



OECD Economics Department Working Papers No. 154

An Assessment of Financial Reform in OECD Countries

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<https://dx.doi.org/10.1787/515737261523>

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OCDE/GD(95)60

**ECONOMICS DEPARTMENT
WORKING PAPERS
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AN ASSESSMENT OF FINANCIAL REFORM IN OECD COUNTRIES

**by
Malcolm Edey and Ketil Hving**

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Paris 1995

COMPLETE DOCUMENT AVAILABLE ON OLIS IN ITS ORIGINAL FORMAT

AN ASSESSMENT OF FINANCIAL REFORM IN OECD COUNTRIES

This paper reviews the experience with financial reform in OECD countries. A general overview of the course of deregulation is provided and the economic rationale for financial regulation is discussed. The question of whether financial liberalisation has led to improved welfare is then addressed. It is argued that the benefits of improved allocation of resources and increased efficiency have to be weighed against the possible effects of deregulation on financial stability. While there is no strong evidence of any trend increase in financial volatility in key markets, there have been a number of episodes of instability apparently linked to financial deregulation. However, the analysis of individual crises suggests that inappropriate macroeconomic policies, deficiencies in prudential policies, and microeconomic distortions affecting incentives in the financial sector, were important contributing factors to the financial problems that have been experienced.

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Cet article passe en revue les expériences de réforme financière dans les pays de l'OCDE. Un survol général de l'évolution de la déréglementation est suivi d'un débat sur la logique économique de la réglementation financière. Puis la question de savoir si la libéralisation financière a conduit une plus grande bien-être est discutée. Le rapport conclut que les avantages d'une meilleure allocation des ressources et une augmentation de l'efficacité dans le secteur financier doivent être mis en balance avec les éventuels effets de la déréglementation sur la stabilité financière. Bien qu'il n'existe pas de signe manifeste d'un renforcement tendanciel de la volatilité dans les principaux marchés financiers, un certain nombre de périodes de turbulence semble avoir été lié au processus de déréglementation. L'analyse des crises individuelles suggère que des politique macro-économique inadéquates, un système prudentiel déficient et des distorsions micro-économiques ont contribué d'une manière importante aux troubles financiers vécus.

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AN ASSESSMENT OF FINANCIAL REFORM IN OECD COUNTRIES

Malcolm Edey and Ketil Hviding¹

I. Introduction

Financial systems in OECD countries during the past two decades have undergone extensive structural change as a result of regulatory reform and technological innovation. The systems prevailing in most countries in the early 1970s were characterised by important restrictions on market forces which included controls on the prices or quantities of business conducted by financial institutions, restrictions on market access, and, in some cases, controls on the allocation of finance among competing borrowers. These regulatory systems had evolved to serve a number of social and economic policy objectives of governments. Direct controls were used in many countries to allocate finance to preferred industries during the post-war reconstruction period; specialised credit institutions have also been in place to ensure access to credit by smaller enterprises; restrictions on market access and competition were partly motivated by a concern for financial stability; protection of small savers with limited financial knowledge was an important objective of controls on banks; and controls on banks and financial institutions were frequently used as instruments of macroeconomic management.

The substantial shift to more market-oriented financial systems during the past two decades was driven by a number of interrelated factors which made direct controls increasingly ineffective in achieving their intended purposes. Among the most important factors were:

- shrinkage of the regulatory base. This occurred through various types of regulatory avoidance (for example, the development of offshore financial centres and off-balance-sheet methods of financing by banks) as well as through a more general tendency for banks and other regulated institutions to lose business to the less regulated parts of the financial sector;
- financial innovation and rapid technological development, which progressively increased the ease with which regulations could be circumvented;
- macroeconomic developments, particularly the increases in fiscal deficits and emergence of inflationary problems in the 1970s, which increased the need for interest rate flexibility.

The strength of these pressures was such that some degree of financial regulatory reform was probably unavoidable, and indeed all member countries have implemented at least some liberalisation measures over the past two decades. A "core" group of reforms common to the majority of countries was the removal of most price and quantity controls on banks, liberalisation of market access within the financial services sector, and removal of foreign exchange controls. In addition to easing problems of monetary control, reforms were expected to enhance the efficiency of the financial sector by promoting competition and removing distortions on resource allocation. Nonetheless, concerns have been raised as to whether these benefits have been realised and also concerning the consequences of deregulation for financial stability.

The purpose of this paper is to provide an assessment of the reform process and its economic consequences. The main sections provide a review of the course of deregulation in OECD countries

(Section II), a discussion of the economic rationale for financial regulations (Section III) and an assessment of the economic consequences of deregulation (Section IV). Conclusions are briefly summarised in Section V.

II. How Did Governments Deregulate Their Financial Systems?

The array of regulations affecting most OECD countries' financial systems and transactions in the 1960s and 1970s can be classified under the following headings:

- interest rate controls;
- securities market regulations;
- quantitative investment restrictions on financial institutions;
- line-of-business regulations and regulations on ownership linkages among financial institutions;
- restrictions on entry of foreign financial institutions; and
- controls on international capital movements and foreign exchange transactions.

In broad terms, the deregulation of the past two decades took place in all these areas, though in some areas more completely than in others. The various aspects of deregulation were interrelated, since some aspects of financial regulation became increasingly difficult to maintain once other parts of the regulatory network had been dismantled. For example, the easing of capital controls, and the international branching of business firms or establishment of their finance companies, made domestic regulations easier to circumvent by conducting financial transactions outside national boundaries. Also, many of the most important controls on interest rates and other financial terms and conditions were heavily dependent on the effectiveness of line-of-business regulations which aimed at limiting competition across institutional types. While the exact sequencing of reforms differed from country to country, a common feature was that deregulation in one area typically diverted pressures for reform onto other areas and hence gave momentum to the overall reform process. This section briefly reviews the process of financial deregulation in the key areas listed above².

A. Interest rate controls

Controls on the borrowing and lending rates of banks were pervasive in most OECD countries in the 1960s and early 1970s (Table 1). These controls generally held bank interest rates below what would have prevailed in a free market so that banks were often, in effect, given the role of providers of low-cost credit to privileged borrowers. One effect of such controls was to protect banks from interest-rate competition, thereby helping to secure their profitability. Interest rate controls also meant that the availability of credit was often rationed by a combination of the banks' internal risk criteria (a preference for low-risk borrowers) and regulations which directed bank credit to particular borrowers (including governments). Small companies, which had little bargaining power *vis-à-vis* banks when overall funds were scarce, were likely to have been particularly affected by credit rationing. Credit demands in excess of what was available through banks were typically supplied by less regulated intermediaries whose market shares

tended to increase at the expense of the banking sector. Key exceptions to this general description were Germany, Canada and the Netherlands where bank interest rates were already substantially free by the late 1960s or early 1970s.

In some countries partial deregulation of bank interest rates began in the 1970s but the most important steps were generally taken in the 1980s. In the United States, bank interest rate controls operated on the deposit side of the balance sheet, through Regulation Q³ and other controls on the payment of interest on demand and short-term deposits. These controls were largely eliminated over the period 1980-1986 when Regulation Q was phased out. Substantial interest rate deregulation also occurred in the first half of the 1980s in the Nordic countries and in Australia and New Zealand, and somewhat later in continental Europe and Japan. In the United Kingdom, key steps were the Competition and Credit Control policy in 1971 which abolished cartel arrangements for the setting of bank interest rates, and the deregulation of building society interest rates between 1984 and 1986. By the early 1990s the majority of OECD countries had abolished virtually all their interest rate controls; some minor exceptions among the large economies include the continuing prohibition of interest on current accounts in France and the United States⁴ and a number of official controls still applying to small deposit accounts in Japan.

B. Securities market regulations

Key aspects of securities market liberalisation in the 1980s and early 1990s included deregulation of access to the securities industry, deregulation of fixed commission rates and of various other price and quantity controls, and various measures to promote internationalisation and the development of new instruments. In most countries non-competitive arrangements for the setting of stock-exchange transactions charges prevailed prior to the 1980s. These arose either through direct regulation or through the existence of cartels which restricted access to stock exchange business and regulated standard service fees. The arrangements were also supported by line-of-business restrictions (see D. below) which prevented banks and other financial institutions from competing in this area. The impetus for reform came partly from the general policy climate in favour of increased competition, and partly from market pressures, particularly the development of over-the-counter securities markets with lower transactions costs and the opening up of securities markets to international competition. Early moves toward reform came in the United States with the removal of government regulations on securities firms' commissions in 1975. The main wave of reforms in other countries occurred in the mid-1980s, the "big-bang" in the United Kingdom (1986) being a notable example; extensive liberalisation of securities markets also occurred in Canada, Australia, New Zealand, Ireland, Sweden and Finland around the same time. In continental Europe, Japan and Mexico, reforms came somewhat later -- around the end of the decade or in the early 1990s -- and were in some cases less complete. In France stock exchange commissions were deregulated in 1988 in conjunction with a number of other moves to increase competition in securities dealing. Regulatory controls were also relaxed but not fully dismantled in Germany, Belgium and Japan.

In a number of countries, including Mexico, Greece, Spain, Sweden and Norway, the terms at which private debt securities could be issued were also subject to direct control. These operated as part of the more general network of interest rate controls and were largely eliminated as other interest rate controls were also removed. In Germany, growth of markets for private debt securities was discouraged by the requirement of government approval of private bond issues, which was abolished in 1991. Related to the general trend toward interest rate and securities market deregulation was the introduction of market-based mechanisms for the sale of government securities in many countries, since interest rate flexibility in the private sector tended to imply greater pressure on public sector interest rates. This was

also related to the dismantling of "captive market" provisions whereby financial institutions had been required to invest specified proportions of their portfolios in government securities -- their dismantling meant that government securities had to pay competitive returns (for further discussion see C. below). In parallel with these developments, technological innovations enhanced the role of over-the-counter dealing in securities, markets in securities-market-related derivative products, and cross-border linkages between stock exchanges.

C. Quantitative investment restrictions on banks

Investment restrictions on banks took a number of forms including:

- compulsory holdings of government securities (important in Italy, Sweden, Norway, Australia, Belgium, Spain, Turkey and Greece);
- credit allocation rules or guidelines on banks (the United States, France, the United Kingdom, Norway, Australia, New Zealand);
- compulsory bank lending to special credit institutions charged with directing credit to favoured sectors (Sweden, Italy, Greece, Turkey, Spain, Iceland); and
- controls on the total volume of credit expansion for macroeconomic purposes (the United Kingdom, France, Italy, Sweden, Denmark, Norway, Austria, Portugal, Spain, Mexico).

In some cases compulsory security holdings ("captive market" provisions) were partly intended for prudential purposes but they also tended to serve as a vehicle for financing government deficits, and hence involved a form of disguised taxation to the extent that security yields were kept artificially low. In most countries the move to market-based systems of financing deficits occurred in conjunction with a substantial easing of captive market restrictions, although, in some cases, important restrictions remain in place. Credit allocation rules and guidelines were generally abolished by the early 1980s in countries where these had applied and, in most cases, compulsory financing of special credit institutions was also abolished or replaced with explicit subsidies, as for example has occurred in Spain.

Investment restrictions related to the overall quantity of credit were partly driven by the need for an instrument of monetary control where interest rates were not free to perform this function. Hence, they often came to be seen as obsolete once interest rates were deregulated. Moreover, credit ceilings were made much more difficult to enforce by capital account liberalisation in many countries.

D. Line-of-business regulations and restrictions on ownership linkages

Regulations limiting the areas of business in which different classes of financial institutions can operate have been less radically dismantled than other types of controls. These regulations define the various classes of institutions, and exist partly for perceived reasons of systemic stability (to limit "excessive" competition for business), to enhance the safety of institutions by, for example, limiting their exposure to more risky sectors, or to prevent excessive concentrations of financial power through the development of financial conglomerates. Many such restrictions also exist to channel finance to particular sectors, such as housing, through specialised institutions.

Important areas in which line-of-business restrictions have been modified are:

- separation of banking and securities businesses. In the United States legal separation remains in place under the Glass-Steagall Act although in practice these restrictions have been increasingly eroded, through the growth of banks' subsidiary companies engaged in securities business. In other countries where similar restrictions existed they have been abolished, for example in the United Kingdom, as part of the "big bang" eliminating distinctions between broking and jobbing, and in Canada and Japan. In the case of Japan, however, banking and securities businesses have in practice remained largely separate.
- numerous prohibitions on the types of accounts that could be offered by U.S. banks were largely removed in the early 1980s.
- separation of the financial institutions traditionally concerned with savings or mortgages from commercial banks in a number of countries including France, Spain, Belgium, Denmark, Finland, Austria, Australia and New Zealand. These distinctions have been weakened or abolished in these countries during the past fifteen years.
- separation of long-term and short-term credit institutions in Italy (abolished in 1993).
- legal separation of various types of specialist credit suppliers in Japan, which was largely abolished in the late-1980s/early-1990s.
- bank branching restrictions were phased out in a number of European countries, including France, Spain, Italy, Austria, Norway and Sweden, in the 1980s and early 1990s. In the United States, recent legislation will eliminate remaining branching restrictions by 1997.

Closely related to direct line-of-business restrictions are regulations concerning ownership linkages involving financial institutions. Deregulatory moves in these two areas have tended to be linked, as for example with the deregulations of financial structure in Japan and Canada introduced in 1992. However, ownership restrictions also have a number of more general purposes such as avoiding conflict-of-interest problems and excessive market concentration and, for that reason, many forms of such restrictions remain in place.

Several classes of ownership linkages involving banks can be distinguished:

- upstream linkages, referring to the ownership of banks by other financial or non-financial institutions
- downstream linkages involving bank ownership of other financial institutions or non-financial enterprises
- mergers and acquisitions within the banking sector.

The most heavily restricted of these areas concerns ownership links between banks and non-financial enterprises. Ownership of banks by non-financial enterprises is in most countries limited either by requirements that bank shares be widely held, or by general anti-trust provisions aimed at

preventing concentrated ownership of a bank in cases where that could create conflicts of interest (for example, the possibility of a bank owner using the bank as a source of credit). In many countries bank ownership of non-financial enterprises is either prohibited, subject to strict limits, or requires specific approval by the supervisory authorities. These restrictions are motivated by a view that such holdings would expose banks to excessive risks or may create excessive concentrations of economic power. Rules are generally more liberal in those countries where banks traditionally play a significant role in monitoring and management oversight of non-financial businesses, for example Japan and Germany. Downstream ownership by banks of other financial enterprises is also generally treated more liberally in these countries. Most countries maintain limits on mergers and acquisitions involving banks, usually in the form of requiring specific approval from government authorities before such mergers can proceed, in order to provide a safeguard against excessive concentration in the financial sector.

