THE ECONOMIC AND SOCIAL RESEARCH INSTITUTE

LONG-TERM TRENDS IN BANK RESOURCES AND BANK LENDING

Patrick Honohan
and
Jane Kelly

January 1996

Working Paper No. 70

ESRI Banking Research Centre

LONG-TERM TRENDS IN BANK RESOURCES AND BANK LENDING

Summary

The Irish banking system in ten years time will have an aggregate balance sheet that is substantially different to that of today. But what can we tell about the likely influences on the size and composition of that balance sheet? Three types of influence can be distinguished: first, overall macroeconomic developments, second, changes in the market share of the banking system within the Irish financial system, and third, changes in financial technology and in international financial competition. This working paper's focus is primarily on the first two issues. We present a statistical review of the major long-term trends to date and draw some conclusions as to likely future developments. Future work will examine short-term fluctuations in the link between the macroeconomy and credit aggregates.

Accepting the general consensus that relatively rapid economic growth is likely to continue we assess the implications for the saving behaviour of households, business and government. Much of the volatility in household savings over the past twenty years has been attributable to fluctuations in the fiscal situation and other macroeconomic conditions. More stable fiscal and macroeconomic conditions should imply that the relatively low household savings rate recorded in recent years will probably continue.

But we also note (and document with newly updated flow of funds data) that gross accumulation of financial assets by households is considerably larger than net. This highlights the fact that the scope for an expansion of financial intermediation involving the household sector is not restricted by household saving trends. The same is true to an even greater extent for business savings.

As to the market share of the banking system in the financial sector and its scale relative to economic activity overall, the indications from an international comparison are that there is considerable potential for growth. Indeed, following a long period of decline, the size of the banking system's balance sheet as a percentage of GDP has been growing rapidly since 1986, thereby effecting a degree of catch-up, a development which has been assisted by elimination of several taxation handicaps.

Our overall conclusion is that conditions are favourable for an expansion of financial intermediation and of the main balance sheet aggregates. We suggest, however, that it would be unwise to overemphasize balance sheet size *per se* as an indicator of the fortunes of the banking system or of individual banks. Competitiveness and profitability in specific financial services, and innovation in meeting increasingly sophisticated customer needs will dictate the health of the financial system almost independently of balance sheet size.

LONG-TERM TRENDS IN BANK RESOURCES AND BANK LENDING

Contents

LONG-TERM TRENDS IN BANK RESOURCES AND BANK LENDING

1 Introduction

This paper responds to the question: what will the size of the banking system's aggregate resources and its aggregate lending be in the year 2005? We review a collection of issues relevant to the question. The range of potential influences is very large, and we must be selective. There is no standard methodology for approaching such a question, and it would be foolish to pretend that firm forecasts could be given. Our approach has been to focus on those aspects on which economic analysis has thrown or can throw some light, and where some quantification has been possible.

As we see it, the issue falls into three main parts. First, what do we know about relevant Irish macroeconomic developments in ten years time? Second, what do we know about the evolution of the Irish banking system within the economy? Third, what do we know about likely trends in the overall financial environment, both in terms of financial technology and international competition? Our focus here is mainly on the first two issues, as these are the factors which will differentiate the environment of the Irish banks from other European financial institutions. However, we also argue that the actual size and composition of the balance sheets of the Irish banks will be strongly influenced by the evolution of the international and technological environment, and by the banks' response to this environment.

The main conclusions are as follows. The overall size of the banking system is not large by international standards, suggesting a potential for growth. Indeed, following a long period of decline, the size of the banking system's balance sheet as a percentage of GDP has been growing rapidly since 1986, thereby effecting a degree of catch-up.

The prospect of continued economic growth at a relatively rapid rate, combined with a stabilization of household savings, implies that the macroeconomic environment will not be unfavourable to growth in balance sheet size.

But availability of household savings is not the pre-eminent determinant of balance sheet size. Individual households and companies can have large gross asset and liability positions with the banking system without providing or sourcing much by way of net funding. Furthermore,

the banks will doubtless continue to source or place their net requirements or surplus funds abroad as they have done for the past two hundred years.

The remainder of the paper is arranged as follows. Section 2 is concerned with relevant macroeconomic prospects. Economic prosperity and recession both bring a demand for banking services, though the pattern of demand is different. At this distance it is not possible to say at what stage in the economic "cycle" Ireland will find itself in the year 2005; our focus is chiefly on the evolution of medium- and long-term factors. A continuation of relatively strong, non-inflationary growth with the fiscal debt still declining as a share of GDP is assumed in the ESRI's Medium Term Review 1994 (MTR94),[1] as by most other forecasters. But what of the financing needs of such an economy? It is important to distinguish between the behaviour of different sectors in this regard. We begin section 2 by examining what is known about long-term trends in the saving and borrowing behaviour of the household sector, including demographic trends. We proceed to discuss the prospects for corporate sector financing needs (including international financing of the corporate sector), and government borrowing.

Section 3 examines the past evolution of the banking sector's balance sheet in the context of competition for funds (and borrowing clients) from other financial institutions. It begins with a description of factors which have influenced the major turning points in the size of the banking system's balance sheet in the past, and proceeds to quantify the scale of competition form other domestic financial institutions. The role of taxation policy in this regard is discussed.

Section 4 briefly outlines aspects of the international environment which seem particularly relevant, and considers the potential of financial innovation in affecting balance sheets.

Attention is drawn to the tables containing new estimates of the intersectoral flows of funds

[1]MTR94 was published in April 1994. Although this exercise involved detailed forecasts out to 2005, only forecasts to 2000 were published; forecasts for the later years are necessarily more tentative. The next ESRI Medium Term Review will be published during the second half of 1996.

1986-94 (1994 tables to be finalized). Technical annexes summarizing econometric work on long-term trends in the money stock, and on household saving behaviour, will be circulated with the next version of the paper.

2 Macroeconomic Determinants of Future Developments

2.1 The role of household saving

One can look at the prospective evolution of the aggregate household portfolio from the point of view of flows or of stocks. Both aspects are relevant, and they are not altogether independent, but it is useful to distinguish them, as their determinants are rather different.

In aggregate, households are savers; there is not a single year 1960-1995 when this has not been true. During that period, household saving[2] averaged 8.7 per cent of GDP (11.7 per cent of personal disposable income), and ranged from a low of 3.2 per cent (in 1960) to a high of 18.5 per cent (22.1 per cent of personal disposable income) in 1975. The abrupt fluctuations in the saving ratio over the past quarter century have left forecasters somewhat at a loss for a reliable explanation of these variations.

A huge econometric literature has failed to come up with a simple equation which captures the main movements in household saving. Inflation, interest rates, and the level of unemployment, have been among the main correlates of saving which have been examined. Each has shown only a transitory correlation. What seems clear is that confidence and expectations about future policy developments is likely to have played an important part in influencing precautionary saving. Thus the unprecedented rapid inflation, surge in unemployment and deterioration of the government accounts in 1975 are all indicators of a sharply deteriorating and uncertain economic environment. Conversely, the improved public finances and falling unemployment of the late 1980s heralded a recovery of consumer

[2]We use the terms "household sector" and "personal sector" interchangeably. Note, however, that different data sources define sectors differently. The National Income and Expenditure (NIE) Accounts treat as part of the personal sector all kinds of unincorporated business activities as well as households. Thus, a large part of the agricultural sector is in the NIE personal sector. The Central Bank's analysis of deposits and of advances uses a narrower definition of the personal sector.

confidence. The government deficit is itself influenced by inflation and unemployment, as well as having a policy component. A glance at the co-movement of the government deficit (shown as negative savings) in Figure 1 with the personal savings ratio strongly suggests that this variable may be a useful summary indicator of those aspects of confidence which have so dramatically affected the savings ratio in the 1970s and 1980s, and hence may help predict future saving trends. Although the government deficit is insignificant if simply entered in a regression equation without modification, a simple transformation of the government deficit, subtracting the previous peak deficit from the actual, is strongly correlated with personal saving. The resulting regression tracks the major turning points rather well (Annex 2 - to come).

