable capital risks to counterparties arising from the possibility that only one of the two legs of the trades will be completed. With respect to foreign exchange transactions, a key first step has been

to encourage individual banks to manage their settlement exposures more effectively. In addition, central banks have followed a two-pronged strategy: they have promoted the netting of trades and the establishment of well-structured private multicurrency settlement mechanisms, notably based on the application of variants of payment-versus-payment procedures; and they have supported these schemes by improving the domestic LVTS ultimately used to settle the trades. More recently, central banks have drawn attention to potential weaknesses in the clearing of derivatives and suggested ways of eliminating them, not least through specific mechanisms for securing timely intraday settlement.

Information, incentives and credibility

The raw material of markets is information; their dynamic is the pursuit of individual profit. Given the greater reach and vigour of market forces, in implementing policies diktat increasingly had to give way to inducement. Markets could not be told what to do, they had to be given good reasons for doing it. Hence the progressive shift towards transparency and attention to incentives and credibility.

Monetary stability: the increasing power of markets puts a premium on …

For *monetary policy*, the growing sanctioning power of financial markets has influenced the trend towards improved transparency at various levels. As regards objectives, the markets', and in particular bondholders', ingrained aversion to inflation gradually encouraged the adoption of more explicit anti-inflation commitments. Concerning strategies, those commitments had to be shown to be supported by consistent plans. Regarding tactics, clear signals of the intended policy stance became ever more important in ensuring its control. To be sure, the significance of transparency as a means of influencing behaviour goes well beyond its impact on financial markets. Transparency about objectives and strategy can be helpful in guiding the decisions of all economic agents and in securing the necessary support for policies from the public at large. It is also a precondition for political accountability, especially important for central banks enjoying a comparatively greater degree of autonomy. Nevertheless, it is financial markets that most require transparency for their immediate profit/loss calculations and that can make their influence felt most strongly, not least through their impact on interest rates and exchange rates.

… transparency …

… market incentives …

The shift towards greater transparency in objectives and strategies which has taken place during the 1990s has probably been most pronounced in those countries that have adopted explicit inflation targets (Graph VIII.5). Invariably, this shift has gone hand in hand with greater transparency about the set of information underlying decisions and about central bank views regarding the transmission of policy impulses. In some countries, including the United Kingdom and New Zealand, the process has encompassed the publication of the central bank's inflation forecasts themselves. More generally, the shift has been even more widespread, if perhaps less conspicuous, in day-to-day policy implementation. Its purpose has been to reconcile a stronger market orientation of policy, as exemplified by reduced reliance on standing facilities and reserve requirements, with maintaining close control over the short-term interest rates serving as operating objectives. Increased transparency about the interest rate levels desired by the authorities has taken two forms. One is the explicit

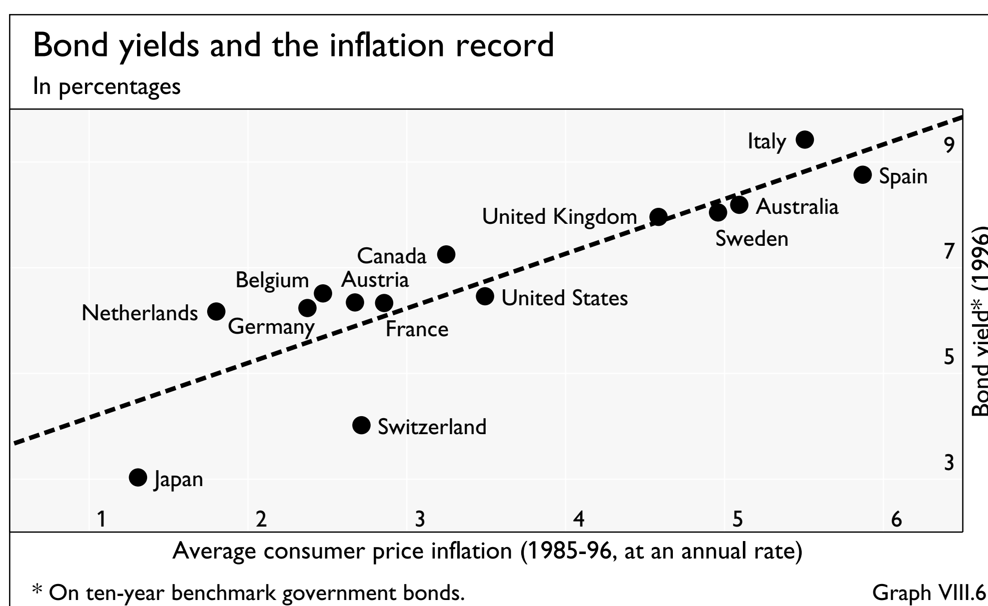
announcement of targets for operating objectives, be these point targets (Australia and the United States), specific ranges (Canada) or broad indications of appropriate levels (most recently, Japan). The second has been a revealed preference for tender techniques which make the central bank's decision regarding interest rates clearer, such as fixed rate as opposed to flexible rate tenders; this is the case in most continental European countries.