The area of bank ownership linkages has been subject to relatively little deregulation in recent years, the main exceptions being in Canada and Japan, where (as noted above) some relaxation with respect to linkages between banks and other financial institutions occurred along with the liberalisation of line-of-business regulations. There has also been some relaxation of cross-shareholding restrictions involving financial institutions in Italy and the Netherlands.

E. Restrictions on foreign bank entry

The past decade has seen considerable liberalisation of cross-border access to foreign banks. While the exact regulations concerning branching and capital structure of newly entering foreign banks differed from country to country, important liberalising measures were taken in several countries during the 1980s, including Japan, Canada, Australia, New Zealand, Sweden, Norway, Finland and Portugal. The United States and the United Kingdom already had fairly liberal access policies for foreign banks. In Europe the Second Banking Directive, effective from 1993, has had a major liberalising effect on European Union and EEA member countries, allowing banks operating in any member country (including non-European banks) to establish branches in the others. Most OECD countries now allow the operation of at least some foreign banks, usually on a national treatment basis (i.e. competing on equal regulatory terms with domestic institutions). However, many countries still require some form of reciprocity of access as a condition for allowing new foreign bank entries. In Mexico, where significant restrictions on foreign bank entry and foreign ownership of banks had been in place, liberalisation is taking place under NAFTA provisions.

F. Capital controls

Liberalisation of controls on capital account movements is now virtually complete among OECD countries, although there were significant variations in the speed and timing with which it took place. Some countries, notably the United States, Germany, Canada and Switzerland, already had fairly liberal capital-account policies by the early 1960s, but capital flows were tightly restricted in most other OECD countries. Even those countries with relatively liberal regimes sometimes introduced temporary capital controls at various times during the 1960s and early 1970s to deal with particular pressures arising from capital-account transactions; these fell into disuse with the more general trend to capital-account liberalisation in the 1970s and 1980s. OECD agreements on capital account liberalisation were an important influence on this process⁵.

Capital controls were usually more pervasive on the outflows than the inflows side, reflecting concerns by national authorities that their currencies needed to be protected from the possibility of speculative attacks depleting official reserves. Restrictions related in particular to securities transactions and short-term credits unrelated to the financing of trade flows. Liberalisation of the capital account was implemented in the late 1970s in the United Kingdom and Japan, in 1984 in Australia and New Zealand, and in the second half of the 1980s in Italy, France, Finland, Norway, Sweden, Denmark, Belgium and Austria. EC countries which retained significant controls on short-term capital movements going into the 1990s (Ireland, Portugal and Spain) abolished these by the end of 1992 in accordance with single market directives, notwithstanding some temporary strengthening of these controls during the severe ERM pressures in late-1992. Some controls remain on long-term capital movements in many OECD countries, particularly with respect to foreign ownership of real estate and foreign direct investment. There also remain important restrictions on international portfolio diversification by pension and insurance funds, which could be considered a form of capital control. Although there has been some relaxation of these restrictions in recent years, and an associated growth of international portfolio diversification, restrictions on foreign asset holdings by these institutions remain tight in a number of countries including Germany, the United States, Sweden and Finland⁶.

G. Overview

The financial-sector regulations listed above can be broadly divided into two groups: those primarily affecting the ability of institutions to conduct their business at market-clearing prices (interest rate and credit controls, investment and credit rules, capital account controls); and those affecting institutional boundaries and market access within the financial sector (line-of-business regulations, controls on ownership linkages and on cross-border market entry). In general the extent of deregulation in the first of these areas over the past two decades has been substantial; although some minor areas of restrictions remain, most such controls have been abolished in most OECD countries. Moreover, the removal of capital controls and the increased internationalisation of the financial services industry is likely to have made any remaining restrictions relatively easy to avoid. The process of liberalisation was not uniform and there was no single model of the deregulatory process broadly followed in all countries. In some countries the process was relatively quick and was essentially completed by the mid 1980s (particularly in the United States, the United Kingdom, the Nordic countries, Australia and New Zealand) while in some continental European countries and Japan deregulation tended to be somewhat more cautious and occurred over a longer period.

In the second broad area, that pertaining to institutional boundaries and barriers to competition, the extent of deregulation has been more limited. There has been a significant (though incomplete) liberalisation of international market access in financial services; and there has been some liberalisation of barriers between institutional types in countries where these had been important, particularly in Japan, the United Kingdom and Canada, with significant further liberalisation implied within Europe by the single passport provision of the second banking directive. The less extensive deregulation in these areas reflects the fact that the issues are perceived to be more complex and the case for general liberalisation less clear cut. Some of the complexities involved are explored below in Section III.

III. Economic Rationale For Financial Regulation

The intended purposes of financial regulatory policies, as actually practised in OECD countries in the past, can be put into three main groups:

- to meet resource allocation objectives;
- to provide instruments of monetary control; and
- to correct perceived market failures and systemic externalities in the financial sector.

Although these categories are not mutually exclusive (i.e. some regulations were aimed at more than one purpose), in general terms the regulations that have been most comprehensively dismantled have been those primarily aimed at the first two of the above goals. This is consistent with the broad consensus among Member governments that regulatory intervention to achieve these goals is likely to be inefficient compared with market-based methods. The corollary to this view is that regulatory structures should be maintained (or adopted) where they are necessary to address identifiable market failures, and can do so efficiently. The discussion below outlines two broad areas of potential market failure that may warrant regulatory intervention: first, the area of systemic risk, and second, externalities in monitoring the behaviour of financial institutions.

A. Systemic risk

Systemic risk refers to potential threats to stability of the financial system as a whole arising from risk-taking by individual financial actors. Potential sources of systemic risk include:

- instability of the deposit base in unregulated banking, arising from the vulnerability of banks to "runs" and illiquidity;
- payments system risk, which may arise in the event of a large participant failing to meet clearing obligations;
- destabilising trading strategies: asset markets may be destabilised if sufficient numbers of participants adopt trading strategies that are "pro-cyclical", as for example with programme trading or dynamic hedging.

Awareness of problems of systemic risk has greatly increased following a number of cases of financial instability that have occurred after deregulation. Key examples are reviewed below in Section IV, and the contributions of other sources of instability (such as macroeconomic factors) are also discussed. From a regulatory-policy perspective, the general issues to be addressed concern the extent of regulation needed to reduce systemic risks to acceptable levels, and the nature of regulatory interventions likely to be least distorting to market forces. In this regard, the range of available policy instruments, ranked broadly according to their degree of restrictiveness on market forces, might be characterised as follows:

- lender of last resort facilities to provide liquidity support for the banking system;
- compulsory deposit insurance schemes;

- prudential supervision and regulation (for example capital standards); and
- policies that directly limit competition in the financial sector.

The first two of these instruments are directed essentially at avoiding "runs" and liquidity crises. They are part of the regulatory framework in most OECD countries (exceptions with respect to compulsory deposit insurance are Australia and New Zealand⁷) but they are generally viewed as an insufficient basis, on their own, for preserving systemic stability even in the narrow sense of maintaining stability of the banking sector. For example, the availability of a liquidity support facility by central banks requires some capacity to distinguish between illiquidity and insolvency in financial institutions, and hence is likely to necessitate some broader form of prudential oversight. Deposit insurance schemes provide consumer protection but are likely to reduce the incentives both for deposit-taking institutions to limit their aggregate exposures to risk, and for depositors to be concerned about these exposures. These problems suggest a case for prudential monitoring or regulations to limit the degree of risk that can be passed on to the public insurer.

Prudential supervision and regulation have been substantially strengthened in most countries during the past decade. A key development was the widespread adoption of the Basle accord on capital standards in banking, which phased in a minimum risk-weighted capital ratio of 8 per cent over the period 1988-1992; other prudential regulations such as disclosure requirements and limits on large exposures to individual borrowers have also been strengthened. In addition, the Basle committee and a number of national supervisory authorities are currently investigating the establishment of capital standards for other types of financial activity, particularly securities dealing. A large part of the impetus for these changes has come from a perception that increased competition has added to systemic risks by allowing or encouraging financial institutions to accept a higher degree of risk. While the pre-deregulation systems of widespread price and quantity controls were not primarily aimed at limiting systemic risks, they may in some cases have had that as a side-effect, by limiting competition and constraining banks to operate in low-risk segments of the market.

The overall trend in regulatory policies that have a bearing on systemic risk can thus be represented as a shift away from direct constraints on competition in the banking sector, towards less distortionary forms of regulation more directly targeted at the sources of systemic risk. There remain a number of complex and unresolved issues on the agenda for further reform in this area. These include:

- defining the scope of the systemic safety net. An efficient regulatory system would penalise risk-taking in each institution according to the size of the systemic externality it generates. This has traditionally been held to warrant a relatively tightly-defined focus on the banking sector as having a key role in underpinning stability of the financial system as a whole. While the blurring of institutional boundaries appears to be creating pressures to extend systemic protection somewhat more widely, there is a need to ensure that this does not lead to a pervasive extension of *de facto* public guarantees;
- securities regulation. The increasing securitisation of financial flows and growth of turnover have raised concerns that securities markets are becoming a potentially more important source of systemic instability. While some issues, such as the need for adequate capital, are similar to those arising with respect to traditional intermediation business, many of the regulatory issues involved appear to be more complex, and a consensus on dealing with them has not

been reached. The growth of derivatives markets, whose systemic risk implications are less well understood, has added to the complexities involved;

- international harmonisation of policies to deal with systemic risk. A case for some degree of harmonisation rests on the links between national financial markets and the possible existence of global systemic externalities⁸. Globalisation means that regulations adopted in any individual country may be easily avoided and therefore ineffective in dealing with systemic risks. There is also a need to ensure that prudential standards are sufficiently high internationally to deal with any systemic risks arising at a global level.

B. Information and monitoring roles of financial regulation

An important externality arises from the fact that it is expensive for individuals to monitor the risk characteristics of financial institutions and depositors have an incentive to free-ride on the monitoring activities of others. This is likely to lead to inefficiencies arising from aggregate underinvestment in information and monitoring. In these circumstances there may be a case for regulators to perform a monitoring or classifying role with respect to financial institutions even where no issues of wider systemic safety are involved. One way in which this can be organised is through the existence of discrete classes of financial institutions (which can include an unregulated class) with different regulatory frameworks and therefore different risk characteristics. This kind of institutional differentiation can be argued to provide a spectrum of choice to clients and, in principle, can allow institutions to position themselves on the spectrum according to what is demanded by clients. In this view, part of the rationale for having a specialised banking sector with high standards of capital adequacy and depositor protection is that depositors have a demand for such a class of institutions, but do not themselves have the capacity to monitor them. This is closely related to consumer protection goals of regulatory policy.

IV. Economic Consequences of Financial Liberalisation

In this section the economic consequences of financial liberalisation are reviewed in three broad areas: structural changes in financial markets; effects on efficiency and resource allocation; and effects on financial stability and implications for macroeconomic policies.

A. Structural changes in financial markets

By removing constraints on the supply of financial services, deregulation has led to major increases in the size of the financial sector in most countries as well as increases in the volume of resources it absorbs. The broad nature of these trends is illustrated in Tables 2 and 3. The financial sector's share in total employment has risen in virtually all countries since the late 1970s, rising on average by around half a percentage point for the group of countries reported in Table 2; this figure may understate the total increase by excluding employment in financial activities outside financial institutions, for example within large commercial and industrial firms. Investment in the financial sector also increased, rising particularly strongly in the United Kingdom, the United States and Luxembourg. A broad set of indicators of overall use of financial services -- the gross financial assets and liabilities of the non-bank private sector -- shows major increases in balance-sheet sizes relative to income, in both the personal and corporate sectors. While these increases were sharpest in countries that had lending restrictions or interest rate controls in the 1970s,

for example the United States, Japan and France, most countries in the OECD area were affected by the trend. Even in countries, like Germany, with a long history of market-determined interest rates and no lending controls (although German banks were subject to a number of prudential balance sheet controls), there have been significant increases in these measures of financial activity. The presence of these trends in countries where deregulation was not a major factor suggests that broader factors such as technological change and financial innovation have probably also been important in explaining financial growth.

Three broad trends can be said to characterise the structural transformation in the financial sector in OECD countries over the past two decades. The first has been increased competition. While the degree of competition is hard to measure, there can be little doubt that competitive pressures in many parts of the financial sector have strengthened considerably; this has been a recurring theme of structural reviews in the OECD Economic Surveys. Expected benefits of competition are improvements in the range and quality of services available, reductions in costs and increases in productivity. A range of evidence suggesting that at least some of these benefits have been realised is discussed under B. below.

The second important structural trend has been "securitisation", the increased use of securities in the intermediation of finance. This has taken a number of forms. Markets for corporate bonds and notes (commercial paper) have been developed in a number of countries, permitting larger companies to raise borrowed funds directly on the capital markets (Tables 4 and 5). There has been a proliferation of collective investment institutions -- e.g. mutual funds, unit trusts and investment trusts -- which have eased the access to capital markets for small savers. In many countries, money market funds -- mutual funds with highly liquid, high quality assets with short maturity or variable interest rates -- have emerged as serious competitors to conventional sight deposits, particularly in countries with interest rate controls on current account deposits at banks (e.g. the United States and France). Mutual funds have also played an important role in increasing international capital mobility, and their role for example in the recent Mexican crisis has raised questions about the ability of these funds to shift market prices more than is warranted by economic fundamentals. An indicator of the growth of securitisation in the banking sector is the increasing share of banks' total income accounted for by fee income (largely associated with securitised financing transactions) in almost all countries (Table 6). Closely linked to securitisation has been the development of increasingly sophisticated derivative markets (Table 7), which have enhanced investors' ability to manage portfolio risks. Advances in technology available to financial institutions have contributed to these developments by improving the ability to price complex derivative instruments⁹.

The third broad trend has been the increased internationalisation of financial markets. The spectacular growth that has taken place in cross-border transactions in bonds and equities in the G7 countries are depicted in Tables 8 and 9. Among the countries with available data from the 1970s, the ratio of total cross-border transactions to GDP increased by a factor of around seven times in Canada and as much as 79 times in Japan between 1975 and 1990. In some countries the increase in the international securities trade is undoubtedly a direct result of the removal of various capital controls, but the reduction in transaction costs is, as in the case of security trading more generally, probably an equally important underlying factor in many countries. Closely related to the growth of turnover in international financial markets has been a growing international diversification of asset holdings by institutional investors (Table 10).

Notwithstanding these rapid changes in financial markets, structural characteristics of financial systems still differ across countries in a number of important ways, particularly with respect to the relative importance of securities markets, equity markets, banks and other financial institutions as sources of finance for investment. These differences have tended to reflect broader regulatory and structural characteristics

of economies. A review of the structural characteristics of financial systems in a number of OECD countries is provided in Annex 1. Although financial structures remain distinct across countries, there is some evidence that they have been coming closer together over time as constraints on alternative forms of financing have been relaxed. In particular there has been a shift toward greater reliance on debt financing of business investment in a number of the English-speaking countries, while equity markets have assumed greater importance in Japan and a number of continental European countries where banks have traditionally had a more central role in providing finance to businesses.