The conclusion of this analysis suggests that a stable economic environment, as proxied by a moderate and stable government deficit, should be associated with relatively stable saving rate. A return to the high savings rates of the 1970s and early 1980s would not be indicated by this analysis.

Looking at international experience, several other long-term determinants of saving behaviour have been suggested and, although there is no unanimity among economists as to which of these effects are really important, the following should not be neglected.

Demographic factors: the life-cycle view emphasizes that middle-aged households are likely to be the large savers, with dissaving by young adults and retired persons. Household saving will, on this view, tend to decline as the population ages, with a higher proportion of retired households.

Interest rates can theoretically affect saving either positively or negatively: any empirical studies that have found an effect report that household savings are lower when real interest rates are higher.

Households may adjust their saving behaviour in response to the saving of other sectors to the extent that this represents saving that will ultimately be passed through to households. The evidence for such behaviour is much disputed. It is more likely

that the existence of public pension schemes may depress household savings, as each household assumes that the public pension scheme will provide for their retirement needs; though the effect here is certainly less than one-for-one.

Tax incentives for saving may affect aggregate household saving, but some of the effects observed appear to represent substitution between savings media rather than an overall effect on saving. However, tax breaks for borrowing appear to have a strong influence on aggregate saving.

Even after taking account of these and other effects, large and sustained cross-country differences in savings rates remain unexplained (cf. Figure 2) The importance of inherited cultural behavioural patterns in influencing saving behaviour is emphasized by many researchers. By the same token, erosion of traditional savings practices could lead to substantial changes in long-term saving behaviour.

The implications for future trends in household saving in Ireland do not suggest any strong trends either way. The determinants identified are not likely to show sharp changes over the coming decade. The Irish population is aging (details in Section 3.2 below), but less so than most other industrial countries; no clear trend for interest rates is in prospect; tax breaks for saving and for house purchase have already been curtailed; public sector saving and public pension schemes are in a relatively stable and sustainable position.

Not all of this saving finds its way into domestic financial assets. Housing investment is an important component as can acquisition of foreign assets be in some years. During 1986-94, household savings averaged 8.1 per cent of GDP, but, after taking account of housing investment and other uses of savings flows the net acquisition of financial assets averaged only 4.3 per cent of GDP or little more than a half of the savings (Table 1)

In principle, it should be possible to identify the financial assets which have been issued and acquired by the household sector and to reconcile the net total with household savings and investment in physical assets. In practice, this exercise leaves a large residual for most years, partly because of deficiencies in the national income and expenditure accounts from which

savings and capital formation data is obtained, and partly because sources of information on the acquisition of financial assets and liabilities are not comprehensive and are not available on a comparable sectoral classification. Various attempts have been made to minimize the discrepancies, including the comprehensive analysis in Honohan (1992, 1993), which have been revised and brought up to date for the present paper. As an illustration of the uncertainties involved, it may be noted that revisions to the National Income and Expenditure (NIE) Accounts published by the CSO in early 1993 reduced the estimate for the average net accumulation of financial assets by households 1986-90 from 7.5 per cent of GNP to 4.9 per cent. The latter figure is much closer to the total of identified net accumulation of specific financial assets of 5.6 per cent of GNP (as estimated in Honohan, 1992, before the NIE revisions).[3] Although revisions of this magnitude are not very frequent, this experience suggests considerable caution in attempting to project financial asset accumulation from national accounts data on saving.[4]

Accepting these uncertainties, we can still learn something about potential patterns from the past experience. Three lessons seem important here.

First, gross acquisition of financial asets by the household sector is considerably larger than net. Gross accumulation averaged about 9 per cent of GDP during 1986-94, when net flows averaged less than 4½ per cent. Although the gross accumulation has been fairly stable, the two-to-one ratio is not a stable one, as net flows have fluctuated considerably. (There are business-cycle-related fluctuations in the willingness of households to accumulate debt.) Nevertheless it may be a useful rule-of thumb for a long-run average.[5]

Second, flows into household bank deposits need not be high in years when household

[3]Based, for example, on the balance sheet information from various financial institutions.

[4]Such revisions are not confined to Ireland. A conspicuous example from the UK relates to the estimated savings ratio for 1974. As late as 1980, this was officially estimated as having been 14.2 per cent, but by 1992 it had been revised down to 10.0 per cent.

[5]Some evidence on the determinants of households' gross asset positions in provided in Honohan and Nolan (1993).

savings are high - indeed there was a negative correlation between the two in the late 1980s. The reason is that flows into and out of competing assets potentially dominate.

Third, there is a weak negative correlation (R=-0.54) between non-housing personal sector borrowing from banks and personal sector saving.

It should also be noted that years of substantial savings, as conventionally measured, need not result in a growth in the ratio of assets to GDP. There are two reasons: capital losses on the existing stock of assets (including losses of real purchasing power attributable to inflation) and the growth of GDP itself. For example the share of M2 to GDP actually fell during 1975, the year in which the saving ratio reached its all-time high.[6]

The ESRI's MTR94 forecasts of personal sector saving and accumulation of financial assets out to 2005 are shown in Figure 3. This shows an almost doubling of the annual nominal flow of household savings from 1994 to 2005. The forecast figure for 2005 is £4.8 billion, representing 11 per cent of personal disposable income in that year. Taking account of estimated house purchase etc. the forecast for net household accumulation of financial assets in 2005 is £1.9 billion.

2.2 The saving of other sectors

2.2.1 Company sector

Company saving - mainly retained earnings - has fluctuated around a (1960-95) mean of 4.8 per cent of GDP with a low of 2.7 per cent in 1984 and a high of 7.8 per cent in 1979 (Figure 1).[7] In most countries, company sector saving is usually less than the sector's accumulation of real capital with the result that net accumulation of financial assets is negative. Irish data in recent years is unusual in implying that there has been some net accumulation of financial assets, but this should probably be regarded as unusual and unlikely

[6]Indeed, one theory attributes the very size of the saving ratio in that year to the rapid inflation that was in progress. Some authors suggest adjusting saving figures for anticipated capital losses due to forecast inflation, but that is not standard practice and we do not follow it here.

[7]The data shown are before adjustment for (subtraction of) non-agricultural stock appreciation.

to persist for another decade.

Figure 3 also shows the MTR94 forecasts of company sector savings and net accumulation of financial assets. Sector savings are projected to grow steadily during the period, but considering the forecasts for real investment, the sector's net accumulation of financial assets is projected to be much smaller.

In general, the link between company (business) sector saving and accumulation of financial assets is even weaker than for households. Furthermore, gross accumulation of financial assets by companies - at almost 6½ per cent of GDP on average 1986-94 - has been far greater than their net accumulation, which averaged just ½ per cent of GDP during 1986-90, and something over 2 per cent over 1986-94. This confirms that company sector saving is not an important determinant of the company sector's gross financial position. This is partly attributable to considerable variations between the financial position of different companies, with some being heavy net borrowers, and others holding substantial net financial assets. Even more, however, it reflects the liquidity and diversification operations involved in company treasury management. This was most dramatically illustrated when credit ceilings were liberalized in the UK during the early 1970s, following which there was an explosion of company borrowing, matched by increased holdings of liquid assets by companies.