… and credibility

By itself, however, transparency is not sufficient to influence behaviour. Its effectiveness is conditional on the credibility of the information disclosed. And that credibility can only be gained over time, through a correspondence between the information and the facts. A signal of policy intentions regarding interest rates loses its value if subsequent actions fail to conform to it. Putting forward an official view of the functioning of the economy or the sustainability of policy, unless it is already shared by the markets, can have only a limited effect without corroborating events. Admittedly, a declaration of a firm commitment to price stability is more likely to be believed if the overall policy is seen to be consistent with it. But over time, regardless of the sincerity of the commitment and even of confidence in its sincerity, its beneficial effects on the markets will not materialise unless the authorities repeatedly deliver. The close correlation across countries between the level of long-term interest rates and the historical inflation record is a clear reminder of this relationship (Graph VIII.6).

The role of central bank autonomy

The close link between consistent performance and credibility has put a premium on arrangements designed to contain the risk and costs of central banks' failing to deliver. Ultimately, this is the role of recent measures giving central banks greater autonomy or "independence" together with political mandates more clearly focused on price stability (Table VIII.3). Their function is to make central banks less vulnerable to possible pressures to test the limits of monetary policy in pursuit of transient employment or output gains. Such pressures are only natural in an environment in which the gains are typically quick to materialise, the lasting inflationary consequences take time to appear, and the inevitable uncertainty created by the changing structure of the economy can



* On ten-year benchmark government bonds.
Graph VIII.6

Central bank autonomy: selected developments*		
Country	**Year**	**Summary of developments**
Belgium	1993	A new law stipulates that the Government cannot oppose central bank decisions in its areas of responsibility, including monetary policy. Credit to the Government is forbidden.
France	1993	New legislation assigns to the central bank the responsibility for formulating, not just implementing, policy and specifies price stability as its objective. The Government cannot give instructions to the central bank or obtain credit from it.
Germany	1994	Cash advances to the Government discontinued.
Italy	1981	The obligation to underwrite Treasury bill issues is abolished.
	1992	The central bank gains autonomy in setting the discount rate.
	1993	Prohibition on granting credit to the Government (previously automatic up to a ceiling); exclusive right to set reserve requirements.
Japan	1997	A bill proposes new statutes: price stability is set as an explicit goal; the Ministry of Finance loses its power to give instructions to the central bank with respect to its business, to carry out inspections, to dismiss its executives and to be permanently represented on its Board. Accountability is increased through regular reports to the Diet, publication of policy minutes and Diet approval of the three top appointments.
Netherlands	1993	The obligation to make current account advances to the Government is abolished.
Spain	1994	A new law grants the central bank autonomy in the formulation and implementation of monetary policy, with price stability as its primary objective. Extension of the Governor's and Deputy Governor's terms of office. The law forbids government financing.
Sweden	1989	New central bank statutes formalise and strengthen the central bank's autonomy: legal responsibility to Parliament rather than to the Government; autonomy in monetary policy decisions; lengthening of the Governor's term of office and reduction of political influence on the appointment.
United Kingdom	1992–1994	The Chancellor asks the central bank to produce an independent assessment of progress in meeting the inflation objectives (1992). The central bank acquires discretion over the timing of changes in policy (interest) rates (as long as they are implemented prior to the following monthly meeting with the Chancellor) (1993). Publication of the minutes of the monthly meetings in which the central bank gives its independent advice to the Chancellor (1994).
	1997	The central bank is given autonomy in setting short-term interest rates; the Government cannot give instructions (except under special circumstances); policy decisions are assigned to a new committee.
United States	1978	The Full Employment and Balanced Growth Act requires the central bank to pursue several objectives, including full employment and production, balanced growth and reasonable price stability. The central bank is obliged to report semi-annually on its progress in meeting the final goals as well as its plans for, and performance in respect of, growth ranges for monetary and credit aggregates (reported quarterly since 1975 on the basis of House Concurrent Resolution 133).