B. Effects on efficiency and resource allocation

Two key aspects of the efficiency of the financial sector are its internal efficiency (i.e. the quality and cost of the services provided) and its impact on allocative efficiency of the economy as a whole. In the absence of significant interactions with remaining distortions or market failures, financial deregulation could be expected to yield benefits in both of these areas. The discussion below presents tentative evidence that this has been the case.

i) Internal efficiency

A range of indicators of the financial sector's internal efficiency are presented in Tables 11 to 19. Broad measures of intermediation costs based on average interest margins of commercial banks (Table 11) show no clear overall trend, although reductions in margins on this basis did occur over the 1979-1992 period in France, Finland, Greece, the Netherlands and Belgium. This measure, however, is probably biased in the direction of understating any tendency for margins to fall, for two reasons. First, deregulation has often removed constraints that had favoured lending to low-risk borrowers, so the average riskiness of bank lending has probably increased; in principle this requires some adjustment to arrive at a "constant risk" measure of intermediation costs. Second, an increasing proportion of financing in deregulated systems is occurring in securitised forms where costs are probably lower, thus tending to reduce average costs to borrowers.

Alternative indicators presented in Tables 12 to 14 arguably provide a more complete picture of bank intermediation costs. They show:

- banks' total incomes from fees and net interest earnings have, in a majority of countries, declined relative to the overall capital of the banking sector (Table 12)¹⁰. "Risk-adjusted" measures obtained by deducting a trend level of loss provisions would show an even more pronounced downward trend;
- banks' staff costs have declined in almost all countries as a ratio to total gross income (Table 13);
- in a majority of countries, operating expenses have also declined in relation to gross income (Table 14).

These observations appear consistent with increased competition in the banking sector driving down costs and margins, particularly with respect to the growing areas of securitised and fee-based business outside the domain of traditional deposit-taking and lending activities. There are also indications of reduced transactions costs outside the banking sector. Reductions in transactions costs in securities markets are

illustrated in Tables 15 and 16, which show average commissions on the International Stock Exchange in London and commissions on Eurodollar bond issues. Similarly the reduction in average bid-ask spreads in Eurocurrency markets (Table 17) suggests a reduction in the cost of wholesale foreign exchange transactions. Unfortunately however, no comprehensive study exists as to the evolution of transactions spreads in securities markets more widely.

Measuring productivity in the financial sector is problematic because there is no universally agreed method of measuring output¹¹. National accounting measures define financial-sector output largely according to the cost of the services the sector provides, which means that increases in services provided per unit of production cost are not picked up, and productivity may even be recorded as falling if relative costs of financial services are being reduced through greater competition. On the other hand, more direct but *ad hoc* measures of bank output such as transactions volumes, the real value of financial assets under management, or measures of customer service outputs such as the size of the automatic teller machine (ATM) network (Tables 18 and 19) imply very clear increases in productivity. The interpretation of these facts depends on judgements about the value of the financial transactions services that are being provided, in particular the extent to which the increased financial activity is viewed as being of economic benefit rather than representing excessive or unnecessary financial "churning".

ii) Allocative efficiency

While the area of allocative efficiency is also subject to measurement difficulties, it is possible to identify three broad areas in which allocative efficiency gains might be expected.

First, the removal of direct interest rate controls and regulation-driven credit rationing should remove distortions in relative funding costs, thereby improving the allocation of investment. Although this effect is not readily observable, an illustration of the incidence of regulation on lending rates is given in Table 20. The table compares the average or representative bank lending rates with unregulated money market rates (either domestic or Euro-deposit rates) denominated in the same currency. Without distortions, one would normally expect bank lending rates to be slightly higher than inter-bank rates, reflecting higher risk. By contrast, a low or negative difference between the two interest rates gives an indication of the degree of distortions from interest rate controls: in other words, of the extent to which projects with a low market rate of return, but with preferred access to credit, can obtain financing because of regulation. Following the gradual removal of interest controls, these differentials appear to have converged to levels of around 1-3 percentage points. The sharpest increases took place in France, the United Kingdom and Spain, with differentials increasing from negative levels in the early and late 1970s to clearly positive levels in the early 1990s. In Germany and Canada, where the key regulations had already been removed by the late 1960s, average lending differentials have subsequently remained relatively stable¹². The relatively high differential in Germany may reflect the effects on competition of remaining controls (for example, on maturity transformation and balance sheet ratios) which tend to support profitability of German banks¹³. In many countries, the tax system and its interaction with inflation added to the distortions from interest rate controls. In particular, in the Nordic countries, generous tax provisions for borrowing, combined with high marginal tax rates and high inflation, resulted in negative real after tax interest rates for many borrowers for a sustained period from the 1970s through to the late-1980s (Figure 1).

A second aspect of allocative efficiency is the effect of capital account liberalisation in opening up significant opportunities for international portfolio diversification. Several empirical studies suggest that the potential welfare gains from international diversification in equities could be large¹⁴. The trend towards increased international diversification of pension fund assets (see Table 10) and the portfolios of

other institutional investors suggest that such gains are perceived to be important, and that they are actually increasingly benefiting investors in OECD countries. There is also evidence that the present degree of international portfolio diversification remains well below levels desired by investors. Remaining regulations on pension funds' foreign holdings, insufficient regulation against insider trading and different tax treatments of domestic and foreign investors have been cited as possible factors explaining the gap between actual and estimates of optimal diversification.

Thirdly, decreased liquidity constraints could be expected to improve consumer welfare by allowing better smoothing of consumption through time. Evidence of the reduced effect of financial constraints on private consumption in a selection of OECD countries is provided in Table 21. The coefficients given in the table are estimated regression coefficients obtained by regressing current consumption on current disposable income; liquidity constraints are likely to be relatively important where the coefficient on current income is high. Reductions in the estimated values of this coefficient suggest that, in most countries, current consumption has become less sensitive to temporary changes in current income. A clear and significant fall in the estimated sensitivities can be seen in the United States, Japan, Italy, Canada and Australia; Germany contrasts with most of the other countries as the estimated effect increased over the same period.

Effects of financial liberalisation on saving rates

As well as affecting the timing of consumption, however, there is reason to believe that financial deregulation might have adversely affected aggregate household saving. Although the effect on saving might be expected to be strongest in the short run, i.e. within a few years of the removal of lending restrictions, a number of economists have argued that the removal of liquidity constraints might lead to more sustained reductions in household saving ratios¹⁵. Evidence of such a negative effect of financial liberalisation on the household saving ratio has been reported in several international studies. For example, several studies have identified availability of consumer credit as a contributing factor to the relatively low level of private savings in the United States¹⁶, while the reverse appears to be the case in Japan and Italy¹⁷. In the United Kingdom, there is some evidence of a negative effect of financial liberalisation on the equilibrium saving ratio¹⁸.

The potentially large short-term effect of financial market liberalisation is illustrated in Figure 2, showing the sharp falls in saving ratios in five countries -- the United Kingdom, Sweden, Denmark, Finland and Norway -- in the mid-1980s. The timing of each of these falls corresponds closely with the period shortly after the removal of important credit ceilings or interest rate controls. The picture also illustrates, however, the possibly temporary nature of the drop: by 1994, all of these saving ratios had returned to their pre-liberalisation levels.

C. Effects on financial stability and macroeconomic management

Although episodes of financial instability have been by no means confined to the post-deregulation period, there have been a number of cases where instability appeared to be either linked to deregulation or to have been made more difficult to manage as a result of the structural changes that accompanied it. Examples include crises in financial institutions in several countries, severe debt problems in some countries' corporate and personal sectors following financial liberalisation, and the intense exchange rate pressures that affected European countries in 1992 and 1993 and, more recently, Mexico. There is also a widespread perception that financial markets in general have become progressively more volatile, with

global bond market volatility during 1994 an important recent example. Key issues from a policy perspective are: the extent to which any trend increase in financial market volatility has actually occurred; the extent to which the episodes of instability following deregulation were essentially transitory and the contributions of other sources of instability such as inadequate supervisory or macroeconomic policies to these episodes; and the implications of financial deregulation for monetary policies.

i) Financial market volatility

An assessment of data on monthly movements in stock, bond and foreign exchange markets (Tables 22 to 24) suggests that there has been no general trend increase in volatility in these core financial asset markets within the post-deregulation period, although of course exchange rates and bond yields are substantially more variable than when they were directly controlled. In the case of government bond markets, volatility in many countries peaked in the early 1980s, partly reflecting sharp movements in U.S. interest rates and also big changes in inflation rates around that time. There has been a gradual fall in volatility in the second half of the 1980s and early 1990s, and the sharp increase in bond yields in 1994 was relatively small compared with variations in the early 1980s. Experiences with respect to stock market volatility have been more diverse, with a number of the major countries showing declining volatility since the 1970s or early 1980s while several smaller countries have shown increases. Data on monthly variations in effective exchange rates show average variability broadly flat or declining in the majority of countries since the early 1980s. Major exceptions are Italy, Finland and Turkey. There is some econometric evidence that exchange-control liberalisation led initially to increases in exchange-rate volatility in some countries, but that this effect has not been permanent¹⁹.

Notwithstanding the absence of any clear increasing trend in financial market volatility, there have been a number of individual cases of market disruption that have given rise to concern. The equity market crash in October 1987 is the biggest single security market disruption in the post-war period, and is often cited as an example of clearly excessive volatility. Economists have had great difficulty providing a satisfactory explanation for the crash in terms of a change in economic fundamentals, since a) no piece of economic news was released at the time of the crash which appears sufficient to explain such a sharp adjustment of market values; and b) the international transmission of the collapse cannot be ascribed to a common fundamental factor. Subsequent rises in equity prices in most markets suggest that markets may have overshot. Moreover, a detailed study of the behaviour of individual investors during the crash²⁰ suggested that they were primarily reacting to developments in the market itself rather than to news or beliefs about economic fundamentals. In the United States a report by the Brady Commission on market functioning during the crash cited the increased use of automatic trading techniques as a factor contributing to the sharp fall in equity prices.

A noticeable feature of other disruptions in security markets during the past decade is that they occurred mainly in small or relatively new markets. A recent review²¹ cites -- in addition to the equity market crash -- three cases of turbulence and disruption in securities markets in the 1980s and the early 1990s: the crisis in the floating-rate note market (1986), the failure of the "junk" bond market (1989) and the collapse of the Swedish commercial paper market (1990). More recent problems in the ECU bond market (1992), the mortgage-backed security market (1994), and the Mexican equity and bond markets (1994-1995) can be added to this list. The problems in these markets were related to unexpected changes in monetary policy (in the case of the mortgage-backed security market), slowdowns in economic activity combined with high leverage (the "junk" bond and the Swedish commercial paper markets) or turbulence in currency markets (the ECU bond market and the Mexican equity and bond markets). All of these crises do, however, illustrate the need for a core of well experienced traders and investors to ensure orderly

operation and liquidity. Markets in newly created instruments often lack such a core and are particularly sensitive to rapid shifts in market sentiment, especially if the trading is taking place outside official exchanges.

ii) Fragility of institutions

A prominent feature of the post-liberalisation period has been the emergence of a number of cases of failure of institutions in the financial sector. Notably these have included the savings and loan ("thrift") crisis in the United States and banking failures in the Nordic countries, as well as some serious banking difficulties in Japan, France and, most recently, Mexico. A summary of the main developments is provided in Annex 2²². Although it can be argued that the handling of financial liberalisation played some role in several of the failures, international comparisons suggest it would be wrong to concentrate solely on financial liberalisation as an explanatory factor. Other important factors included macroeconomic management, interactions between financial deregulation and existing microeconomic distortions, and policies with respect to capital standards and bank supervision.

Macroeconomic factors played a role in nearly all of the crises reviewed. In Mexico, while inflation had been brought down significantly from earlier rapid rates, it was still high relative to U.S. inflation. This situation, which reflected continued very rapid growth of domestic bank credit in Mexico, together with rising interest rates in the United States during 1994, made it difficult to sustain the Mexican government's policy of limiting peso depreciation within official bands in the face of large current account deficits. The recent sharp depreciation of the peso has increased the vulnerability of Mexican banks, with their business customers having incurred large foreign exchange losses from foreign-currency borrowing. The problems in the Japanese banking sector had their origins in the "bubble" economy which fed on monetary policy being too easy for too long -- credit-based speculative asset investments bid up the price of land and equities to unsustainable levels. In Sweden, Finland and Norway, the booming macroeconomic environment in the mid-1980s was supported by rising commodity prices but, with hindsight, monetary and fiscal policies were not sufficiently restrictive to prevent rising inflation and overheating. Asset price inflation was also an important element behind the troubles in several smaller U.S. commercial banks in the latter half of the 1980s. In each of these cases, banks built up heavy exposures in property-related lending, leading to severe difficulties when property prices began to fall. Inexperience in working in a deregulated environment appears to have exacerbated problems of excessive risk taking by banks; managers had been used to a regulatory environment where increased market share was the main objective and real estate had been considered a reliable form of collateral.

The interplay between financial reform and pre-existing microeconomic distortions reinforced tendencies to excessive risk taking in a number of countries. In the Nordic countries, the removal of quantitative constraints on lending occurred at a time when a significant portion of borrowers faced low or even negative real after-tax borrowing rates. In Japan, tight restrictions on land use arguably exacerbated the net effect on asset prices of increased access to credit. The handling of the thrift crisis in the United States provides an example of the problems associated with institutions with low or negative capital ratios and distorted incentives. A policy of regulatory forbearance was deliberately followed in the hope that a reversal in the negative trend in earnings would turn around insolvent thrifts. However, the situation in many troubled institutions worsened as the owners had strong incentives to take high risks: with low or zero capital value, limited liability implies no downside risk, and the presence of deposit insurance removed incentives for depositors to monitor the solvency of these institutions.

The importance of high capital ratios and prudential supervision can be illustrated by the contrasting experiences of Norwegian and Danish banks. While Danish capital standards were tightened significantly in the early 1980s to one of the highest levels in the OECD area, more lenient capital requirements applied to Norwegian banks. In addition, Danish prudential supervision was arguably more vigilant than its Norwegian counterpart, reflected *inter alia* in a much smoother distribution of loan loss provisions than in Norway. Thus, in spite of similar macroeconomic developments and tax systems -- as well as similar average loan loss provisions over the 1980s as a whole --no major cases of insolvency were reported among Danish banks. These experiences highlight the importance of giving appropriate incentives and sufficient powers to supervisors so that they can intervene sufficiently early in institutions with low levels of capital.