The financing of Irish firms also involves an important international context. The high and growing importance of multi-national ownership of Irish enterprises imply that many firms have access to affiliated company sources for inside finance and may have internal reasons to place surplus funds with foreign affiliates, rather than with the Irish financial system. This applies as much to Irish-owned multinational as to the foreign-owned. Available data on this aspect of company financing is very incomplete.

2.2.2 Government saving

The historical pattern of the fluctuation of government dis-saving,[8] shown in Figure 1, is well-

[8]The data refer to the Public Authorities, thus including local authorities and certain other entities as well as central government. Government savings in the NIE approximate to the current budget deficit.

known. Restoration of the government finances in the late 1980s, the lessons learnt during the lengthy stabilization, and the constraints of the Maastricht Treaty all point to a future period in which government saving will at least hover around zero, and could be significantly positive. This will tend to limit the supply of government securities, especially since government borrowing for capital purposes is also likely to be constrained. As government does not hold large liquid balances outside the Central Bank, its net and gross accumulation of other financial assets are broadly the same (unlike the situation with other sectors).

2.2.3 Overall saving trends

In order to put Irish saving trends in an international context, Figure 2 shows average gross[9] saving rates on a decadal average basis for Ireland and the four largest economies. Several features emerge: Ireland's aggregate gross saving rate (the vertical height of the bar) is, with an average of 18.8 per cent of GDP, much lower than that in Japan (33.6) or Germany (24.5); it is about the same on average as the US (18.7), and a little larger than the UK (17.4). In terms of changes over time, the Irish and Japanese data both show a dip in the 1980s, followed by a recovery to close to the 1970s figure. In Ireland's case this is entirely due to the heavy government dis-saving in that decade; in Japan, it reflects a declining household ratio offset by higher government saving in the 1990s. The other countries show a general tendency to decline, largely due to a sustained reduction in government saving.

3 The Evolution of the Banking System in Ireland in Recent Decades

3.1 The Banks

3.1.1 Quantifying the scale of banking in the economy over the years.

(a) Historical view

If measured by the ratio of balance sheet totals to GNP, banking in Ireland was fairly static, if not actually declining, during much of the post-war period. This experience, which contrasts with that of many other countries, has only recently been decisively reversed.

Figure 4 shows the main overall trends in Irish bank assets and liabilities since 1932. We

[9]The gross figures differ from the net rates by also including provision for depreciation.

have expressed the data as a percentage of GNP, in order to bring our the major trends that cannot simply be explained by the aggregate growth in the economy over the years. Despite the complicating factor of a number of breaks in the series, it is evident that the data fall into two sub-periods, with a general shrinkage (interrupted by World War II) in the ratios up to the 1960s, and oscillations surrounding an upward trend thereafter. The third panel of Figure 4 highlights a key aspect of these trends, namely the movement in the banks' net external reserves over this period. This has shown a long downward trend since 1945, though with a substantial recovery since 1986.

Looking in more detail at these figures a number of sub-periods emerge.

The 1930s was a period in which the relative size of the bank lending at home stagnated, while domestic liabilities and net external reserves fell sharply (the latter from 55 per cent of GNP in 1932 to 34 per cent in 1940); this was a period of economic crisis during which depositors (especially in the farm sector) were dissaving, and during which there was little effective demand for working capital.

The wartime years were highly profitable for the farm and trading sectors, and this led to a build up of deposits, little loan demand, and a corresponding rebound in the banks holdings of assets in London.

Soon *after the war,* the running-down of external reserves resumed, as the banks effectively financed the balance of payments deficits associated with the post-war economic crisis, the Korean war, and the interest rate crisis of 1955 (Honohan, 1994). In the late 1940s it was a bounceback in lending to the non-Government sector; whereas in the 1950s the drain came also from a draw-down of deposits.[10] By the end of 1955, the banks' net external assets had fallen to 16 per cent of GDP, a fall of 32 percentage points in a decade.

The subsequent economic retrenchment (reflected in a gradually declining ratio of

[10]Lending shrank in 1952, but bounced back again in 1955.

lending to GNP) halted the decline in net external reserves only *until the early 1960s.* The continued draw-down of deposits, which bottomed out (for the Associated Banks) at 27 per cent of GNP in 1965, meant that the decline in net external reserves resumed in 1963.

Data for the non-Associated Banks are included only from 1966 on, so that the exact timing of the sharp resurgence in both sides of the aggregate balance sheet in *the mid-1960s* cannot be dated exactly from these data. The stock of loans outstanding jumped by about 7 percentage points of GNP in 1968-69. This lending was to both Government and non-Government sectors, and by end-1969 the stock of Government lending had jumped to 12 per cent of GNP (up from 3.4 per cent in 1964). Sharp increases in deposits also during 1966-68 ensured that the credit boom did not seriously eat in to external reserves.

Correctly interpreting the data for *the late 1960s and early 1970s* requires recalling that during this period the banks exchanged the bulk of their liquid assets in London for balances at the Central Bank. The decline in their net external assets between 1968 and 1972 is mainly attributable to this factor. About five percentage points of the decline in these years can be attributed to the fact that credit grew (these were the years of the Barber boom in the UK) while deposits showed no net change over the four years.

During the *later 1970s and the 1980s,* two marked cyclical fluctuations are evident in both deposits and lending, with the growth in the latter somewhat outpacing the former, with the consequence that net external assets (now strongly negative) continued to decline gradually.

There is a discontinuity in the data at 1982. The new data is based on within-the-state branches of the banks only, and "elsewhere" thereafter refers to dealings with non-residents, whereas earlier "elsewhere" refers to the accounts of the banks' branches outside the state.

The *post 1982* data is marked by a degree of stability in credit, apart from a credit boom in 1988-89, with some fall back in 1991. Despite considerable savings reported in the National Accounts, deposits fell as a share of GNP steadily during this period until 1991. This reflected a tax-driven shift of assets into other foreign and domestic assets. The major recovery of deposits in 1993-94 is partly attributable to a reversal of these tax considerations, and is also affected by the IFSC. The recovery of deposits against a backdrop of fairly stable lending has had its counterpart in a sharp rebound of the net external assets position since 1991.

This review of the historical experience reveals a number of significant factors. The role of boom and recession, long-term adjustment of stock positions, the relevance of tax factors, and the IFSC.

(b) Econometric evidence

Perhaps surprisingly, long-term trends in the balance sheet aggregates have not been subject to much detailed econometric analysis in Ireland. The recent focus of attention has been on the short-run interactions between money, credit and prices, but such work does not throw much light on longer-term issues.[11] Abroad, empirical analysis of long-term trends in the demand for money have focused on three main issues: first, inflation expectations; second, the income-elasticity of demand for money and third, financial innovation and changes in the policy regime.

Of these, Boughton (1992) lays considerable stress on the first, observing that it can be blamed for the major slow-down in the growth of real money balances during the inflationary decade 1973 to 1982. His figures illustrating this point are reproduced in Figure 6, along with corresponding Irish data. It has to be said that the Irish data do not bear out the standard theory as reported by Boughton. There is no evidence for a slow-down or reversal in Irish real money growth is not obvious before 1979 (for M1) or 1981 for M2, and the resumption of growth does not occur before 1986. It is tempting to interpret the Irish slowdown in terms of the fiscal correction-induced recession.

[11]Cf. Howlett and McGettigan (1994), Hurley and Guiomard (1989).