* Similar developments have taken place in several other countries, including emerging economies. Table VIII.3

provide convincing grounds for discounting past experience. In a world where the exercise of judgement is so important for the success of policy, a clear mandate, autonomy of action and procedures to make the central bank accountable for the achievement of the prescribed goal are a better set of mechanisms for ensuring consistent performance than relatively rigid rules. And in a context in which the adoption of fiat money has eliminated a significant line of defence against the pursuit of inflationary policies – the convertibility constraints – buttressing that independence with restrictions on the central bank's ability to grant credits to the government is an important additional policy safeguard. It is considerations such as these, supported by historical experience, that have shaped the constitution of the future European Central Bank.

Financial stability:

In the area of *prudential regulation and supervision* the shift towards greater transparency has been, if anything, even more pronounced. The objective has

an analogous shift in emphasis occurs in prudential regulation and supervision …

been to strengthen the market's ability to discipline individual institutions and to discriminate between them in terms of creditworthiness. These efforts have been especially valuable given that the growing complexity of financial activity has made it increasingly difficult to assess the risks incurred by firms. The main mechanism employed has been to upgrade public disclosure of both credit and market risks, especially those connected with the growing use of derivatives (Table VIII.1). Moreover, as no disclosure interval can be short enough to reflect the speed with which risk profiles can change nowadays, a consensus has been emerging that the content of the information should no longer be limited to a static picture of an institution's economic results, its asset quality and the principal risks faced. Rather, it should enable markets to form a view about the adequacy of risk management systems, in particular by comparing forecasts with outcomes. Similarly, prudential authorities have taken steps to deal with the greater opaqueness of organisational structures due to the rise of complex conglomerates straddling functional, geographical and regulatory boundaries (Table VIII.1).

In addition, policy has begun to pay closer attention to improving market participants' incentives to adopt prudent behaviour. Capital standards themselves fall into this category. Capital not only represents a cushion against losses; it is also a concrete measure of the owners' commitment to a firm's continued existence. By making shareholders more vulnerable to the risk profile of the institution, minimum capital standards can shift part of the responsibility for instilling discipline away from supervisors and onto markets themselves. Furthermore, recent initiatives have tried to strike a better balance between supervisors' and management's judgement of what constitutes an appropriate cushion, thereby also reducing the incentives to engage in regulatory arbitrage. The prime example is the greater role that internal models for the measurement of market risk will be allowed to play in the definition of the capital requirements (Table VIII.1).

… and the oversight of payment and settlement systems

In the macro-prudential field, particularly *payment and settlement systems*, many of the measures already discussed can partly be seen as attempts to increase the transparency of the risks involved in the arrangements and to limit the incentives for participants to take individual action which, even if justified in itself, would be inconsistent with systemic stability. By reducing the pyramiding of exposures connected with unsettled transactions, RTGS can make them more transparent and controllable. At times of strain, delivery or payment-versus-payment mechanisms limit the instinctive tendency to withdraw from trades owing to the fear of counterparty default, thereby containing the risk of market freezes and gridlocks. By allowing settlement to take place despite individual failures, liquidity-pooling and loss-sharing arrangements can further reduce this risk. By the same token, the corresponding greater predictability and transparency of the handling of incipient strains can help to contain their transmission. Recent initiatives to improve disclosure standards for securities settlement systems or the statistics on derivatives markets are a part of the same broad process (Table VIII.2).

Finally, in both micro and macro-prudential areas efforts have been stepped up to mitigate the consequences of those forms of official intervention that

provide agents with protection in the event of distress. Admittedly, such mechanisms can prevent limited liquidity difficulties from giving rise to wider solvency problems. Nevertheless, by insulating agents from adverse outcomes, they can also blunt the incentive to behave prudently (i.e. they can induce "moral hazard"). As a result, in the absence of appropriate safeguards, they can even potentially increase the likelihood of insolvency. These efforts are all the more important given the much greater freedom and compass of market forces in the new environment.