The overall costs of financial failures and loan losses are very hard to estimate. In addition to pure budgetary costs, real economic costs arise from misallocations of resources, such as overinvestment in real estate or financial services. Two measures of the purely financial costs of bank losses are presented in Tables 25 and 26 -- the level of provisions for loan losses deducted from profits in the banking system, and the gross costs of public support operations. Increases in loan losses were clearly highest in the Nordic countries, where annual provisions were of the order of 2 per cent of the balance sheets of the banking system in the early 1990s. The direct costs of public support operations relative to GDP were highest in Finland, with cumulative costs amounting to around 7 1/2 per cent of GDP. These figures, however, are likely to overstate the final net costs of support operations since they do not take account of amounts gained from subsequent resale of troubled institutions.

Systemic disruptions caused by banking losses have been successfully limited by the policies chosen in dealing with these crises, with investor panics or major bank closures being avoided. Governments or central banks were generally prompt to supply the necessary liquidity and a high degree of protection was given to depositors. In some cases, solutions were found by merging or liquidating banks, while, in other cases, notably where larger banks faced insolvency, a combination of capital injections and increased government control was used. These policies contrast with the absence of deposit insurance and the generally tougher line that was taken in the 1920s and 1930s. However, an ongoing policy problem is to avoid creating or sustaining incentives for institutions to count on government bail-outs in the future.

iii) Monetary policy implications

Financial deregulation, and structural changes in financial markets generally, clearly imply important changes in the environment in which monetary policy has to operate. Two key aspects of adjustment to the new policymaking environment are: problems of interpreting financial information in the presence of major structural change; and problems of controlling key financial variables.

Problems of interpreting financial information

Rapid growth of financial activity, and increasing fluidity of financial flows between different types of institutions, have meant that the usefulness of monetary and financial aggregates as macroeconomic indicators have increasingly broken down. Almost all OECD countries experienced instability in previously reliable monetary aggregates during the 1980s and, as a result, most have either abandoned or significantly de-emphasised their monetary targets; Germany has been an exception in retaining an emphasis on monetary targets. Where monetary aggregates have become unreliable, authorities have tended either to put an increasing emphasis on exchange-rate stability, or to focus on a wider range of indicators in order

to direct monetary policy at ultimate macroeconomic goals. Problems of calibrating monetary policies have probably been exacerbated by structural changes in the monetary transmission mechanism, with direct interest-rate effects and indirect exchange rate effects on expenditure and on financial decisions becoming much more important, rather than quantity rationing mechanisms. The need for a learning process by monetary authorities in adjusting to the new environment may have contributed to problems of monetary management in the 1980s that were described in the preceding section. In particular the failure, with hindsight, to have reacted sufficiently firmly to the rapid expansion of financial aggregates may have been partly due to difficulties of interpreting these aggregates due to structural change. This was compounded by uncertainties in predicting the effects of interest rate increases that were actually implemented.

Problems of controlling key financial variables

A second potential problem for policymakers in the liberalised financial environment is an increased difficulty in controlling key financial variables. Three examples can be cited. First, although regulation-driven quantity rationing has been widely removed, monetary and credit volumes are still likely to play an important role in the monetary transmission process, and these variables are no longer subject to direct control. Second, there is a perception, encouraged by developments in 1994, that long-term interest rates have become less amenable to policy influence, although, as noted earlier, the current level of bond market volatility does not look abnormal when compared to the early 1980s. Third, exchange rate pressures on European currencies in 1992-1993, and more recently on the Mexican peso, illustrate the difficulties of resisting strong exchange rate pressures once markets lose confidence in a currency; they also illustrate the massive short-term capital flows that can be generated when this occurs.

Capital account liberalisation has clearly removed one possible instrument for the defence of an exchange rate, and perhaps weakened the impact of official exchange-market intervention, but it is not clear that any reinstatement of capital controls, or tax measures such as a foreign-exchange transactions tax, would alter the potential for exchange rate instability in any fundamental way. Currency crises were not infrequent before capital account liberalisation, although they generally took longer to develop. An earlier review of the European currency crisis²³ concluded that the exchange rate pressures were primarily a result of macroeconomic divergences. Moreover, countries which strengthened their exchange controls in order to defend their exchange rates during that episode (Spain, Portugal and Ireland) were still ultimately unsuccessful in avoiding depreciations.

V. Conclusions

The process of financial deregulation in OECD countries was driven by two broad sets of forces that might be termed "passive" and "active" considerations. At the passive level, regulatory authorities were often reacting to developments, such as financial innovations, that put increasing pressure on the existing regulatory system and rendered many regulations ineffective, costly to enforce, or grossly distorting to competition in the financial sector. But there were also active reasons for reform. In particular, deregulation was expected to improve efficiency by promoting competition and by removing artificial constraints on the allocation of finance. In many countries, financial deregulation was also seen as part of a broader reform process aimed at giving greater scope to the operation of market forces in the economy as a whole.

The assessment of consequences of financial deregulation suggested several conclusions:

- there has been major growth in both the scale and scope of financial activity during the past two decades. Deregulation has contributed to these trends but has not been the only factor at work, and financial activity has also grown rapidly in countries where deregulation was not a major factor;
- there is some evidence that the efficiency of financial markets has increased, with respect to both internal cost efficiency and the impact on resource allocation. However, the overall effects on economic efficiency are hard to quantify;
- a number of cases of financial fragility have been associated with financial deregulation, but deregulation was not the only contributing factor and many of the problems may have been transitional in nature. Other important factors contributing to these episodes included problems of macroeconomic management, prudential standards, and distortions to incentives arising from other aspects of policy.

An important lesson from experiences with deregulation has been that financial innovations have made many types of regulation increasingly difficult to enforce. For this reason, simplistic strategies of reversing the deregulation process to deal with any consequences perceived as unsatisfactory are unlikely to be workable. To the extent that risks to financial stability are a key concern of regulatory policies, such policies need to be directed at limiting the sources of excessive risk-taking in the least distorting ways possible.

The experiences following financial deregulation also point to important interactions between macroeconomic policies and structural policies in the financial sector. Financial liberalisation has changed the environment for macroeconomic policymaking in important ways, for example through changes in the monetary transmission mechanism and increased difficulties of interpreting and controlling financial variables. In addition, the increased mobility of funds, both domestically and internationally, has increased the need for macroeconomic policies that are conducive to financial stability, since markets have become increasingly sensitive to policy uncertainties. These uncertainties can arise in particular from apparent inconsistencies among different macroeconomic policy objectives or between economic and social policy objectives, as well as from current and prospective political difficulties.

NOTES

1. The authors are particularly indebted to Bruce Montador for his role in setting the overall direction of the project. They are also grateful for comments and suggestions from colleagues, in particular Jörgen Elmeskov, Michael P. Feiner, Robert Ford, Peter Hoeller, Peter Jarrett, Michael Kennedy, Constantino Lluch, Sigurd Naess-Schmidt and John Thompson. Patient and proficient secretarial assistance was provided by Andrea Prowse and Paula Simonin, while Laure Meuro gave excellent statistical support. The views expressed in this paper are those of the authors and are not necessarily shared by the OECD.
2. The most important sources of information for this section are Economic Survey chapters on financial reform, *Competition in Banking* (OECD, 1989), *Banks Under Stress* (OECD, 1992).
3. Regulation Q in the United States had imposed statutory ceilings on interest rates of all deposits of banks and thrift institutions.
4. The prohibition also applies to fixed-term deposits up to 7 days maturity in the United States. Some of these restrictions are relatively easily circumvented by linking current account facilities to other interest bearing accounts, particularly in the United States.
5. The role of OECD liberalisation codes in this context is reviewed in *Exchange Control Policy* (OECD, 1993).
6. For a review of pension asset regulations and their effect on portfolio diversification, see Davis (1994).
7. In Australia the Reserve Bank has depositor protection powers to ensure that depositors are given priority over other bank creditors in the event of insolvency.
8. See, for example, Kapstein (1994) for a description of various attempts to limit risks for the international financial system.
9. See OECD, *Banks Under Stress*, Chapter 2.
10. It would be misleading to express this income measure as a ratio to total assets, since the latter understates the total growth of banking business.
11. A review of these methodological issues is provided in Colwell and Davis (1992).
12. These observations are fully consistent with the relative stability of banks' average interest margins, discussed earlier. While average margins were relatively stable, the overall bank interest rate structure moved up to more realistic levels relative to market rates following deregulation.
13. See Kregel (1992).
14. See Obstfeld (1993), p. 37-41: estimates of aggregate gains in industrial countries vary from 0.25 per cent of GDP to as much as 11 per cent of world consumption. Moreover, recent studies

indicate that individual gains may be even larger, due to the inherent non-diversifiability of human capital.

15. See Tobin and Dolde (1971) and Jappelli and Pagano (1991).
16. Sturm (1983), Friend (1986), Carroll and Summers (1987).
17. Makim (1986), Hayashi (1986), Shinohara (1983), Guiso, Japelli and Terlizzese (1992).
18. Bayoumi (1991) estimated the permanent effect on the U.K. saving ratio to be in order of 2 1/4 per cent. See also Muellbauer and Murphy (1989).
19. Grilli and Roubini (1993) studied movements in the daily exchange rates of seven countries (the United States, Japan, Germany, France, Italy, the United Kingdom and Australia) before and after removal of important foreign exchange regulations, and found no evidence of an increase in volatility. After an initial increase, deregulation appears to lead to a slight reduction in volatility.
20. Shiller (1989).
21. Davis (1992).
22. More detailed assessments appear in OECD Economic Surveys of the countries concerned. Policy lessons are discussed further in *Assessing Structural Reform: Lessons for the Future*, OECD 1994.
23. "The Turmoil in European Currency Markets", *OECD Economic Outlook*, No. 53.

Table 1. **The process of interest rate deregulation**
 Countries with interest rate controls or agreements

	End 1960	End 1980	End 1987	End 1990
Australia	X	X	-	-
Austria	X	X	X	-
Belgium	X	X	X	X*
Canada	X	-	-	-
Denmark	X	X	-	-
Finland	X	X	X	-
France	X	X	X	X*
Germany	X	-	-	-
Greece	X	X	X	X*
Iceland	X	X	X	X
Ireland	X	X	-	-
Italy	X	-	-	-
Japan	X	X	X	X
Netherlands	X	-	-	-
New Zealand	X	X	-	-
Norway	X	X	-	-
Portugal	X	X	X	X
Spain	X	X	-	-
Sweden	X	X	-	-
Switzerland	X	X	X	-
Turkey	X	-	X	-
United Kingdom	X	X	-	-
United States	X	X	X	X*

X = official controls or private agreements.

- = no official controls or private agreements.

* = controls generally abolished, with only a minor exception for a specific category.

Source: OECD, *Banks Under Stress*, 1992.

Table 2. **Employment in financial services¹**
Per cent of total employment

	1960-69	1970-74	1975-79	1980-84	1985-89	1990-93
United States	3.7	4.1	4.4	4.8	5.1	5.0
Germany	2.3	2.9	3.2	3.3	3.4	3.6
France		2.5	3.0	3.2	3.3	3.2
Canada				4.3	4.3	4.4
Australia				4.7	5.1	5.0
Austria ²		2.6	3.0	3.4	3.6	3.8
Belgium		3.4	3.6	4.0	4.6	4.5
Denmark	2.7	3.1	3.6	4.2	4.5	4.6
Finland			2.8	2.9	3.3	3.2
Iceland		3.2	3.5	3.9	4.5	4.7
Luxembourg		4.3	5.2	6.7	8.7	10.0
Netherlands					4.0	3.9
New Zealand				2.8	3.4	3.8
Norway	2.0	2.4	2.6	2.8	3.3	3.2
Portugal			2.3	2.6	2.8	2.7
Spain ²					3.5	3.3
Sweden				1.9	2.1	2.3
Average ³		3.1	3.5	3.8	4.1	4.1

1. Employees in financial institutions and insurance.

2. Employees in financial institutions.

3. Weighted average of countries with data from 1970 to 1993.

Source: OECD.

Table 3. **Investment in financial services**¹
Per cent of gross capital formation

	1960-69	1970-74	1975-79	1980-84	1985-89	1990-93
United States	1.6	2.2	3.1	5.2	6.8	6.8
Germany	1.4	1.8	1.9	2.1	2.2	2.6
France		1.5	1.5	1.7	2.3	2.0
United Kingdom		5.0	5.8	9.5	9.4	6.8
Belgium ²			2.2	2.8	3.5	2.4
Denmark ²	1.9	2.0	2.0	2.3	2.2	2.2
Finland			1.7	1.8	1.4	1.4
Luxembourg		2.5	3.4	6.5	13.1	15.7
Norway ²	0.9	1.1	1.1	2.0	2.9	2.9
Portugal				1.5	2.8	3.1
Sweden				0.7	1.1	0.9
Average ³		2.3	2.9	4.7	5.8	5.4

1. Financial institutions and insurance.

2. Financial institutions.

3. Weighted average of countries with data from 1970-1993

Source: OECD.

Table 4. **Outstanding amounts of commercial paper¹**
Per cent of GDP

Item	Market opening	1986	1987	1988	1989	1990	1991	1992
United States	1960	7.5	8.0	9.0	9.8	9.9	9.1	8.8
Japan	1987	..	0.5	2.4	3.2	3.6	2.7	2.6
Germany	1991	..	..	..	..	..	0.3	0.6
France	1985	0.4	0.7	1.0	1.9	2.3	2.2	2.3
United Kingdom	1986	0.1	0.4	0.6	0.6	0.7	0.6	0.7
Canada	1960	3.2	3.4	4.0	4.3	4.6	4.6	4.4
Australia	1970	2.3	3.5	2.9	3.9	3.6	4.1	4.9
Finland	1986	0.5	2.3	4.2	5.2	5.6	4.7	4.0
Netherlands	1986	0.0	0.3	0.4	0.3	0.6	0.8	0.8
Norway	1984	1.3	3.1	2.9	2.6	2.7	2.8	2.0
Spain	1982	2.4	1.2	1.6	1.9	4.7	4.7	5.4
Sweden	1983	2.3	3.8	4.4	6.8	8.5	8.1	7.2

1. Includes bankers' acceptances for Canada.

Sources: Alworth, J.S. and Borio (1993), OECD, Bank of Canada.

Table 5. **Outstanding amounts of corporate bonds**
Per cent of GDP

	1970	1975	1980	1985	1990	1993
United States	11.6	12.6	12.6	16.1	21.0	26.9
Japan	4.1	4.4	4.1	4.3	6.5	7.5
Germany	1.1	0.9	0.3	0.1	0.1	0.1
France	2.2	4.1	3.9	5.4	7.0	8.6
Italy	..	0.7	0.3	0.6	0.4	0.2
United Kingdom	10.6	6.2	2.3	2.1	2.6	2.7
Canada	11.7	11.2	9.2	7.1	8.4	9.7
Austria	3.6	3.8	2.1	1.8	1.7	1.6
Finland	0.7	1.1	1.2	3.3	4.3	6.9
Netherlands	..	7.6	11.0	10.5	13.9	16.9
Norway	1.6	0.6	0.5	1.5	2.1	2.8
Portugal	..	..	0.9	2.6	5.3	3.8
Spain	13.9	11.4	8.4	7.2	4.0	4.4
Sweden	4.7	4.9	4.2	4.9	4.2	5.0
Switzerland	11.3	13.7	14.0	13.3	12.9	12.9

Source: Salomon Brothers.