As regards the question of whether money demand grows more or less in proportion to GDP, there is neither a theoretical presumption, nor international uniformity on this matter. We examined the question for this study using cointegration analysis on data from 1948 to 1994 (Annex 1 - to come). The hypothesis of proportionality of money and GDP is easily rejected (Figure 5); the ratio of M2 to GDP dips sharply in the early years, and recovers sharply in the later years. However, these fluctuations could be explained by long-term developments in other relevant variables. For example, we find that taking account of the possible dependence of money demand on interest rates, allows us to maintain the hypothesis that, for a given interest rate, money and GDP are proportional.[12] This apparent importance of interest rates in the long-term demand for money in Ireland may truly reflect the impact of financial innovation and other institutional changes whose impact is correlated with interest rates. We return to the topic of financial innovation below.

Explaining trends in the volume and distribution of credit has been an area of considerable international research interest in recent years. Current theory reasons that the market for bank credit is not one which clears simply by adjustment of interest rates. That means that we cannot hope simply to estimate a "demand for credit" function in a straightforward way. The underlying thinking behind this point of view is that banks have the practice of refusing credit to less credit-worthy applicants rather than raising the interest rate to cover the risk of default. The theoreticians argue that banks behave in this way either because of regulated interest rate ceilings (no longer important in Irish as in many other banking markets, but central until relatively recently), or because raising interest rates can have the effect of discouraging all but the riskiest prospects.

Still, we can detect certain regularities in the credit market. Although working capital needs may be broadly proportional to economic activity in the medium term, recessions tend to produce cash-flow problems in industrial and commercial enterprises and thereby increase credit demand. The detailed micro-data from the US suggests that banks there meet this additional demand for large firms but not for small firms. This has the result that smaller

[12]Given the close financial relationships between Ireland and the UK, we examined whether long-term trends in Irish and UK money supply were the same, but found this not to be the case (lack of cointegration).

firms are hit by a credit squeeze during recessions, partially offset by greater reliance on commercial credit. There is no evidence on such matters for Ireland.

3.1.2 Analysis by sector

(a) Lending

Figure 7 shows the changing sectoral composition of the banks' aggregate lending portfolio on a quarterly basis since 1986. The most important change has been the growing share of lending to the non-bank financial sector (shown at the base of the column). This has increased in two phases, interrupted by some retreat between 1989 and 1992. Overall, the non-bank financial sector's share has gone from less than 9 per cent of the total in 1986 to almost 27 per cent in 1995. Undoubtedly, the second wave of growth from 1992 has been associated with the IFSC. The only other sector to see its share rising, at the expense of the rest is the personal sector, and the growth here is wholly accounted for by the increase in house purchase loans (up from 6 per cent to 16 per cent of the total). "Business and Other Services" has held its share at around 10-12 per cent, but others have declined. The sharpest declines have been in the Energy sector, which had taken 5 per cent, but now accounts for only 1 per cent, in Manufacturing, (down from almost 18 per cent to less than 10 per cent) and Agriculture (down from 12 per cent to 7 per cent).

In an attempt to assess the extent to which these shifting lending shares reflect the changing structure of Irish production, Figure 8 shows the share of the major sectoral groups in GDP and in lending (other than to the personal sector) in 1986 and 1994. While the sectoral breakdown is not fully comparable as between the lending figures and the output figures, the correspondence is sufficiently close to draw general qualitative conclusions. Thus, Manufacturing is greatly under-represented in lending relative to its contribution to GDP (despite the exaggeration in its output figures due to transfer pricing). It has less than half of the lending per £ of output than have the others. Furthermore, its relative position has sharply declined since 1986. Two sub-sectors of the Service sector are distinguished in the Figure: Distribution, Transport and Communication (DTC) is the first and Other Services (which includes non-bank financial services as well as health, education etc.) is the second. This second sub-sector has sharply increased its share; although not yet over-represented relative to output by comparison with Agriculture or with DTC the increase in lending for

Other Services is well above the growth in its output. As already mentioned, this is certainly attributable to the IFSC. In contrast, the decline in lending to Agriculture is not much greater than the decline in its output share.

(b) Deposits

Information about the sectoral breakdown of the bank deposits of non-banks has been available since 1990. In contrast to the sectoral lending data, shares have tended to be rather stable during this period. Household deposits represent about 43 per cent of total bank deposits, and the percentage has fluctuated only between 41 and 45. The next large block of deposits comes from the non-bank financial sector, which has fluctuated trendlessly around 20 per cent. Between them, then, these two sectors account for close to two-thirds of the total (Figure 9), and a further 15 per cent or so is accounted for by "Business and other services". The only substantial trend in sectoral shares is the decline in the deposits of the Agriculture, Forestry and Fisheries sector, from almost 10 per cent in 1990, to less than 6 per cent now.

3.1.3 Analysis by instrument

Three main trends may be noted regarding the contribution of different types of instrument to the aggregate balance sheet of the banks *vis-à-vis* residents. These are clearly evident from Figure 10.

First, over the past ten years there has been a considerable growth in reliance on interbank deposits and lending. Aggregate interbank borrowing and borrowing from the Central Bank rose from 13.5 per cent of GDP to 22.3 per cent, a much higher proportionate increase than in deposits or other liability items. The share of interbank deposits in the asset portfolio has also grown.

Second, the share of government credit has fallen sharply.

Third, medium and long-term lending in total non-government lending has increased from 76 to 79 per cent. Most of this medium and long-term lending remains at floating interest rates, however.

In addition, however, and most importantly, reliance on a net external liability to fund domestic assets has declined sharply from 18.9 per cent of GDP in 1984 to 3.6 per cent in 1994.

Despite the decline in the net foreign liability position of the banks, the gross international business has grown phenomenally. The main features are presented in Table 3. The scale of the increase in some types of international business is illustrated by the growth in claims on non-resident non-banks denominated in foreign currency which have jumped from 2 per cent of GDP in 1989 to 24 per cent in 1994. No doubt most of this increased activity reflects a spin-off from the growth of the IFSC, but it highlights the continued and enhanced openness of the Irish banking system, which has always been very high by international standards (Honohan, 1995b).

3.2 Domestic competition

3.2.1 Recent trends

The domestic competitors of the banks may conveniently be sub-divided into the other deposit taking institutions (comprising the Building Societies, ACC, ICC, POSB and TSB) plus Government Savings Schemes and the rest. The former entities are converging on the banks both in what they are permitted to do and what they are doing, though the rate of convergence can be exaggerated. (The building societies, for example, still largely concentrate their lending on house mortgages).

(a) Competition for liabilities

The other deposit taking institutions are such close competitors for deposits that it is not clear how useful it is to distinguish between them and the banks for this purpose. Nevertheless, it is clear from the top panel of Figure 10 that they have gained market share over the past several years, though the banks recovered some of the ground in 1993.

There is an attempt in both panels of Figure 10 (which is constructed from a variety of sources) to eliminate double-counting as follows: as we move from left to right, the assets of

each new intermediary are added net of its claims on any institution already included to the left. Thus the figure for gilts only incudes Irish holdings of gilts other than those held by credit institutions, the POSB, Life Assurance or Pension Funds. An implication of this approach is that the figure gives credit to the banks for that part of building society deposits which are redeposited by the building society with a bank.

The data for Assurance and Pension Funds only becomes available after the major tax-driven expansions of these sectors were well under way. Nevertheless, the banks continue to show a declining share of the total of financial assets shown - dipping below one-third by 1993. (The big jump in the Assurance and Pension fund assets in that year is not due to cash inflows, but to the sharp increases in equity and bond prices in that year).

Households and corporate entities hold bank deposits both for transactions purposes, and as a store of value. Their holdings of the other liquid assets are similarly motivated. On the other hand, holdings of claims on Assurance and Pension Funds are primarily store of value related, and it is in this dimension only that banks compete with those institutions at present.[13]

(b) Competition for assets

Competition on the assets side must not be neglected either. The main dividing line has been between non-tradable loans (the speciality of banks) and marketable securities. There is a blurring of boundaries, as securitization partially converts one to the other, and this process may be expected to continue.