A common strategy has been to attempt to reduce the scope of, often implicit, guarantees on banks' liabilities. This has been done either by introducing explicitly restricted insurance schemes for retail depositors or by tightening existing arrangements. In the United States, the introduction of risk-related deposit insurance premiums, a review of the "too big to fail" doctrine and the implementation of caps and fees on intraday central bank credit were motivated by similar considerations. A complementary approach has been to reduce not the guarantees themselves, but the likelihood that distorted incentives for the authorities will lead to their activation. In particular, some countries have adopted rules to ensure graduated but prompt supervisory intervention, including early closure of weak institutions, so as to limit the risk of forbearance.

At the same time, as with monetary policy, the materialisation of the benefits promised by the aforementioned arrangements for limiting moral hazard is conditional on their credibility. And this credibility is only in part a function of specific legislation and regulations. In the final analysis, it depends on the actual conduct of the authorities in the event of a crisis. At a minimum, this calls for a judicious and selective use of the central bank's ultimate control over liquidity, a use which can only be based on an intimate knowledge of market mechanisms and participants. More generally, it requires consistent action on the part of all the authorities in charge of handling financial distress (see the 63rd Annual Report).

The interlinkages between the tasks

The last 25 years have not just seen parallel developments in the execution of the various tasks; they have also highlighted their interrelationships. Increasingly, the pursuit of monetary stability has had to consider the implications for policy of financial instability. Similarly, the micro and macro-prudential aspects of the safeguarding of financial stability have drawn closer together. Arguably, these developments have their origin in the combination of fiat money with a weakening of restraints in the financial environment.

The close link between monetary and financial stability …

Historically, there has always been a close relationship between the tasks of securing monetary and financial stability. Its specific manifestation and intensity, however, has evolved with the institutional arrangements providing "anchoring" mechanisms in the monetary and financial spheres.

The link between the two tasks was most obvious under the gold standard. Convertibility into gold acted as both the nominal anchor and the financial anchor. The commitment actually defined monetary stability and was the main constraint on financial, crucially credit, expansion, a constraint that would give way at times

of generalised financial distress. With the gradual emergence of fiat standards in the interwar years, the link between the two tasks became less obvious: monetary stability was progressively identified with price stability; the state's solvency, buttressed by the power to tax, became the sole foundation for acceptability of the currency. Yet the link persisted, in that financial instability continued to be fundamentally related to excessive credit growth as ultimately checked by the regulation of central bank liquidity, both in normal conditions and in the event of strains. Moreover, the new institutional arrangements weakened the constraints on financial expansion, contributing to the widespread instability of the interwar years. Indeed, this experience was generally the motivation for the strict regulation of the commercial banking industry, including the introduction of a variety of solvency and liquidity requirements as well as restrictions on activities. Under Bretton Woods, the monetary set-up was somewhat ambiguous: the de jure convertibility clause for official transactions acted as a nebulous anchor for what quickly developed into a de facto dollar standard. At the same time, the web of regulations imposed on markets and intermediation acted as a restraint on financial expansion, but at increasingly unacceptable costs in terms of economic efficiency.