Table 6. **Banks: non-interest income as percentage of total income**

		1979-1984	1985-1989	1990-1992
United States	Commercial banks	24	30	34
	Mutual saving banks	86	22	19
Japan	Large commercial banks	18	32	20
Germany	All banks	19	21	25
France	Commercial banks and credit cooperatives	15	16	26
Italy	Commercial banks	27	29	24
United Kingdom	Commercial banks	31	37	41
Canada	Commercial banks	22 ¹	27	31
Australia	All banks	4 ²	33	44
Belgium	Saving banks	4	8	13
	Commercial banks	21 ³	27	25
Denmark	Commercial and saving banks	33	22	5
Finland	Commercial banks	50	58	54
Greece	Large commercial banks	41	65	58
Netherlands	All banks	25	27	29
Norway	All banks	20	25	19
Sweden	Commercial banks	29	31	31
	Saving banks	17	22	38
Spain	All banks	14	17	19
Switzerland	Large commercial banks	50	49	51

1. 1982-1984

2. 1981-1984.

3. 1980-1984.

Source: *Bank Profitability*, OECD.

Table 7. **The expansion of financial derivative markets**
 Notional principal amounts in billions of U.S. dollars¹

Instruments	1986	1988	1990	1992
Exchange-traded instruments	583	1 307	2 292	4 641
Interest rate options and futures	516	1 175	2 054	4 288
Currency options and futures	49	60	72	105
Stock index options and futures	18	72	166	248
Over-the-counter instruments	500	1 330	3 451	5 346
Interest rate swaps ²	400	1 010	2 312	3 851
Currency and interest/currency	100	320	578	860
Other	--	--	561	635
Grand total	1 083	2 637	5 743	9 987
<i>Memorandum items:</i>				
Ratio of grand total to:				
International claims of BIS reporting banks	0.27	0.47	0.76	1.34
OECD GDP	0.10	0.19	0.35	0.59

1. Amounts outstanding at year end.

2. Adjusted for dual reporting of both sides of transactions.

Source: BIS (1993), BIS (1994).

Table 8. **Cross-border transactions in bonds and equities¹**
Per cent of GDP

Countries	1970	1975	1980	1985	1990
United States	2.8	4.2	9.3	36.4	92.5
Japan	..	1.5	7.0	60.5	118.6
Germany	3.3	5.1	7.5	33.9	57.5
France	..	..	8.4 ²	21.4	53.3
Italy	..	0.9	1.1	4.0	26.7
United Kingdom	..	..	..	367.5	690.1
Canada	5.7	9.6	9.6	26.7	63.8

1. Gross purchases and sales of securities between residents and non-residents.

2. 1982.

Source: BIS Annual Report 1992.

Table 9. **Foreign exchange market turnover¹**
Per cent of GDP

	March 1986	April 1989	April 1992
United States	16.5	29.5	38.2
Japan	33.0	66.8	62.6
United Kingdom	178.3	276.4	384.4
Canada	29.0	35.6	50.3

1. Nominal amount of transactions net of local inter-dealer double-counting.

Sources: Group of Ten (1993) and OECD.

Table 10. **Institutional investors' holdings of foreign securities**
Per cent of total securities holdings

	1980	1985	1990	1993
United States¹				
Private pension funds ²	1.0	3.0	4.1	7.1
Mutual funds	..	..	4.0 ³	8.0
Japan				
Postal Life Insurance	0.0	6.7	11.6	12.3
Private insurance companies	8.1	23.2	29.9	22.3
Canada				
Life insurance companies	2.2	2.3	2.4	3.1
Pension funds	6.1	6.6	7.0	10.6
Italy				
Insurance companies	..	..	13.6	12.2
United Kingdom				
Insurance companies ⁴	6.3	14.1	14.6	..
Pension funds ⁵	10.8	17.3	23.2	..
Australia				
Life insurance companies	..	..	14.0	18.8
Austria				
Insurance companies	14.1	11.6	10.1	9.9
Investment funds	27.0	13.2	18.7	25.1
Belgium				
Insurance companies	5.5	8.6	5.2	..
Netherlands				
Insurance companies	6.9	22.9	20.2	26.0
Private pension funds	26.6	28.1	36.6	36.9
Public pension funds	14.7	9.9	16.6	20.2
Sweden				
Insurance companies	..	1.5 ⁶	10.5	12.3

1. Per cent of total assets.

2. Tax exempt funded schemes (excluding IRAs).

3. 1991.

4. Long-term funds.

5. Pension funds exclude central government sector but include other public sector.

6. 1987.

Sources: Takeda, M. and P. Turner (1992), "The Liberalisation of Japan's Financial Markets: Some Major Themes", *BIS Economic Papers*, No. 34, November, *BIS Annual Report*, 1994, No. 64.

Table 11. **Interest margins in OECD banks**
Per cent of balance sheet total

		1979-1984	1985-1989	1990-1992
United States	Commercial banks	3.0	3.3	3.6
	Mutual saving banks	0.5	2.5	3.0
Japan	Large commercial banks	1.1	0.9	0.8
Germany	All banks	2.2	2.1	1.9
France	Commercial banks and credit cooperatives	2.5	2.3	1.7
Italy	Commercial banks	2.7	2.9	3.2
United Kingdom	Commercial banks	3.2	3.0	2.8
Canada	Commercial banks	2.5 ¹	2.9	3.0
Australia	All banks	6.3 ²	3.3	2.5
Belgium	Saving banks	2.5	2.6	1.9
	Commercial banks	1.6 ³	1.4	1.4
Denmark	Commercial and saving banks	3.3	2.5	3.2
Finland	Commercial banks	1.9	1.4	1.3
Greece	Large commercial banks	1.9	1.0	1.6
Netherlands	All banks	2.2	2.2	1.7
Norway	All banks	3.5	3.2	3.3
Spain	All banks	3.9	3.9	3.6
Sweden	Commercial banks	2.1	2.3	2.1
	Saving banks	3.1	3.9	4.1
Switzerland	Large commercial banks	1.2	1.3	1.5

1. 1982-1984

2. 1981-1984.

3. 1980-1984.

Source: *Bank Profitability*, OECD.

Table 12. **Gross earnings on capital in OECD banks¹**

Per cent

		1979-84	1985-89	1990-92
United States	Commercial banks	67	77	79
	Mutual savings banks	23	45	50
Japan	Large commercial banks	73	58	33
Germany	All banks	81	73	65
France	Commercial banks ²	112	104	68
Italy	Commercial banks	108	63	57
Canada	Commercial banks	77 ³	76	75
Australia	All banks		63 ⁴	45
Austria	All banks		58 ⁵	56
Belgium	Commercial banks	82 ⁶	68	49
	Savings banks	65	56	44
Denmark	Commercial and savings banks	57	41	50
Finland	Commercial banks	53	46	44
Greece	Large commercial banks	84	112	90
Luxembourg	Commercial banks	38	38	34
Norway	All banks	89	97	122
Portugal	All banks	65	46	40
Spain	All banks	59	55	46
Sweden	Savings banks	93	63	112
	Commercial banks	77	51	62
Switzerland	Large commercial banks	41	42	47

1. Gross income (net interest income plus fee income) as a percentage of capital and reserves.

2. Includes credit cooperatives.

3. 1982-1984.

4. 1986-1989.

5. 1987-1989.

6. 1980-1984.

Source: *Bank Profitability*, OECD.

Table 13. **Staff costs as a per cent of gross income in OECD banks**

Per cent

		1979-84	1985-89	1990-92
United States	Commercial banks	35	31	29
	Mutual savings banks	69	27	28
Japan	Large commercial banks	40	28	30
Germany	All banks	42	41	41
France	Commercial banks	46	42	40
Italy	Commercial banks	48	48	45
United Kingdom	Commercial banks	45	38	37
Canada	Commercial banks	39	34	36
Belgium	Commercial banks	54	45	46
	Savings banks	37	33	38
Denmark	Commercial and savings banks	38	40	43
Finland	Commercial banks	42	33	32
Greece	Large commercial banks	59	61	46
Greece	Large commercial banks	59	61	46
Netherlands	All banks	42	40	39
Norway	All banks	41	33	34
Spain	All banks	46	43	37
Sweden	Savings banks	38	30	24
	Commercial banks	28	24	25
Switzerland	Large commercial banks	41	37	37

Source: *Bank Profitability*, OECD.

Table 14. **Operating expenses as a percent of gross income in OECD banks**

		1979-1984	1985-1989	1990-1992
United States	Commercial banks	68	67	66
	Mutual savings banks	150	61	72
Japan	Large commercial banks	71	56	63
Germany	All banks	63	64	65
France	Commercial banks and credit cooperatives	69	68	66
Italy	Commercial banks	66	66	63
United Kingdom	Commercial banks ¹	68	65	65
Canada	Commercial banks	32 ²	58	63
Belgium	Commercial banks	60	66	67
	Savings banks	73	73	81
Denmark	Commercial and savings banks	57	64	71
Finland	Commercial banks	79	76	131
Greece	Large commercial banks	72	78	60
Luxembourg	Commercial banks	32	35	39
Norway	All banks	73	69	73
Portugal	All banks	59	58	47
Spain	All banks	68	64	60
Sweden	Savings banks	69	75	93
	Commercial banks	62	57	115
Switzerland	Large commercial banks	60	55	56

1. Figures before 1985 are adjusted by two percentage points to improve comparability.

2. 1982-1984.

Source: *Bank Profitability*, OECD.

Table 15. **Average commissions on UK equities**
 London Stock Exchange
 Per cent

1980	0.6
1985	0.4
1987	0.3
1990	0.3
1992	0.2

Source: London Stock Exchange.

Table 16. **Average commission on Eurodollar bond issues¹**
 Per cent

	Sale	Management/ Underwriting	Total
1980	1.5	1.0	2.5
1981	1.3	0.6	1.8
1982	1.3	0.5	1.7
1983	1.3	0.6	1.9
1984	1.1	0.5	1.6
1985	1.1	0.6	1.8
1986	1.3	0.6	1.9
1987	1.2	0.3	1.4

1. Supernational issues only.

Source: Bank of England.

Table 17. **Bid-ask spreads on 3-month Eurocurrency deposits¹**

Basis points

	1980-1982	1987-1989
US dollar	12.6	12.6
Pound sterling	66.7	12.0
French franc	49.0	13.4
Deutschemark	12.8	12.9
Japanese yen	17.0	11.8

1. Average of daily spread.

Sources: DRI and IMF (1991).

Table 18. **Automatic teller machines per capita**

Per million inhabitants

	1978	1983	1986 ¹	1992
United States	44	205	286	..
Japan	111	318	494	..
Germany	..	13	66	237
France	19	82	172	306
Italy	..	26	76	245
United Kingdom	39	102	182	317
Canada	11	79	127	..
Belgium	..	57	81	109
Denmark	..	49	112	240
Finland	..	80	322	579
Netherlands	..	2	31	263
Norway	..	84	277	401
Sweden	..	135	198	256

1. 1987 for Italy and smaller OECD countries.

Sources: OECD (1989) and BIS.

Table 19. **Balance sheet total per employee**

Millions of U.S. dollars; 1987 prices

		1979-1984	1985-1989	1990-1992
Japan	Commercial banks	4.74	11.8	14.6
France	Commercial banks and credit cooperatives	2.09	3.64	7.18
United Kingdom	Commercial banks	0.85	1.68	2.66
Australia	All banks	..	4.28	5.37
Belgium	Commercial banks	2.93	5.50	8.05
	Savings banks	2.36	3.73	5.98
Denmark	Commercial banks and savings banks	0.67	1.53	1.78
Finland	Commercial banks	1.09	3.12	5.74
Greece	Large commercial banks	0.35	1.10	2.38
Luxembourg	Commercial banks	13.82	19.46	24.41
Netherlands	All banks	1.84	3.10	5.67
Norway	All banks	0.97	2.43	3.68
Portugal	All banks	0.39	0.94	2.01
Sweden	Commercial banks	2.38	4.78	8.57
	Savings banks	1.17	1.95	3.59
Switzerland	Large commercial banks	3.21	5.27	6.89

Source: *Bank Profitability*, OECD.

Table 20. **Interest rate differentials**
Bank lending rates less market rates

	1960-69	1970-74	1975-79	1980-84	1985-89	1990-94
United States: Prime rate	0.0	-0.7	0.7	1.5	1.5	2.4
Mortgage rate	1.6	1.6	1.5	2.1	2.1	2.1
Japan ¹	..	0.2	0.6	1.0	1.0	1.8
Germany ²	3.6	4.6	4.0	3.8	4.0	4.3
France ³	..	-3.0	-1.0	-3.0	0.8	0.6
Italy ⁴	..	2.1	4.1	1.7	2.3	2.2
United Kingdom ⁵	-2.1	-1.3	-0.9	0.1	0.8	1.2
Canada ³	1.7	2.5	1.3	1.7	1.3	1.2
Australia ⁶	..	..	0.4	0.5	0.2	3.4
Belgium ⁷	1.8	2.1	1.7	2.8	2.4	3.6
Finland ⁸	..	-0.9	-1.6	-3.6	-2.1	-0.1
Netherlands ⁹	2.0	2.7	2.7	2.2	1.7	1.0
Spain ¹⁰	..	..	-1.7	0.7	2.6	2.8

1. Prime rate less 60-day financial bill rate.
2. Interest rate on short-term bank credit less 3-month euro deposit rate.
3. Prime rate less 3-month interbank rate.
4. Overdrafts with commercial banks less 3-month interbank rate.
5. Building society mortgage rate less 3-month euro deposit rate.
6. Housing loans to individuals (saving banks) less 3-month interbank rate.
7. Overdrafts with commercial banks less 3-month tender rate on treasury certificates.
8. Commercial banks' lending rate less 3-month interbank rate.
9. Mortgage loan rate less 3-month interbank rate.
10. Credit rate less 3-month interbank rate.

Source: OECD.

Table 21. **Sensitivity of consumption to current transitory income**¹

	1960s	1970s	1980s
United States	0.50**	0.47**	0.25
Japan	0.42**	0.31**	0.13
Germany	0.37**	0.67**	0.98**
France	0.48	0.12	0.31
Italy	0.47**	0.54**	-0.01
United Kingdom	0.08	0.12	0.14
Canada	0.30*	0.24	0.16
Australia	0.37**	0.24	0.20*

1. The tabulated results are based on an estimate of β in the equation:

$\Delta c_t = \alpha + \beta \Delta y_t + \omega_t$ where c_t and y_t are current consumption and income, respectively (ω_t is an error term). The equation was estimated using three lags of personal income, consumption, government expenditure, total exports, as well as contemporaneous population and a time trend. One and two asterisks indicate difference from zero at the 10 and 5 per cent levels.