3.2.2 Determinants of market share

Market share will depend partly on cost structures, product innovation and marketing. But there are also identifiable external influences among which we highlight demography and taxation.

(a) Demography

[13]Of course part of the competition is through the establishment of subsidiaries to carry out this kind of business.

Changing demographic structures will influence the relative demand for different financial products, and thereby indirectly affect the market share of the banks. The most important of these foreseeable demographic changes is in the age structure of the population. Table 4 shows the actual age structure of the Irish population in 1995, and the projected structure in 2005 and 2010. Although less pronounced than in other countries, the trend towards an aging population is evident. Although the overall population size is projected to fall slightly by 2005 (by about 40,000 or 1 per cent over the decade) the numbers in the age group 45-64 are projected to grow by about 180,000 or an increase of one quarter, taking their share of the population from 19 per cent up to 24½ per cent. There are much smaller increases in the age groups 25-44 and 65-and-over. The major decline is in the young age groups, with even the 15-24 group falling by 120,000 or almost one-fifth.

The impact of these age-structure changes on the demand for financial assets should in general be favourable. Survey data (e.g. Honohan and Nolan, 1993) shows that middle-aged persons have more financial assets, and are more likely to have different types of financial assets, than young persons. For example, mean holdings of financial assets reported by households whose heads were in the age group 45-64 in the 1987 survey analyzed by Honohan and Nolan (1993) were £7500, compared with about £4500 for households in the age-group 25-34.[14]

(b) Taxation

Perhaps the most important factor influencing market share in the past has been differential tax treatment of savings media. This underlay the rapid expansion of life assurance companies, as well as the growth in the mortgage market. While the present regime is far from uniform, changes in the tax code, and above all the reduction in inflation have greatly reduced the differentials (O'Toole and Warrington, 1995; Thom, 1988). Nevertheless, special exemptions such as the BES and the tax arrangements used in film financing remain, and although there will tend to be pressure to eliminate such loopholes to the extent that they become widely used, the pattern has been that as one door is closed, another is opened, and

[14]The same study fitted regression equations to the portfolio composition for individual households. These confirmed the role of age in increasing financial wealth, but did not confirm that older households have more sophisticated portfolios.

it may be assumed that this process will continue.

4 The International and Technological Environment

Almost certainly dominating both domestic macroeconomic developments and competition among domestic financial institutions in determining the size and composition of the balance sheet of the Irish banking system in the next century will be the influence of international competition and financial innovation.

4.1 Openness to abroad

There are three important aspects to the international environment which will influence future balance sheet evolution.

First, the Irish banking system has always relied on the international money markets to source even substantial requirements for net funding, or to place net surpluses. Only during extreme episodes of currency speculation has this link failed. Accordingly, projections for the future should not impose equality between domestic sources and uses of funds.

Second, despite the limited impact of the single market process in the financial sector to date (Honohan, 1995b) larger Irish borrowers will make more and more use of foreign banks. If the single currency arrives, this process will accelerate for depositors also, thereby raising the average cost of funds for Irish banks, as the fixed costs of the branch network become relatively more important. As discussed in Honohan (1994b), it seems inevitable that, the small or less obviously credit-worthy borrowers will increasingly provide the largest profit opportunities for Irish banks.

Third, the cost advantage which the IFSC provides to Irish banks at present in participating in internationally syndicated loans is likely to be eroded as the tax advantages of the Centre come under political pressure within the EU.

4.2 Financial innovation

Banking developments worldwide have been influenced by common technological and regulatory influences. Much of what has been happening to the Irish banking market is merely a reflection of the implementation here of developments which have close parallels abroad. Among these pressures have been,

> on the technological side, improved telecommunications allowing customers to access a wider, international, range of suppliers, and to move their funds into higher yielding forms without compromising much on liquidity; together with information technology advances which have allowed suppliers to tailor products more closely to customer needs.
>
> on the regulatory side, a major reduction in the restrictions on product type and pricing, and on portfolio composition (with the important exception of capital adequacy); this liberalization has been extended in part to non-banks, and (especially in the EU) to foreign banks.

Although some portfolio restrictions and interest rate controls were in effects from the mid-1960s, and although exchange controls were extended to the UK in 1978, Ireland was never a very severely regulated banking market, and remained substantially open to the UK. In contrast to countries like Portugal and France, therefore, which had operated in a very closed environment, Ireland has not had to adapt as dramatically to liberalization, and has probably not, therefore, fallen behind in the process. On the other hand, it is possible that the very gradualism of Irish banking developments may have inhibited the adoption of some costly new technologies.[15]

Quantification here is difficult. A simple measure of the potential may be gained by comparing the relative size of the banking system in Ireland and abroad. Figure 11 illustrates the fact that, using the ratio of Money to GDP, Ireland falls well behind many, if not most, relevant comparator countries. The comparison is far from perfect though, because of

[15]For example, unlike the experience in other countries, where there was a considerable expansion of lending to households, financial liberalization does not yet appear to have had a decisive impact on household saving (Honohan, 1995a, Lucey, 1995).

institutional differences such as the relative importance of domestic competitors (insurance companies, stock markets).

International convergence in banking structures may be expected for the coming decade. This will be ensured by a continuation of the technological pressures enhancing international competition for many banking products. The trends towards ownership consolidation and international collaboration and partnership arrangements will also provide effective vehicles for this convergence.

If so, we may expect an increase in the ratio of money to GDP. The mechanism here may well be through the provision of tailored financial instruments increasing the gross financial position of households and businesses without increasing their net financial position by much. Here is the link between financial innovation and international convergence.

There should also be convergence in other dimensions apart from scale alone. For example, we may expect the share of fixed-interest debt in the total to increase. Recently collected data for 14 industrial countries (not including Ireland) in 1993 indicate that the share of fixed interest rate borrowing in total indebtedness of the non-bank non-government sector lies between 55 and 75 per cent for ten of these countries; the other four have a share lying between 26 and 41 per cent. The UK has one of the lowest shares of fixed interest debt, at 27 per cent (BIS, 1995). Ireland is undoubtedly also in the low end of this range, though recent innovations have increased the share. This convergence will surely continue in the coming decade.

Annex 1: Long-term correlations for the money stock.

It is of interest to see if long-term relationships can be detected between the broad money stock (largely composed of bank deposits) and macroeconomic aggregates such as GNP, interest rates, inflation and so on. Insofar as there may have been common structural developments in Irish and UK financial markets over the years, it is also of interest to see if long-term UK money trends are correlated with those in Ireland.

Like most aggregate economic variables, money stocks are non-stationary. That is to say (loosely speaking) they cannot be adequately modelled as a stable fluctuation around a trend line. With such variables simple correlation can be highly misleading, so it is important to conduct a cointegration analysis.

The first step is to confirm that the variables in question are indeed non-stationary. Looking at data[1] for the period 1948-94, and using the standard Dickey-Fuller tests we concluded that non-stationarity could not be rejected for currency, M1 or M2; nor for interest rates, the CPI, GNP or the unemployment rate. With the exception of interest rates, M1 and unemployment, it was not possible to reject non-stationarity of the first differences of these variables either. Deflating by the CPI and taking logs of the resulting real aggregates, we again get no evidence against stationarity in the log-levels, though now there is evidence of stationarity in first differences for M2. Clearly we are dealing with a situation where cointegration analysis is necessary.