… evolves historically with anchoring mechanisms

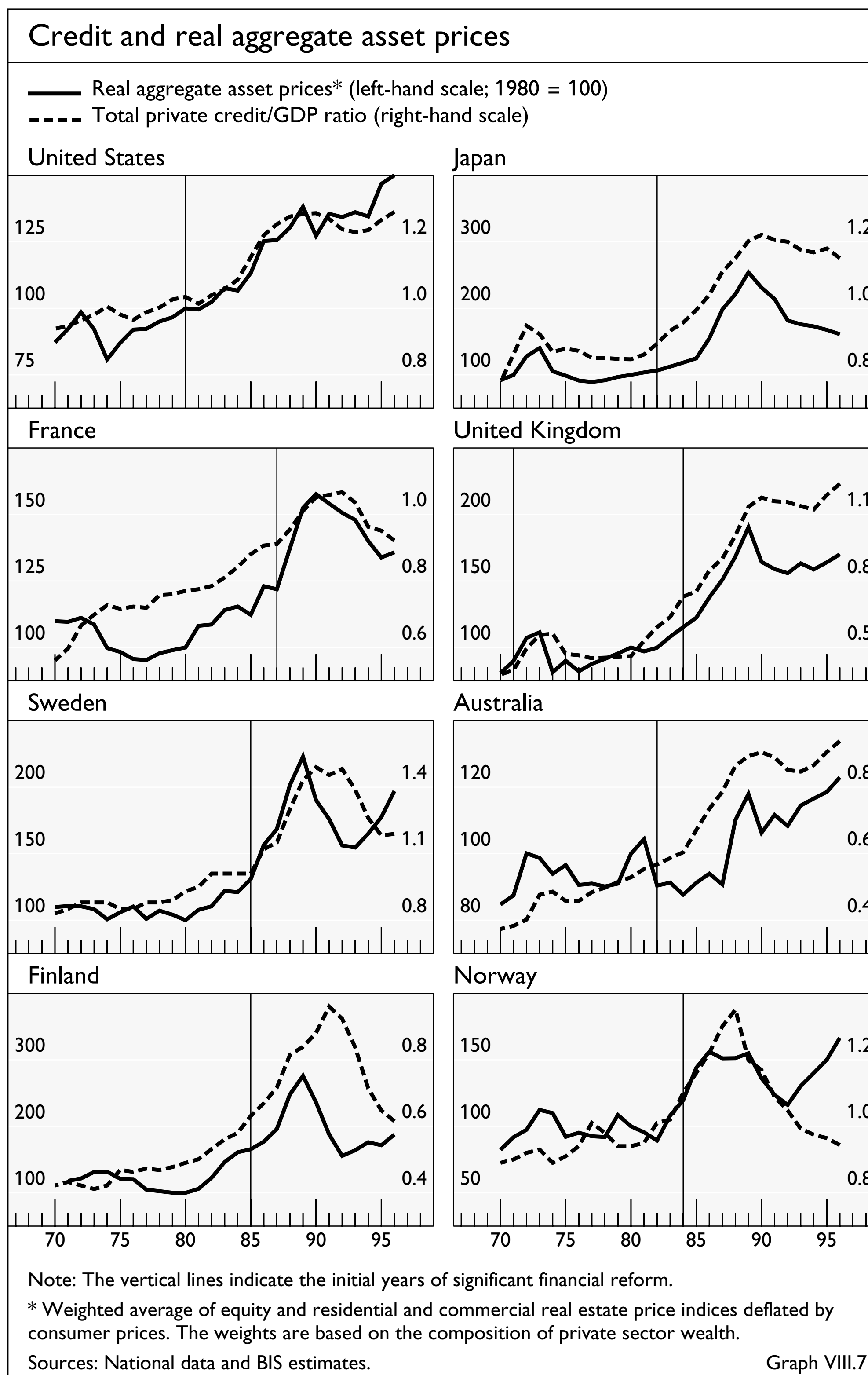
The environment that unfolded from the early 1970s saw a further relaxation of constraints in both the monetary and financial spheres. Fiat money and the willingness to use it to finance deteriorating fiscal positions and in the pursuit of overly ambitious macroeconomic objectives paved the way for the accelerating pace of deregulation and financial innovation. This set the stage for the widespread financial instability observed during the period (see the 62nd Annual Report).

Financial instability since the 1970s: causes …

While inflation is by no means a precondition for financial instability, rising prices contributed to it in several ways, echoing to some extent the experience of the early 1920s: they prepared the ground for the sharp increase in the level and volatility of interest rates and for major swings in exchange rates; they masked the build-up of weakness in banks' balance sheets; and, more generally, they distorted real and financial decisions. Some of the episodes of instability in the 1970s and early 1980s, notably the crisis in the US thrift industry and in lending to heavily indebted economies, can partly be seen in this light. Quickening deregulation in the 1980s facilitated the ensuing credit/asset price spirals that sowed the seeds of financial distress later in the decade, as asset prices reversed direction (Graph VIII.7; see also the 63rd Annual Report). The failure to tighten the framework of prudential supervision in time or sufficiently and to remove the obstacles to the discipline of market forces compounded the financial difficulties. As a result of these developments, the costs of liberalisation proved unexpectedly high. Furthermore, in some countries the need to manage the crises risked leading to more, rather than less, lasting government involvement in the financial industry.