Source: Blundell-Wignall, Browne and Cavaglia (1991).

Table 22. **Volatility of bond yields**¹

	1960-69	1970-79	1980-85	1986-89	1990-94
United States	0.18	0.23	0.58	0.34	0.23
Japan	0.27	0.17	0.37	0.52	0.38
Germany	0.10	0.21	0.28	0.20	0.22
France	0.11	0.19	0.42	0.38	0.31
Italy	0.11	0.33	0.43	0.37	0.46
United Kingdom	0.17	0.55	0.43	0.43	0.36
Canada	0.13	0.22	0.58	0.27	0.31
Australia	0.04	0.23	0.53	0.46	0.41
Austria	0.07	0.15	0.22	0.13	0.18
Belgium	0.12	0.18	0.24	0.26	0.24
Denmark				0.48	0.38
Finland				0.29	0.49
Greece	0.05	0.40	0.45	0.27	0.50
Iceland					
Ireland		0.52	0.53	0.58	0.38
Luxembourg					
Netherlands			0.22	0.20	0.21
New Zealand	0.03	0.33	0.88	0.75	0.34
Norway			1.63	0.22	0.29
Portugal	0.07	0.55	0.90	0.77	
Spain				0.42	0.39
Sweden				0.28	0.42
Switzerland	0.08	0.16	0.19	0.14	0.24

1. Standard deviation of monthly changes (percentage points).

Source: OECD.

Table 23. **Volatility of share prices¹**

	1960-1969	1970-1979	1980-1985	1986-1989	1990-1994
United States	6.9	4.0	3.8	3.9	2.8
Japan	4.3	3.9	2.6	4.1	5.8
Germany	4.0	3.3	3.0	6.1	4.1
France	4.6	5.4	7.2	7.9	5.3
Italy	5.0	5.9	6.5	7.8	6.6
United Kingdom	3.5	6.7	3.4	5.7	3.7
Canada	3.5	4.9	5.7	5.0	3.5
Australia	..	4.9	3.8	7.4	3.8
Austria	2.1	2.0	4.7	6.3	7.6
Belgium	2.9	3.9	5.0	5.0	3.9
Denmark	4.8	4.3	6.8	4.9	4.5
Finland	3.6	3.6	3.8	4.7	7.9
Greece	4.8	5.6	4.0	12.0	7.7
Ireland	2.5	6.1	5.2	8.3	6.2
Netherlands	..	..	3.7	5.1	3.0
New Zealand	2.5	3.3	4.5	9.5	6.0
Norway	2.9	6.9	7.5	8.9	6.1
Spain	..	..	4.2	7.8	5.3
Sweden	3.1	4.5	5.3	6.5	7.7
Switzerland	5.0	4.7	3.4	6.0	4.8

1. Standard deviation of monthly changes (per cent).

Source: OECD.

Table 24. **Volatility of effective exchange rates**¹

	1960-69	1970-79	1980-85	1986-89	1990-94
United States	0.2	1.1	1.8	2.1	1.5
Japan	0.3	1.9	2.4	2.4	2.4
Germany	0.7	1.2	1.0	0.8	0.9
France	1.0	1.2	1.1	0.8	0.7
Italy	0.3	1.7	0.7	0.6	1.9
United Kingdom	1.0	1.5	2.0	1.8	2.0
Canada	0.2	1.1	0.9	1.0	1.1
Australia	0.6	2.0	2.3	3.0	2.2
Austria	0.4	0.7	0.7	0.5	0.6
Belgium	0.3	0.8	1.1	0.8	0.9
Denmark	0.4	1.1	1.0	0.8	1.0
Finland	2.1	1.0	0.9	0.6	2.1
Greece	0.2	1.5	2.9	0.9	0.8
Iceland	4.4	3.7	3.4	1.6	1.1
Ireland	0.5	0.7	1.4	1.2	1.4
Netherlands	0.3	0.8	0.9	0.7	0.8
New Zealand	1.3	1.6	2.4	3.0	1.4
Norway	0.4	1.0	0.9	1.4	0.7
Portugal	0.4	1.9	1.7	0.8	0.9
Spain	1.2	2.0	1.4	1.1	1.5
Sweden	0.9	1.1	1.7	0.5	2.0
Switzerland	0.4	1.6	1.5	1.2	1.5
Turkey	0.3	6.7	3.8	2.7	6.7

1. Standard deviation of monthly changes (per cent).

Source: OECD.

Table 25. **Provision against losses in OECD banks**
Per cent of total balance sheet

		1979-84	1985-89	1990-92
United States	Commercial banks	0.35	0.83	0.89
	Mutual savings banks	0.03	0.31	0.93
Japan	Commercial banks	0.02	0.04	0.08
Germany	All banks	0.41	0.37	0.38
France	Commercial banks	0.55	0.53	0.54
Italy	Commercial banks	0.66	0.48	0.52
United Kingdom	Commercial banks	0.41	0.86	1.20
Canada	Commercial banks ¹	0.49	0.74	0.64
Australia	All banks		0.37 ²	1.05
Belgium	Commercial banks	0.26	0.32	0.37
	Savings banks	0.310	0.33	0.16
Denmark	Commercial and savings banks	0.97	0.72	1.51
Finland	Commercial banks	0.34	0.66	2.70
Greece	Large commercial banks	0.39	0.28	0.50
Luxembourg	Commercial banks	0.50	0.51	0.44
Netherlands	All banks	0.57	0.32	0.29
Norway	All banks	0.52	1.09	2.52
Portugal	All banks	0.84	1.08	1.68
Spain	All banks	0.76	0.67	0.61
Sweden	Savings banks ³	0.89	0.58	2.03
	Commercial banks ³	0.65	0.63	1.47
Switzerland	Large commercial banks	0.33	0.48	0.75

1. Consolidated world-wide.

2. 1986-1989.

3. Only provision on loans.

Sources: *Bank Profitability*, OECD, and Denmark Ministry of Economy (1994).

Table 26. **Costs of public rescue operations of financial institutions¹**

	Period	Total cost ²	As per cent of GDP ³
United States			
Deposit insurance	1980-1992	195.0 ⁴	3.2
Japan			
Deposit insurance	1991-1992	0.6	0.0
Australia⁵			
State governments	1989-1991	4.4	1.6
Finland			
Central government	1991-1992	1.8	1.7
Government funds	1991-1992	3.1	3.0
Central bank	1991-1992	2.9	2.7
Total		7.8	7.4
Norway			
Government funds	1988-1992	3.2	2.8
Central government	1988-1992	0.2	0.1
Central bank	1988-1992	0.2	0.1
Total		3.6	3.0
Sweden			
Central government	1991-1993	12.7	5.2

1. The figures are based on official or widely accepted estimations and do not include more uncertain estimates relating to banking problems in France and Spain. Costs are estimated as perceived at the time of the capital injections and do not take account of any re-evaluations.

2. Cumulative cost in billions of US dollars at 1992 exchange rate.

3. GDP in 1992.

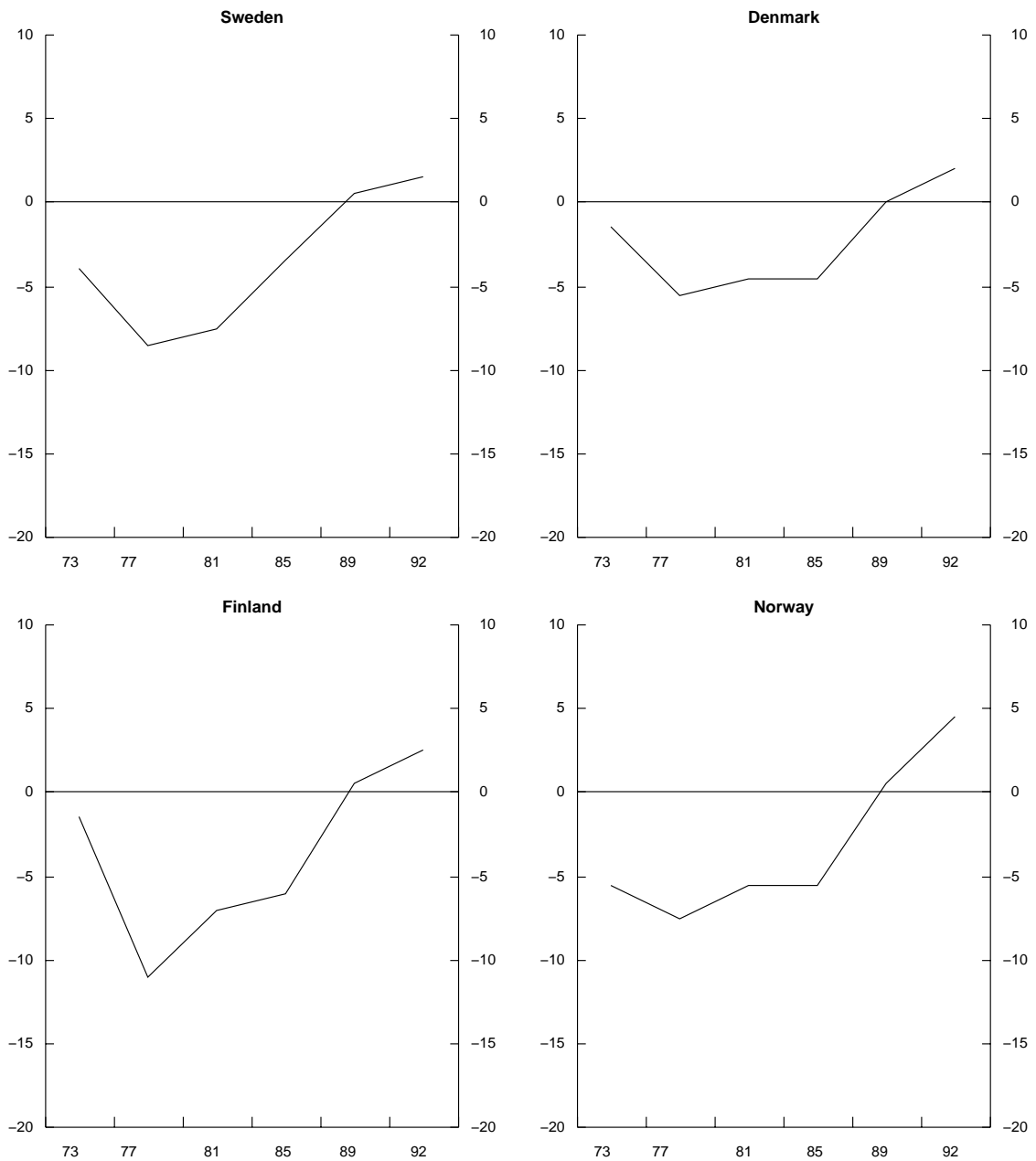
4. Figure comprises present value estimates of resolutions conducted by the FSLIC and the RTC (US\$180 billion) and lower-bound of estimates of Bank Insurance Fund losses (US\$15 billion). *Sources:* CBO (1994) and IMF (1993).

5. Capital injections.

6. Does not include loan guarantees (US\$3.4 billion) and capital injections by state-owned companies.

Sources: *BIS Annual Report* (1993), national authorities and Secretariat estimates (France).

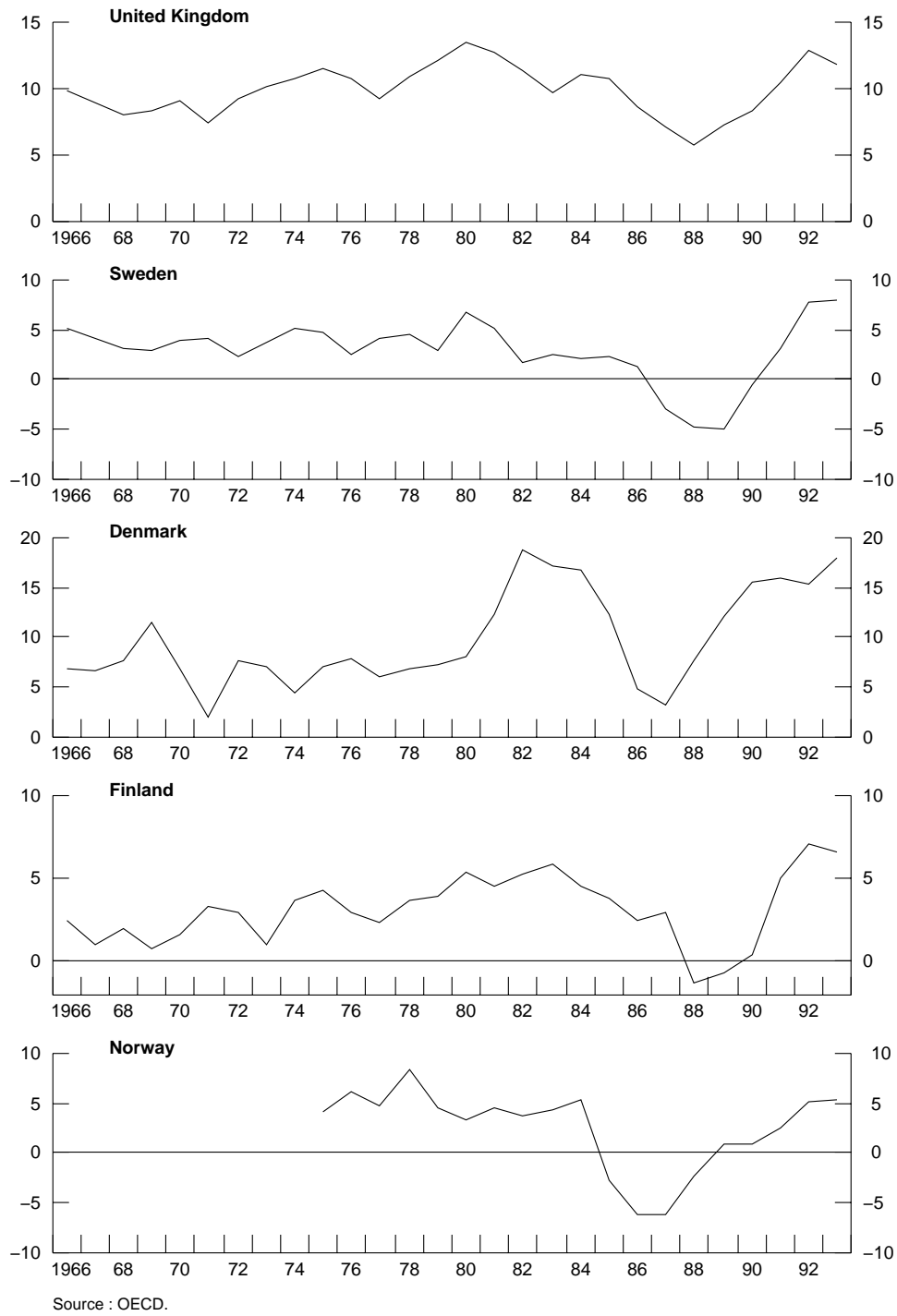
Figure 1. Real after-tax interest rate (1)
per cent



1. After-tax mortgage rate (based on top personal income tax rates) less rate of consumer price inflation; average for period ending in the year indicated.