Our strategy was then to examine whether money, the CPI, GNP, and unemployment are cointegrated, i.e. does there appear to be a long-term relationship between them. Various alternatives were explored. The most satisfactory involved a log-linear relationship between the real value of M2, the real value of GNP and the interest rate. The estimated (cointegrating) relationship[2] was:

$$m = 0.8\ gnp - 0.02\ interest$$

This relationship suggests a growth of real money holdings less than proportional to real GNP growth and with the level of real balances responding negatively to the nominal interest rate, with a semi-elasticity of -0.02. It must be recognized, however, that the interest rate responsiveness may be a proxy for some other long-term trends. Taking the residual from this equation as an indication of the *gap* between actual and long-term equilibrium, we estimate the associated dynamic equation:

---

[1]The monetary data are taken from *International Financial Statistics*. Line 34 for M1; Lines 34+35 for M2; line 61l for bank deposit interest rate. The monetary series have the major break in 1982 discussed in the text.

[2]The Dickey-Fuller statistic for this relationship was -4.45, significant almost at the 1 per cent level.

$$\Delta m = \underset{(3.8)}{0.42}\ \Delta m(-1) + \underset{(2.8)}{0.47}\ \Delta gnp - \underset{(1.6)}{0.0076}\ \Delta interest - \underset{(4.0)}{0.32}\ gap$$

with an R-squared of 0.55, a standard error of 0.046, and Durbin-Watson statistic of 2.16.

Conducting a similar analysis with the inclusion of UK monetary data (on a slightly shorter data set 1955-94) indicates that there is no cointegrating relationship between UK and Irish monetary aggregates.

Annex 2: The responsiveness of saving behaviour to government deficits

As noted in the text, a glance at the time series of government and household deficits alerts one to an evident correlation between the series. When the household saving rate has been unusually high, so has the government deficit. What is the meaning of this relation? Previous econometric work (Moore, 1987, Whelan, 1991) has focused on one extreme hypothesis, known as the Ricardian proposition, and according to which deficit spending cannot provide a boost to the economy because private agents (recognizing the future taxation that is implied by a deficit now) will act to offset it through their saving behaviour. If such a hypothesis were true, it would help explain the correlation, but Whelan has shown that its full implications are not borne out in the data.

Two alternative, or complementary, hypotheses can be suggested. First, a change in the deficit from what was expected may cause a reevaluation by the private sector of the level and volatility of future income. If so, this will change their desired level of precautionary balances, their willingness to accumulate debt and generally the rate of saving out of current disposable income. Second, both government and private saving may be affected by other shocks: an adverse external shock might have the effect of increasing the government deficit and also increase personal savings.

For the present we offer a regression equation which best appears to summarize the influence of the government deficit on household consumption. Our variables are the household saving rate h, i.e. one minus the ration of personal consumer expenditure divided by personal disposable income; the government deficit g, specifically public sector savings as a percentage of GDP; and the annual rate of price inflation *cpi*. Non-stationarity cannot be rejected for these variables, and we sought a cointegrating regression. A cointegrating regression can be found for h and *cpi*, if a time trend is included, and accepting the 10 per cent level of significance as adequate, but none could be found for the three variables together. This suggests that the impact of government deficits on saving is a transitory one.

The estimated cointegrating regression,[1] i.e the long-term relation, is (apart from the constant term and time trend):

$$h = 0.55\ cpi$$

The link with the inflation rate implies that a 2 percentage point increase in inflation has the effect of increasing the saving rate by one percentage point. This relationship has previously been rationalized in the literature by various hypotheses, including the household sector's need to rebuild the real value of money balances eroded by inflation.

The short-term dynamics links the change in h to the change in g and to last year's gap between saving rate and its equilibrium value as estimated by the cointegrating regression. We obtained the following:

---

[1]The augmented Dickey-Fuller statistic at 3.74 is just significant at 10 per cent.

$$\Delta h = 0.16 - 0.84\ \Delta g - 0.47\ gap$$
$$(0.7) \quad (5.0) \qquad (4.5)$$

With an R-squared of 0.62, a standard error of estimate of 1.40 and a Durbin-Watson statistic of 2.07. In order to check whether the estimated impact of Δg might be due to a common shock to h and g, we re-estimated the equation using lagged values as instruments. The size of the coefficient on Δg increased to *minus* 1.34, with a t-statistic of 2.7 The difference between the two estimates is not significantly different at 5 per cent. Estimated coefficients on the remaining variables were unchanged. This is evidence against the "common shock" interpretation.

By identifying the link between household and government saving as a short-term one only we may have pinpointed the reason for the discrepancy between the results of Moore and Whelan. To oversimplify, Moore asserted, and Whelan denied, a one-for-one relation between h and g. On our results. there is a close to one-for-one relation, but only for short-run changes. In the long-run the relationship between the two drifts apart.

Bank for International Settlements (1995), *65th Annual Report*, (Basle: BIS).

Bordo, M. and L. Jonung (1990), "The Long-Run Behaviour of Velocity: The Institutional Approach Revisited", *Journal of Policy Modelling*, 12, 165-97.

Boughton, J.M. (1992), "International Comparisons of Money Demand", *Open Economies Review*, 3, 323-343.

Browne, F.X. and D. Cronin (1994), "Technological Advances in Payments, Laissez-Faire Banking and Monetary Theory", Central Bank of Ireland Technical Paper 1/RT/94.

Cronin, D. (1994), "Patterns in Money Demand", Central Bank of Ireland Technical Paper 8/RT/94.

Cuthbertson, K. (1985), *The Supply and Demand for Money*, (Oxford: Blackwell).

Frain, J., D. Howlett and M. McGuire (1995), "A Note on the Estimation of the Consumption Function Within a Small-scale Econometric Model of the Irish Economy", Central Bank of Ireland Technical Paper 4/RT/95.

Honohan, P. (1992), *Intersectoral Financial Flows in Ireland* (Dublin: ESRI).

Honohan, P. (1994a), "Integration of Financial Markets in Europe: Implications for the Irish Banking System", ESRI Working Paper No. 50.

Honohan, P. (1994b), "Currency Board or Central Bank: Lessons from the Irish Irish Pound's Link with Sterling 1928-79". London: Centre for Economic Policy Research, Discussion Paper.

Honohan, P. (1995a), "The Impact of Financial and Fiscal Policies on Saving", ESRI Working Paper No. 59.

Honohan, P. (1995b), "Measuring European Financial Integration", ESRI Working Paper No. 60.

Honohan, P. and B. Nolan (1993), *The Financial Assets of Households in Ireland* (Dublin, ESRI).

Howlett, D. and D. McGettigan (1994), "Money, Credit and Prices: A VAR Approach", Central Bank of Ireland Technical Paper 7/RT/94.

Hurley, M and C. Guiomard (1989), "Determinants of Money Demand in Ireland 1970-1988: Rounding-Up the Usual Suspects", Central Bank of Ireland Technical Paper 2/RT/89.

Lucey, S. (1995), "Financial Deregulation and Irish Consumption Behaviour",

Paper presented to the Statistical and Social Inquiry Society of Ireland.

Moore, M. (1987), "The Irish Consumption Function and Ricardian Equivalence", *Economic and Social Review* (19), 43-60.

Organization for Economic Cooperation and Development (1994), *Taxation and Household Saving*, (Paris: OECD).

O'Toole, F. and P. Warrington (1995), "Taxation and Savings in Ireland", Paper presented to the Foundation for Fiscal Studies.

Thom, R. (1988), *The Taxation of Savings*, Reserach Report No. 2, (Dublin: Foundation for Fiscal Studies).

Whelan, K. (1991), "Ricardian Equivalence and the Irish Consumption Function: The Evidence Re-examined", *Economic and Social Review* (22), 229-238.