This environment complicated considerably the task faced by the monetary authorities. First, it was actually one of the factors undermining the role of quantitative aggregates as nominal anchors. The rapid expansion of credit and monetary aggregates during the upswing in asset prices against the background of often declining inflation, steady growth and rising real interest rates made

… and implications for monetary policy



Note: The vertical lines indicate the initial years of significant financial reform.

* Weighted average of equity and residential and commercial real estate price indices deflated by consumer prices. The weights are based on the composition of private sector wealth.

Sources: National data and BIS estimates. Graph VIII.7

it harder to interpret policy. Moreover, the potential destabilising effect of this expansion was typically underestimated, as the phenomenon was generally regarded as a benign reflection of the natural "reintermediation" of the system following financial repression. Secondly, once the financial strains surfaced, the policy stance had to take into account the generalised weakness in balance sheets. The impaired solvency of institutions became a significant constraint on economic

activity. The impact of reductions in interest rates on aggregate demand was necessarily weaker and unpredictable, as it operated more indirectly, in part via the induced build-up in financial strength. Finally, the monetary authorities sometimes faced a dilemma between the contrasting needs of the real economy and inflation control, on the one hand, and financial stability, on the other. In some of the countries experiencing the sharpest asset price increases, the tightening of policy consistent with stability in asset markets risked excessive contraction in the product markets. The case of Japan, where evident signs of speculative excesses in the late 1980s coexisted with low inflation, is a possible illustration.

Increasing linkages between micro and macro-prudential tasks

The transformation of the financial environment also began to erode some of the specific distinctions between prudential supervision and the oversight of payment and settlement systems. Traditionally, albeit to an extent that depended on the institutions' business, prudential supervision and regulation had paid comparatively little attention to the risks incurred in the process of facilitating and managing the trading and settlement of transactions. This had been especially true for banks, which in comparison with securities firms had been less involved in trading. As banks became increasingly active in trading and awareness of the risks involved in the settlement process grew, prudential regulation and supervision began to attach greater weight to these potential sources of insolvency. A more careful treatment of the credit risks connected with unsettled trades and the definition of criteria for the recognition of contract netting for capital adequacy purposes are just two examples of a process which is bound to continue (Table VIII.1).

The policy challenges

Mutually reinforcing policies in the monetary and financial spheres

The key challenge in the years ahead will be to continue to adapt policy to the rapidly changing environment in order to preserve monetary and financial stability. Given the intimate connection between the two tasks, this will call for mutually consistent and reinforcing policies in the two spheres. Owing to the reach of the transformation under way, developments in the financial system will play a major role in shaping policy. The foregoing analysis indicates that the principles that should guide adjustments in the policy framework seem to have been correctly identified. Nevertheless, much more needs to be done in order to consolidate existing gains and forestall future problems.

Monetary stability

In the monetary sphere, no single anchor for the world as a whole is likely to emerge in the foreseeable future. Given the prospective economic and political conditions, it seems unlikely that there will be a successor regime to Bretton Woods. In addition, the trend towards full external convertibility and the expansion of financial markets will further tighten the constraints on national monetary policies, regardless of the specific choice of anchoring mechanism. Taken together, these developments put a premium on the adoption of institutional safeguards aimed at supporting the pursuit of global price stability while at the same time minimising the risks of disruptive exchange rate movements.

Price stability and central bank autonomy and accountability

As confirmed by recent policies, the best safeguard is arguably a political mandate to pursue price stability allied with autonomy in the execution of the assignment and accountability for the achievement of the objective. Nevertheless, these arrangements are hardly sufficient. Stability in the domestic and international value of national currencies calls for supporting policies in other areas, notably sustainable fiscal positions and greater flexibility in labour markets. History indicates that lasting control over inflation, no less than the preservation of central bank autonomy, requires a broad consensus of public opinion. That consensus can best be maintained by a realistic appraisal of the power and limitations of monetary policy, but ultimately rests on actual performance with respect to inflation, growth and employment.