Source: BIS (1993).

Figure 2. Household saving ratios
Per cent



ANNEX 1. TRENDS IN FINANCIAL STRUCTURE

Patterns of financial flows and of financial intermediation differ significantly from country to country, and it is important to recognise that these differences can arise not only from differing patterns of financial regulation but also from historical factors and from broader structural differences between economies. This being the case, there is no single pattern of financial intermediation to be regarded as ideal for all countries, although, as noted below, there appears to have been some tendency towards greater convergence of financial structures following deregulation. Some summary indicators of financial structure, for a selection of OECD countries, are provided in Tables A1 to A5. Key features are reviewed below.

A. Size of financial sector and financial intermediaries

Three broad indicators of financial structure are the size of the financial sector as a whole (measured by the ratio of the stock of all outstanding financial assets to GDP), the proportion of those assets held through intermediaries (the "financial intermediation ratio"), and the proportion of intermediation accounted for by banks ("bank intermediation ratio"). An assessment of these indicators suggests significant differences in total financial sector size, with the financial sectors of the United States, the United Kingdom and Japan substantially bigger than in most European countries (Table A1); all countries however experienced significant growth of the financial sector during the 1980s. Financial intermediation ratios are generally higher in continental Europe than in the United States and the United Kingdom, reflecting the greater development of private securities and equity markets in the latter countries. Within the financial intermediation sector, banks have a high relative importance in some European countries, particularly Germany and France, partly reflecting the more compartmentalised nature of financial systems elsewhere but also the much greater development of various forms of collective investment institutions in some other countries, particularly the United States.

B. Market structure of the banking sector

Most banking systems are quite highly concentrated, with five-firm concentration ratios generally of the order of 50 to 75 per cent, or in some cases higher (Table A2). Where national concentration ratios are low (particularly in the United States, Germany and Italy) this mainly reflects a strong regionalisation of deposit banking, with high levels of market concentration still prevailing on average within regions; for example, in the United States, the average three-firm concentration ratio within metropolitan areas in 1992 was 68 per cent, and 89 per cent in non-metropolitan areas. Where regionalisation is important it appears to be associated with the effects of branching restrictions (current or only recently removed) or, in the case of Germany, the importance of the Landerbanks in the financial system. The more general pattern of fairly high levels of concentration is often conjectured to reflect economies of scale in branch banking. Levels of concentration may not, however, adequately represent the degree of competition in the consumer market, in view of the increasing availability of electronic and telephone-based banking services not dependent on branch networks.

Foreign penetration of national banking markets varies significantly from country to country but is usually quite low despite generally liberal policies of market access. Foreign banks' shares of domestic retail banking are extremely low, and substantial market penetration has generally been confined to wholesale areas of banking which do not require expensive branch networks. It is the substantial

internationalisation of these areas that largely explains the relatively high overall market shares of foreign banks in the United Kingdom, the United States and Belgium/Luxembourg.

Public ownership of the banking system ranges from close to zero in the United States, the United Kingdom and Japan to around 50 per cent or more in some European countries, with particularly high ratios in Greece and Italy. Although public ownership is often held through central governments it is noteworthy that public ownership of banks in Germany is principally at regional level. Significant privatisation has been implemented during the past few years in France and, more recently, Italy. In some of the Nordic countries levels of public ownership are temporarily high following rescues of troubled banks, but plans for re-privatisation are being implemented.

C. Sources of corporate financing

OECD countries can be broadly classified according to the importance of alternative sources of financing for the corporate business sector. A key distinction can be made between systems that rely relatively heavily on intermediated financing (especially bank financing) and those which give a greater role to equity markets and private debt securities. Germany and Japan are important examples of the former pattern, characterised by high debt/equity ratios (currently around 3 and 4, respectively, though tending to fall) and with the bulk of new funding from external sources being raised by borrowing from institutions (Tables A3 and A4). At the other extreme, corporate financing in the English-speaking countries has traditionally been characterised by relatively low debt/equity ratios and heavier use of corporate debt securities than is common elsewhere. Although debt/equity ratios rose substantially in these countries during the 1980s they have remained below those typically prevailing in most of continental Europe and well below Japan and Germany. In broad terms these financing patterns are also reflected in the relative sizes of national stock markets (Table A5) with market capitalisation-to-GDP ratios relatively low in many continental European countries compared with the United States, the United Kingdom and Canada. (The very high Japanese figure is an exception to this trend and appears to be related to the high price/earnings ratios of Japanese stocks.)

These differences in financial structure appear to be importantly related not only to regulations directly affecting financial institutions and markets but also to wider legal frameworks impinging on matters of corporate governance¹. Germany and Japan, for example, have relatively liberal rules concerning the involvement of banks in corporate ownership and control while, at least until recently, having relatively high securities transfer taxes as well as a number of features of corporate law that discouraged the issuance of equities and corporate debt securities; they have also lacked strong disclosure and insider-trading laws that could help to promote confidence in securities markets². This mix of regulatory features has tended to encourage a reliance on bank finance, particularly since bank holdings of corporate equity may provide a monitoring and control mechanism that allows banks to be more comfortable with high levels of corporate debt. In the United States and the United Kingdom, by contrast, corporate disclosure laws are stronger, security markets have traditionally been less heavily taxed and regulated, and banks have been prevented or discouraged from holding corporate equities, all factors tending to encourage a stronger reliance on non-bank sources of finance. These factors are also likely to have an important influence on comparative structures of the financial system as a whole.

Trends in debt/equity ratios and in corporate financial flows set out in Tables A3 and A4 suggest that there has been a weak tendency towards international convergence in financial structures over the past decade. Debt/equity ratios have fallen in most European countries and Japan during that period while rising

from comparatively low levels in the English-speaking countries. In flow terms, France and Italy stand out as countries whose corporate sectors have been particularly active in raising new equity. These trends may be partly related to capital market liberalisations in Europe and Japan which have reduced constraints on non-bank sources of finance. In the English-speaking countries, financial liberalisation appears to have been associated with a sustained increase in corporate indebtedness.

ANNEX 2. FINANCIAL DIFFICULTIES IN THE BANKING SECTOR

During the transition to less-regulated financial systems a number of countries experienced banking-sector difficulties that were serious enough to require some form of government intervention or support. The most important examples occurred in the United States, the Nordic countries and Spain, although problems were also encountered in several other countries. In this Annex the key developments are reviewed, and the influences of financial deregulation and other contributing factors are examined.

A. The United States

i) The thrift crisis

Savings banks and savings and loan associations ("thrifts") in the United States experienced a severe crisis during the early and mid-1980s. The initial cause of difficulties was the sharp rise in short-term interest rates in the United States in 1979: thrift institutions were locked into long-term lending commitments with fixed interest rates but were funded by variable rate deposits, so the rise in short-term rates led to a sharp decline in their profitability. The foundations for this mismatch between the interest sensitivity of assets and liabilities had been laid during the latter half of the 1970s, with the gradual deregulation of deposit rates, while variable rate mortgages were either prohibited or discouraged³.

Initially, only a relatively small number of thrifts were rescued or closed, as the regulatory authorities judged that the thrifts would recover once interest rates fell back to a more normal level⁴. At the same time the asset restrictions on thrift institutions were relaxed in a number of important ways, particularly over the period 1980-1983; thrifts were allowed to diversify into commercial real estate, as well as below-investment grade ("junk") bonds, and rapidly expanded their investments in both areas. To some extent, the strategy of regulatory forbearance had the intended results: average net after-tax income had turned positive by 1983 and a number of thrifts were restored to solvency during the following years. But there is also evidence that the failure to intervene where thrifts' net worths remained low or negative, combined with other features of regulatory policy, led to excessive risk-taking. In particular the combination of deposit insurance (which insulated thrifts from financial discipline by depositors) with regulatory forbearance, low net worth and relaxed investment rules, created the opportunity for a "one-way bet" for share-holders⁵: where thrifts had low or negative net worth share-holders had little or nothing to lose from increased risk taking⁶.

These incentive problems contributed to the build-up of risk exposures forming the background to a second, more severe, round in the thrift crisis, which began in 1986 with the collapse of property prices in several states. Initially the most seriously affected areas were the oil-rich states in the South West, where falling energy prices induced a severe downturn in property prices. Although falling energy prices were the most important triggering factor, changed tax laws may also have played a role in the collapse of property prices: in particular the Tax Reform Act of 1986 significantly curtailed the effective tax subsidy given to debt-financed real estate investment. The costs of rescue operations of thrifts amounted to about US\$38 billion over 1987 and 1988, of which around 60 per cent was accounted for by Texas alone⁷. Subsequently, the failures became more widespread geographically, reflecting the more general macroeconomic and property market downturns.

In early 1987, the Federal Saving and Loan Insurance Corporation (FSLIC) was declared insolvent and the Resolution Trust Company (RTC) was created to resolve failed thrifts, with an initial capital of US\$50 billion. A combination of liquidation and institutional sales were used to dispose of the thrifts. In all cases, insured deposits were covered while share-owners lost their capital. Resolutions were orderly and depositor runs were generally avoided. The accumulated costs of thrift resolutions over the period 1980-1992 have been estimated at around US\$180 billion.

ii) Pressures on commercial banks

Many large commercial banks were severely weakened by the international debt crisis that followed the suspension of debt payments by some Latin American countries in 1982⁸. Although large scale bank failures were avoided as a result of international intervention and regulatory forbearance, the need to take increasing provisions against loan losses weighed heavily on many commercial banks' profits. Partly reflecting such weakness, Continental Illinois, the ninth largest bank in the United States, failed in 1984: the initial trigger for the collapse was the failure of Penn Square Bank, a small bank in Oklahoma⁹. The regulatory authorities took the view that Continental Illinois was "too big to fail" and, in order to avoid further systemic repercussions, organised a rescue operation entailing liquidity and capital support from other banks, a liquidity guarantee from the Fed and a capital injection by the Federal Deposit Insurance Corporation (FDIC), which also appointed managers of the bank. The bank was later refloated after removing "bad" loans from the balance sheet. In 1986, the sharp fall in oil prices and property values had serious implications for many banks in the south-western states. In addition to a large number of smaller bank failures, First Republic Bank, the biggest bank in Texas, and two other Texas banks were restructured by the FDIC in 1988. In 1990, the recession and falling property values began to have a serious impact on the profits of U.S. banks, in particular in the north east. A number of larger banks fell below the Basle Committee's minimum capital requirement and the rising cost of support operations pushed the FDIC to the brink of insolvency in 1991. Monetary easing, financial-sector restructuring and the general economic recovery have, however, led to a significant improvement in the capital position of the U.S. banking system over the past couple of years. In January 1993, the U.S. government estimated the present value of bank rescue operations to be in the range of US\$15-27 billion¹⁰.

B. The Nordic countries

Sweden, Finland and Norway experienced severe banking crises in the late 1980s and early 1990s largely as a result of excessive exposures to commercial real estate, which experienced a severe downturn following the boom conditions of the mid-1980s. The interplay between financial deregulation and capital taxation probably amplified cyclical effects on property prices and on residential construction: until tax reform measures were introduced in the late-1980s, interest payments were fully deductible from the income tax base¹¹, and the removal of quantitative restrictions on lending in the mid-1980s unleashed a large pent-up demand for debt-financed real estate investment. As was the case in a number of other OECD countries, structural changes in the financial sector, particularly in the form of increased competition from non-banks in financial markets, also played a role in making banks more vulnerable to adverse shocks. During the late 1970s and early 1980s, gradual deregulation of deposit interest rates and increased competition from finance companies had led to tighter intermediation margins and reduced quality of loan portfolios. In addition, the removal of quantitative lending restrictions and line-of-business constraints on banks led to a general expansion into new and more risky business areas. Bank managers were inexperienced with assessing credit risks in deregulated markets and the objective of increasing lending volumes was often pursued at the expense of sound risk management¹².

Banking crises emerged in the three countries when their economies moved into recession and real estate prices began to fall sharply, although the timing varied somewhat between countries. The Norwegian economy entered a prolonged recession in 1987, after the sharp fall in oil prices, while economic activity peaked somewhat later in Sweden and Finland. In Finland the downturn was amplified by the collapse in trade with the former Soviet states. The extent of government rescue operations was particularly large in Norway; all three of the largest Norwegian banks were taken over by the government in 1991 and 1992, effectively raising the level of state ownership in the banking sector from around 20 per cent to more than 50 per cent. The estimated cost of the rescue operations was Nkr21 billion or about 3 per cent of GDP¹³. Although fewer banks were taken over by the regulatory authorities, bail-out costs were even larger in Finland and Sweden. In 1992, the Swedish government gave a blanket guarantee covering all liabilities of Swedish banks, except subordinate debt and equity. In addition to a similar guarantee, the Finnish government helped the banking system with various types of capital injections. The total estimated cost of Finnish rescue operations amounts to close to 7 1/2 per cent of GDP (1991-1992).

The experience of Denmark provides an interesting contrast to those of the other Nordic countries. While Denmark experienced similar cyclical developments to Norway and had a similar tax system to the other Nordic countries during most of the 1980s, it did not experience banking troubles on the same scale. A number of factors may have contributed to this result. First, prudential supervision and disclosure rules appear to have led to an earlier recognition of loan losses in Denmark; although, on average, loan loss provisions were of similar magnitude over the 1980s and early 1990s, they showed a much smoother development in Denmark than in the other Nordic countries, where loan loss provisions were heavily concentrated in a small number of years (Figure A1). Second, the Danish authorities had for a number of years enforced a high level of capital adequacy standards, which were in fact more stringent than those of the Basle committee adopted in 1993. Finally, bank interest rates in Denmark were deregulated much earlier than in the other Nordic countries, which may have allowed the Danish banks to benefit from greater experience in a deregulated environment prior to the mid-1980s boom.

C. Other countries

In the late 1970s, a serious banking crisis emerged in **Spain**. The Spanish economy was heavily affected by increases in oil prices, and entered a prolonged recession in 1979. The unemployment rate rose substantially and real estate markets collapsed. As a result of the increasing number of bankruptcies, a large share of the banking sector -- amounting to about 20 per cent of all deposits -- had to be rescued or closed down¹⁴. Close ties between banks and business groups may have aggravated the problems as many banks had large exposures to industrial companies that encountered serious financial problems. Prudential supervision may also have been insufficiently stringent: resources were concentrated in a small team at the Bank of Spain and reporting standards of banks did not ensure a fair assessment of market values of their asset portfolios¹⁵. A more recent problem occurred with Banesto, Spain's fifth largest bank, which was put under administration of the central bank in December 1994. At the time of the intervention, a substantial overvaluation, estimated at about Ptas 605 billion, had been discovered in the bank's balance sheet. After a removal of non-performing loans and capital injections from the Deposit Guarantee Fund, the bank was sold to Banco Santander, which heads Spain's second largest banking group.