Table 1. FLOW OF FUNDS: IRELAND 1986-94

Percent of GNP

	1986	1987	1988	1989	1990	1991	1992	1993	1994
HOUSEHOLD									
Saving	8.9	8.5	7.0	5.7	7.2	8.7	8.7	9.6	8.4
Depreciation	2.5	2.5	2.5	2.4	2.4	2.3	2.3	2.2	2.1
Capital Grants	0.7	1.0	0.8	0.6	0.6	0.5	0.6	0.4	0.4
All Sources	12.1	12.1	10.2	8.7	10.2	11.5	11.5	12.2	11.0
Fixed Cap Formation	5.8	5.9	5.8	6.7	6.9	6.4	6.5	5.8	5.9
Stock	-0.3	0.2	0.3	1.0	0.4	0.3	0.3	0.0	0.3
Capital Taxes	0.2	0.2	0.3	0.2	0.3	0.4	0.3	0.3	0.3
All Uses	5.7	6.3	6.4	7.9	7.6	7.0	7.1	6.0	6.5
Net Acquisn Fin Assets	6.4	5.7	3.8	0.7	2.6	4.5	4.4	6.2	4.4
BUSINESS									
Saving (net of appre	5.3	5.9	3.9	3.3	6.4	5.6	3.4	3.6	3.6
Depreciation	6.9	7.3	7.2	7.3	7.5	7.6	7.7	7.9	7.7
Capital Grants	0.9	0.6	0.5	0.6	0.6	0.6	0.7	0.8	1.2
Cap Trsfrs from Abroad	-0.3	-0.6	-0.2	-0.2	-0.1	0.1	0.4	0.3	0.1
All Sources	12.8	13.2	11.4	11.0	14.4	14.0	12.2	12.5	12.5
Fixed Cap Formation	9.6	9.4	10.0	10.6	11.1	9.7	8.7	8.6	8.6
Stock Changes	0.9	-0.1	-0.6	0.2	2.6	2.1	-0.8	-0.6	-1.1
Cap Trsfrs to Govt	0.4	0.5	0.5	0.5	0.7	0.6	0.5	0.5	0.5
All Uses	10.9	9.8	9.9	11.3	14.3	12.4	8.4	8.6	8.0
Net Acquisn Fin Assets	1.9	3.4	1.5	-0.3	0.1	1.6	3.8	3.9	4.5
GOVERNMENT									
Saving	-8.4	-7.2	-4.1	-1.1	-1.9	-2.1	-2.2	-2.1	-0.6
Depreciation	1.1	1.1	1.1	1.0	1.0	0.9	0.9	0.9	0.9
Capital Taxes	0.2	0.2	0.3	0.2	0.3	0.4	0.3	0.3	0.3
Cap Trsfrs from Domestic	0.4	0.5	0.5	0.5	0.7	0.6	0.5	0.5	0.5
Cap Trsfrs from Abroad	0.5	0.6	0.5	0.5	1.0	1.3	1.3	1.5	0.7
All Sources	-6.3	-4.8	-1.7	1.2	1.0	1.1	0.8	1.2	1.9
Fixed Cap Formation	3.9	2.9	2.0	2.1	2.4	2.4	2.4	2.6	2.6
Cap Trsfrs to Domestic	1.6	1.7	1.3	1.1	1.2	1.1	1.2	1.2	1.6
All Uses	5.5	4.6	3.4	3.2	3.6	3.6	3.6	3.9	4.2
Net Acquisn Fin Assets	-11.7	-9.4	-5.0	-2.0	-2.6	-2.4	-2.7	-2.7	-2.3
FOREIGN									
Net Frgn Disinvestment	3.4	0.3	-0.3	1.6	-0.2	-3.6	-5.4	-7.4	-6.7

Note: Based on National Income and Expenditure, 1994 (July 1995)

Table 2.

Central Bank of Ireland
Licensed Banks: Sectoral Distribution of Advances(%)

End-February	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Agriculture/Forestry/Fishing	12.7	12.2	11.2	11.3	11.2	10.8	10.4	9.1	9.0	7.9
Energy	5.4	4.9	4.1	2.5	1.4	1.1	0.8	1.1	1.0	1.1
Manufacturing	18.4	17.8	16.6	16.9	14.4	13.8	12.5	11.1	9.9	9.9
Building & Construction	3.2	2.8	2.5	2.5	3.0	3.3	3.1	2.8	2.2	2.3
Dist./garage/hotel/catering	13.1	13.0	12.2	12.1	12.8	12.8	12.9	12.4	11.7	11.5
Transport	5.4	5.7	4.6	3.2	3.0	3.0	2.4	2.9	2.1	2.3
Postal/telecommunications	5.4	5.6	4.9	3.1	1.8	0.7	0.3	0.2	0.2	0.1
Financial	8.6	9.5	11.9	15.0	15.6	12.8	13.8	18.0	21.8	24.1
Business & Services	10.0	9.6	9.7	9.8	10.0	12.1	12.5	12.3	11.9	11.3
Personal	18.9	19.0	22.4	23.7	26.8	29.5	31.3	30.2	30.2	29.5
Energy and Building		7.7	6.6	5	4.4	4.4	3.9	3.9	3.2	3.4
Non-financial services		33.9	31.4	28.2	27.6	28.6	28.1	27.8	25.9	25.2

Central Bank of Ireland
Licensed Banks: Sectoral Distribution of Deposits(%)

End-May	1990	1991	1992	1993	1994	1995
Agriculture/Forestry/Fishing	9.8	8.9	9.1	7.0	6.5	5.7
Energy	0.2	0.2	0.2	0.7	0.7	0.8
Manufacturing	8.3	7.1	8.3	7.5	7.8	7.2
Building & Construction	1.2	1.1	1.3	1.0	0.9	1.0
Dist./garage/hotel/catering	5.2	4.6	5.0	4.4	5.0	4.6
Transport	0.9	1.5	1.1	0.8	0.9	1.4
Postal/telecommunications	0.2	0.2	0.3	0.5	0.2	0.3
Financial	16.4	19.3	15.2	21.4	19.7	20.3
Business & Services	15.2	15.0	14.7	14.2	15.4	16.2
Personal	42.7	42.1	44.8	42.3	42.8	42.6
Energy and Building	1.4	1.3	1.5	1.7	1.6	1.8
Non-financial services	21.5	21.3	21.1	19.9	21.5	22.5

Table 3.