Need for judgement …

As regards strategy, the ever-changing financial environment and real economy can be expected to continue to make heavy demands on judgement in the pursuit of the final objective. In the process, central banks will constantly need to reassess the impact of the evolving situation on the design and implementation of policy. Recent work on the policy implications of the growth of derivatives markets and the emergence of electronic money by the G-10 central banks is an example (Table VIII.2). Prospectively, and assuming supporting changes in accounting technology, one development which may have far-reaching implications for policy implementation is the trend towards ever-shorter settlement lags, facilitated by the widespread introduction of RTGS. It is possible to imagine a futuristic scenario in which 24-hour trading and real-time settlement in various currencies could help to blur the present neat distinction between "intraday" and "overnight" central bank credit. This could necessitate a redefinition of key maturity intervals and implementation strategies as a continuous yield curve spanning "intraday" and longer maturities emerges.

… flexibility …

… and a forward-looking approach

The rapid expansion of markets is likely to tilt the balance further towards reliance on transparency in policy implementation as a means of guiding market expectations. The challenge here is to ensure that transparency is not pushed to the point where it might actually hamper the flexibility needed to respond to unexpected developments. One risk is that conspicuous but desirable reversals in policy rates may be delayed and their size restricted for fear of confusing markets, inducing volatility or losing credibility. Limiting this risk calls for a sufficiently forward-looking strategic policy focus. The recent greater willingness shown by some central banks to raise interest rates before seeing increases in *recorded* inflation is a sign of such a pre-emptive approach. This approach might also be usefully supplemented by efforts aimed at preparing financial markets to expect a more flexible policy concerning interest rate adjustments, thereby forestalling its potential drawbacks.

Financial stability

The key policy challenge in securing financial stability is to complete the adaptation of the framework of checks and balances to the new financial realities. The urgency of the task is underscored by the fact that, looking ahead, the emergence of further strains cannot be ruled out: the sectors in the financial industry still requiring restructuring are simply too large; the need for continuing adaptability to the evolving environment is too demanding; and the remaining

obstacles to an effective and orderly exercise of market discipline are too numerous and too strong.

Meeting the challenge involves intensifying efforts in the two main directions which have been identified in recent years. The first, which concerns the means, is to strengthen the framework's market orientation. The second, which concerns the ends, is to sharpen its systemic orientation.

Need to strengthen the market orientation …

Strengthening the *market orientation* implies enlisting and upgrading the market's disciplinary mechanisms. Three areas seem to provide considerable scope for further improvement: enlarging the domain and improving the quality of public disclosure; designing regulatory constraints, such as capital standards, so as to make them less vulnerable to financial arbitrage; and limiting the impact of those forms of intervention that provide protection without commensurate oversight, thereby numbing incentives to prudent behaviour. In addition, the task involves much broader policy initiatives without which the effectiveness of market forces risks being blunted. Such policies include fostering ownership structures more responsive to market forces (notably through privatisation) and removing obstacles to the adjustment of capital and labour. Easing constraints on, and improving the effectiveness of, the takeover mechanism and reducing inflexibilities in the labour markets are cases in point. All of these steps can mitigate the restructuring problems and facilitate orderly exit (see last year's Annual Report).

… and systemic orientation of policy

Sharpening the *systemic orientation* requires further progress in containing the knock-on effects of failures of institutions. In this context, upgrading payment and settlement systems will remain a priority in the years ahead. Much still needs to be done, particularly in the area of international transactions. Similarly, further attention needs to be paid to the interaction under strain of different trading and settlement systems. In addition, a sharper systemic focus means raising the level of tolerance of the failure of individual institutions above what has generally been observed in the past. To this end, reducing the vulnerability of the system to such failures is a vital step.

The scale of the aforementioned challenges should not be underestimated. The adaptation of a prudential framework still largely based on pre-war institutional divisions (banking, securities, insurance) and national jurisdictions to a world of blurring distinctions between a full range of intermediaries and global financial markets still has a long way to go. The increased heterogeneity of players, the further expansion and growing complexity of markets and the greater speed with which disturbances can spread are likely to complicate the task of central banks in crisis management. Whatever their specific role in prudential supervision, this puts a premium on central banks having adequate information to act effectively in the event of turmoil. More fundamentally, achieving the right balance between the market and the authorities as a source of financial discipline is a tall order: not only are there still unanswered questions about their comparative effectiveness, the long history of generous official protection also poses a serious obstacle. A better balance calls for a change in perspective on the part of the authorities, market participants and the public at large. Without such a change, the goal of securing financial stability in a world where market forces have full sway could remain an elusive one.

A fundamental change in perspective is required