In **Japan**, the slide in asset prices in the early 1990s has affected the capitalisation of a large number of banks. In particular, the fall in equity prices had a direct impact on banks' tier-two capital as it reduced the size of banks' unrealised capital gains, previously a large part of their capital base. Non-performing loans have also increased substantially. Partly reflecting stringent tax rules, however, loan loss

provisions have remained at a very low level, generally far below those of other OECD countries¹⁶. In an effort to improve the financial health of Japanese banks, several larger Japanese banks established a company with the objective of purchasing problem loans from banks at a discount, thereby allowing the banks to obtain tax relief on problem loans. Recently, two small credit unions failed and a rescue operation was launched by the Bank of Japan at a cost of Y20 billion in public funds. The forces behind the large swings in assets prices in Japan appear to have been similar to those operating in a number of other countries: monetary policy easing in the aftermath of the slowdown in the early 1980s created some potential for asset price inflation, which was reinforced by competition for business in the financial sector in the less regulated environment. The inflation of land prices may also have been amplified by heavy restrictions on land use. Most of the credit losses in recent years have occurred in financial institutions specialising in real estate and consumer loans, which are less heavily supervised than banks.

In 1994, it became clear that **Crédit Lyonnais**, the largest bank in **France**, would have problems meeting the capital adequacy requirement unless new capital was injected. The French government, which has a controlling share in the bank, organised a support operation involving FFr4.9 billion in new capital injections and FFr18.4 billion in guarantees. The bank's balance sheet was "cleaned up" by transferring FFr43 billion of weak loans to a separate property company. During 1995 it became clear that the extent of the problems had been underestimated and an additional amount of FFr135 billion was removed from the bank's balance sheet. According to official estimates, the total losses on these loans may be as large as FFr50 billion. The problems appear to have originated in a number of investments in speculative industrial and commercial projects, in line with **Crédit Lyonnais**' strategic objective to forge alliances with large industrial groups; a few speculative bankruptcies account for a large share of the losses. In addition, the large fall in property values, in particular in the Paris region, weakened the overall health of the balance sheet.

In **Australia** two state-government-owned banks, the State Bank of Victoria (SBV) and State Bank of South Australia (SBSA), encountered serious problems over the period 1989-1991 and had to receive support from their owners. In both cases the problems appear to have arisen from aggressive lending strategies, which were followed without due attention to the management of risk exposures¹⁷. The two state governments involved had to supply a total of about A\$5.8 billion in fresh capital in order to ensure sufficient capital base for continued operation. Although mismanagement was clearly important, the common background of financial deregulation, increased competitive pressures, and large swings in asset prices was also present in the Australian case, and also affected the profitability of some of the larger banks, although their ability to meet minimum capital standards was not threatened.

NOTES

1. A comparative review of corporate governance structures, with particular application to Italy, is provided in the 1995 *OECD Economic Survey of Italy*.
2. These institutional characteristics are documented in Prowse (1994).
3. Some small state-chartered saving and loans associations have been allowed to offer variable rate mortgages since 1961. Such mortgages were prohibited for federally chartered thrifts. See Vittas (1992).
4. See CBO (1993), pp. 14-16.
5. Originally many thrifts were mutual institutions but a majority became share-owned companies during the early 1980s. See Barth (1991).
6. See, for example, Barth *et al.* (1989) and Brewer (1989).
7. CBO (1993).
8. Large U.S. banks, the so-called "money centre" banks, were among the most heavily affected. See Portes and Eichengreen (1987), p. 43.
9. See Davis (1994).
10. IMF (1993).
11. The distortionary effect of the non-neutral capital taxation was reinforced by high marginal tax rates and high inflation.
12. See Johnsen *et al.* (1992).
13. Due to a general recovery in bank profits over the last years and efforts to consolidate the banking sector, a sale of the government holdings in the banks at present share prices may cover most of the estimated loss.
14. de Juan (1993).
15. OECD (1993).
16. See Table 25 in the main text.
17. In the case of SBV the losses were incurred by a subsidiary company.

Table A1. **Indicators of financial structure**

	Size of financial sector ¹		Financial intermediation ratio ²		Bank intermediation ratio ³	
	1980	1990	1980	1990	1980	1990
United States	4.61	7.50	0.36	0.32	0.52	0.37
Japan	4.84	7.56	0.45	0.47	0.35	0.38
Germany	3.17	3.98	0.53	0.53	0.82	0.77
France	4.19	6.26	0.50	0.47	0.88	0.74
Italy	3.12	3.92	0.50	0.39	0.65	0.58
United Kingdom	n.a.	8.50	n.a.	0.37	n.a.	0.59
Finland	1.78	3.47	0.60	0.60	0.61	0.66
Spain	4.08	5.12	0.38	0.37	0.62	0.71
Sweden	3.24	5.06	0.50	0.55	0.49	0.41

1. Ratio of financial assets of all domestic sectors to GDP.

2. Ratio of financial assets of financial institutions (including banks) to financial assets of all domestic sectors.

3. Ratio of assets of banking sector to assets of all financial institutions.

Source: *OECD Financial Accounts*.

Table A2. **Banks: structural indicators**
1990 (except where indicated), by assets

	Market concentration ¹	Foreign banks asset share	Government-owned banks asset share
United States	17.6 ²	22.0	0
Japan	31.1 ³	1.8	0 ⁴
Germany	26.0	3.9	50 ⁵
France	48.8	12.4 ⁵	12 ³
Italy	37.8	2.9	63 ³
United Kingdom	31.4	57.2	1 ⁵
Canada	82.0 ²	9.2	0
Australia	67.5 ³	10.4 ⁶	27 ³
Finland	65.4	0.9	35 ⁷
Greece	77.9	10.6 ^{6,7}	74 ^{6,7}
Mexico	61.6 ²	1.3	0
Norway	66.1 ⁵	1.6	52 ⁷
Sweden	72.1	1.6	17 ⁷

1. Five largest banks; per cent share of total bank asset.
2. 1993.
3. 1994.
4. Government-owned postal system collects about 30 per cent of total personal deposits.
5. 1988.
6. Share of deposits.
7. 1992.

Sources: OECD; Government-owned banks asset shares: Gardener and Tuppett (1990), and Secretariat estimates.

Table A3. **Debt-equity ratios of non-financial enterprises**

	1975-1980	1981-1985	1986-1990	1991-1993
United States	0.5	0.5	0.8	1.0
Japan	5.5	4.8	4.2	4.0
Germany	3.6	3.6	2.7	2.8
France	2.1	2.7	2.2	1.4
Italy	..	3.6	3.0	3.1
United Kingdom	..	1.1	1.1	..
Canada	0.9	0.9	0.9	1.0
Australia	..	0.5	0.6	0.6
Austria	1.7	1.8	1.3	..
Belgium	2.6	2.3	1.7	1.6
Denmark	1.6	1.5	1.4	1.3
Finland	4.0	3.7	2.0	1.7
Netherlands	1.3	1.3	1.3	1.3
Norway	4.3	5.1	2.4	1.7
Spain	..	1.5	1.5	1.5
Sweden	..	1.9	1.9	1.9

Sources: OECD Non-financial Enterprises Financial Statements (for all countries except Germany and Australia); OECD Financial Statistics (for Germany); and Reserve Bank of Australia.

Table A4. Sources of corporate sector funding¹

	Retained earnings			New equity issued			Issue of debt securities			Loans						
	1975-80	1981-85	1986-90	1991-93	1975-80	1981-85	1986-90	1991-93	1975-80	1981-85	1986-90	1991-93				
	1975-80	1981-85	1986-90	1991-93	1975-80	1981-85	1986-90	1991-93	1975-80	1981-85	1986-90	1991-93				
United States	63.5	67.7	74.8	91.5	4.4	-2.9	-7.8	6.4	13.2	15.6	17.6	12.7	6.6	11.6	15.5	-10.2
Japan ²	35.2	41.9	36.2	54.9	4.9	6.5	6.8	4.5	2.3	3.7	4.9	2.5	33.6	35.7	34.5	47.7
Germany	58.8	58.0	63.0	48.1	2.2	2.1	3.4	2.0	-0.1	1.0	1.6	0.0	25.3	25.9	20.6	31.8
France ^{2,3}	42.6	34.8	69.3	71.5	4.0	10.4	17.6	18.3	-0.0	1.5	0.4	0.2	12.6	16.7	4.0	12.2
Italy ²	..	42.4	54.4	51.5	..	16.7	8.2	6.0	..	4.6	1.2	0.3	..	14.1	13.2	23.3
United Kingdom ³	..	63.1	49.8	..	..	13.6	14.2	..	..	-3.1	10.6	..	..	15.2	22.4	..
Canada	50.2	59.3	54.7	60.9	7.8	13.4	10.6	11.8	6.8	7.7	12.8	-10.1	22.1	11.8	21.9	22.5
Finland	41.1	42.6	55.4	53.0	4.4	4.3	8.2	15.9	1.7	4.5	1.1	6.8	36.5	32.6	38.1	67.0
Netherlands ³	52.6	72.7	77.1	59.3	4.1	10.9	12.2	15.8	1.1	-1.1	1.6	-0.2	24.0	16.9	2.5	19.4
Norway ³	36.7	53.4	69.7	96.0	3.0	2.0	4.1	2.3	4.4	3.8	9.1	-6.2	22.4	21.0	15.2	3.8
Spain	..	25.4	56.5	46.3	..	9.3	17.6	8.7	..	14.4	2.4	5.7	..	31.0	-0.9	43.8
Sweden	..	48.8	39.5	..	..	6.8	6.8	..	..	3.7	-5.9	..	..	23.6	-5.9	..

1. Per cent of gross use of funds. Figures do not add to 100 per cent due to exclusion of trade credit and capital transfers.

2. Debt securities figure is long-term only.

3. Loans figure is short-term only.

Sources: OECD Non-Financial Enterprises Financial Statements and OECD Financial Statistics.

Table A5. **Stock market capitalisation**
Per cent of GDP

	1975-80	1981-85	1986-90	1991-94
United States (NYSE)	42	42	50	65
Japan (Tokyo) ¹	25	39	157	125
Germany	11	12	28	29
France	13	6	26	39
Italy	7	7	19	15
United Kingdom	48	50	95	112
Canada (Toronto)	40	40	51	54
Australia	41	39	58	59
Austria (Vienna)	3	3	12	18
Belgium	15	11	38	41
Denmark (Copenhagen)	16	16	35	44
Finland (Helsinki)		10	33	29
Luxembourg	57	150	428	208
Mexico		25 ²	12	30
New Zealand		31	38	42
Netherlands (Amsterdam)	18	20	54	66
Norway (Oslo)		12	29	34
Spain (Madrid)	27	7	20	24
Sweden (Stockholm)	18	35	78	70
Switzerland (Zurich) ³	46	53	120	152

1. From 1991, total market value of all Japanese stock exchanges, adjusted so that duplication due to multiple listings is eliminated.

2. 1983-1985.

3. From 1991, country total.

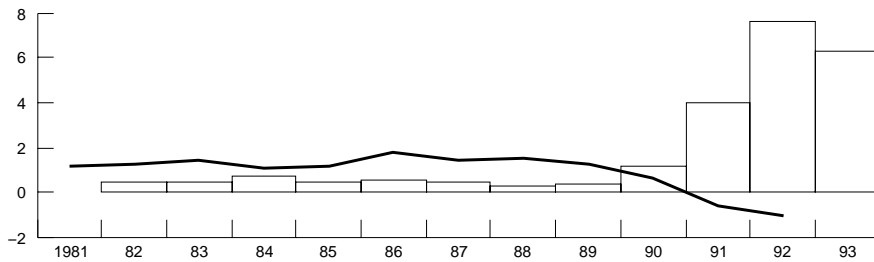
Sources: Fédération Internationale Bourses de Valeurs and OECD.

Figure A1. Nordic banks: Profits and Loan Loss Provisions

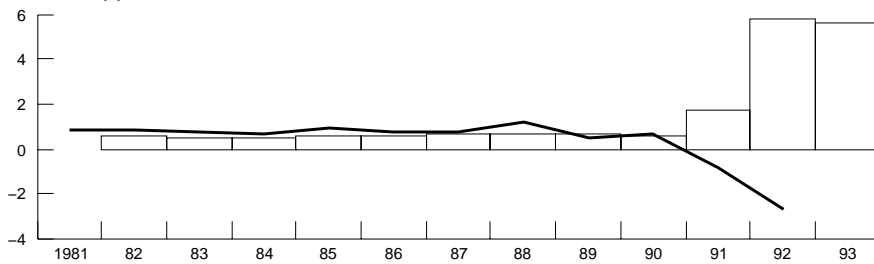
Per cent of balance sheet

Loan Loss Provisions
Net income

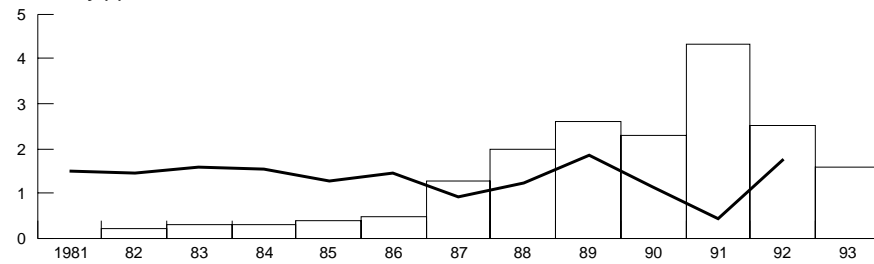
A. Sweden (1)



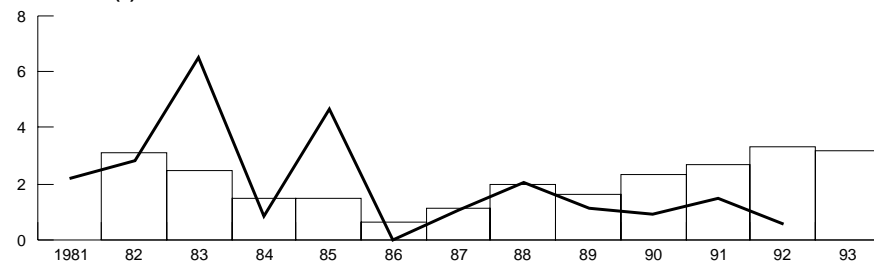
B. Finland (2)



C. Norway (2)



D. Denmark (1)



1. Commercial and saving banks.

2. All banks.

Source: OECD, Bank Profitability (net income) and Denmark Ministry of Economy (1994).

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