INTERNATIONAL BUSINESS OF BANKS

£ billion

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Liabilities of local banks														
NRes FX	1.97	2.53	2.95	3.33	2.89	3.90	4.40	5.15	6.03	6.01	6.15	8.26	12.76	14.35
NRes £	1.22	1.41	1.49	1.72	2.01	1.78	1.80	1.80	1.86	3.01	3.15	2.72	3.24	3.44
Res FX	0.69	0.98	0.88	1.01	0.98	1.49	1.66	2.05	2.29	3.56	5.93	6.78	7.86	5.61
of which bank is counterparty														
NRes FX	1.34	1.76	2.18	2.53	2.04	3.00	3.44	4.04	4.76	4.51	4.44	6.77	10.64	11.60
NRes £	0.22	0.21	0.06	0.08	0.17	0.18	0.32	0.28	0.33	1.35	1.56	1.21	1.4	1.60
Res FX	0.42	0.52	0.56	0.58	0.52	0.88	0.95	1.28	1.39	1.87	4.01	4.08	4.98	2.26
Assets of local banks														
NRes FX	1.35	1.78	2.06	2.37	2.21	2.43	3.09	3.45	5.31	6.03	7.18	10.15	16.12	17.73
NRes £	0.07	0.11	0.07	0.07	0.07	0.06	0.10	0.08	0.18	0.16	0.16	0.22	0.52	0.57
Res FX	1.33	1.80	1.89	1.99	1.97	2.72	3.07	3.74	3.91	4.67	6.31	7.38	9.29	6.56
Trad business		9.30	10.53	12.09	12.71	14.14	14.59	15.61	17.35	19.31	19.67	21.22	20.14	22.97
of which bank is counterparty														
NRes FX	1.11	1.48	1.61	1.86	1.78	1.98	2.71	2.96	4.82	5.10	5.42	7.46	10.75	10.36
NRes £	0.04	0.05	0.03	0.04	0.03	0.03	0.05	0.04	0.12	0.11	0.08	0.14	0.43	0.48
Res FX	0.42	0.59	0.56	0.55	0.51	0.85	0.92	1.32	1.30	1.92	4	4.08	4.96	2.28
Trad business		1.72	1.93	2.30	2.50	3.57	3.65	3.87	4.18	5.08	5.02	6.14	5.47	5.93
Total foreign assets	2.75	3.69	4.02	4.43	4.25	5.21	6.26	7.27	9.40	10.86	13.65	17.75	25.93	24.86
o/w bank counterparty	1.57	2.12	2.20	2.45	2.32	2.86	3.68	4.32	6.24	7.13	9.50	11.68	16.14	13.12
Foreign as % total		28.4	27.6	26.8	25.1	26.9	30.0	31.8	35.1	36.0	41.0	45.5	56.3	51.97
% for bank counterparty		55.2	53.3	51.6	48.1	44.5	50.2	52.7	59.9	58.4	65.4	65.5	74.7	68.86
Foreign nonbank cntrprty as % total		17.2	17.5	16.8	15.9	18.2	19.1	20.1	19.4	20.8	22.1	28.7	40.0	40.79
Currency analysis (%)														
Liabs of local banks														
NRes FX														
USD	33.5	41.1	41.4	40.5	30.4	28.2	35.9	35.5	37.3	30.6	30.1	33.5	42.8	39.73
GBP	49.2	37.5	40.7	39.9	49.5	44.6	38.2	40.4	39.6	44.6	43.6	35.8	23.4	23.10
DEM	11.2	11.5	7.1	10.5	6.6	13.6	11.4	8.4	7.8	7.7	10.2	7.3	8.3	18.52
Res FX														
USD	55.1	50.0	56.8	57.4	48.0	32.2	25.3	34.1	27.1	15.4	17.2	19.3	22.1	34.01
GBP	30.4	29.6	26.1	23.8	24.5	45.0	47.6	38.5	40.6	46.3	30.0	28.5	23.9	28.73
DEM	10.1	13.3	8.0	5.0	6.1	6.0	7.2	10.2	12.2	15.2	19.4	18.4	19.5	18.01
Assets of local banks														
NRes FX														
USD	20.0	35.4	40.8	39.2	34.8	24.7	40.5	27.2	38.6	28.4	32.5	48.9	59.3	41.23
GBP	73.3	52.2	49.0	49.8	51.6	56.8	42.4	54.8	48.2	55.2	47.8	29.5	18.7	19.55
DEM	2.2	8.4	4.4	2.1	4.5	5.3	4.2	4.9	3.2	6.0	6.3	9.0	10.9	21.17
Res FX														
USD	48.9	43.9	53.4	52.8	43.7	32.4	28.7	32.6	31.7	21.2	18.7	25.3	28.4	36.26
GBP	22.6	21.7	18.5	17.6	20.3	30.1	31.6	26.5	25.8	31.7	26.3	25.5	21.5	31.67
DEM	19.5	17.2	11.1	14.6	13.7	16.2	15.6	10.2	9.7	16.9	20.6	16.1	17.4	10.69
Geographical analysis (%)														
NRes FX Liabs														
UK		71.1	69.2	63.7	72.7	71.5	58.9	60.4	57.5	63.2	59.2	52.2	36.1	36.00
Other EC		12.3	10.8	15.0	14.2	14.1	18.0	17.1	18.7	17.6	18.0	26.0	47.0	42.37
USA		7.5	8.8	9.3	5.9	5.9	9.3	11.3	11.1	7.0	5.7	8.4	3.5	3.86
Switz		1.2	1.7	2.1	1.0	2.6	3.2	3.5	4.0	3.7	2.1	0.8	1.9	7.14
Offshore			4.1	4.2	3.5	3.8	5.7	4.3	4.6	4.2	10.2	8.6	9.1	7.96
NRes IR£ Liabs														
UK		83.0	91.9	90.7	89.6	80.3	77.2	76.7	72.0	71.1	77.8	74.6	68.8	70.92
Other EC		4.3	1.3	1.7	2.5	3.4	5.0	6.1	5.9	7.0	6.0	8.1	13.9	12.54
USA		7.8	4.0	4.7	5.5	11.8	11.1	11.7	14.0	15.3	11.7	12.9	12.0	11.60
Offshore					0.5	1.7	3.3	1.7	3.2	3.0	1.0	0.4	0.6	0.74
NRes FX Assets														
UK		71.3	60.7	60.3	73.8	68.7	56.0	58.0	51.4	62.4	57.0	42.6	37.9	33.65
Other EC		15.2	14.1	11.8	11.3	14.0	15.9	16.5	13.9	12.1	17.5	20.8	21.5	32.58
USA		3.4	6.8	8.0	5.4	3.3	9.7	9.6	14.3	14.3	14.9	15.2	23.8	17.05
Offshore					3.2	7.8	9.4	10.7	12.1	6.5	3.1	9.6	6.6	5.44

Table 4.

Population Projections 1995 - 2010

Population, Thousands Age:		1995	2005	2010	1995	2005	2010
					as a % of total population:		
Less than 15	Male	443	361	329	25.6	20.7	18.8
	Female	419	339	309	23.3	18.9	17.1
	Total	863	700	638	24.2	19.8	17.9
Between 15 & 24	Male	327	262	268	18.9	15.1	15.3
	Female	314	257	255	17.5	14.4	14.1
	Total	641	519	523	18.0	14.7	14.7
Between 25 & 44	Male	488	507	503	28.2	29.1	28.7
	Female	492	513	507	27.4	28.7	28.1
	Total	980	1020	1010	27.4	28.9	28.4
Between 45 & 64	Male	344	431	458	19.8	24.8	26.1
	Female	339	432	469	18.9	24.1	26.0
	Total	683	863	926	19.1	24.5	26.0
65 and over	Male	171	180	194	9.9	10.3	11.1
	Female	233	248	266	13.0	13.9	14.7
	Total	404	428	460	11.3	12.1	12.9
Total	Male	1733	1740	1752			
	Female	1797	1789	1806			
	Total	3571	3529	3558			

Table 5.

IRELAND: CAPITAL FINANCE ACCOUNT 1986-94

Average 1986-94

	Household	Business	Financial System	Govt	Foreign
Notes and coin	0.23	0.11	-0.34	0.00	0.00
Deps with banks (licensed)	1.67	2.10	-3.02	0.00	-0.75
Deps with non-banks	2.08	0.00	-2.59	0.00	0.51
Small savings	0.94	0.00	0.00	-0.94	0.00
Lending: banks	-0.75	-2.18	2.93	0.00	0.00
Lending: non-banks	0.03	-0.44	0.41	0.00	0.00
House prchs loans	-2.33	0.00	2.33	0.00	0.00
Off ext borrowing	0.00	0.00	0.00	-0.67	0.67
Govt securities	0.13	0.20	1.11	-2.88	1.45
Company securities	0.37	-1.48	1.11	0.00	0.00
Intl nonbank private flow (oth	-1.70	3.73	1.15	0.00	-3.18
Life assurance/pension funds	3.49	0.00	-3.49	0.00	0.00
Off ext reserves	0.00	0.00	0.70	0.00	-0.70
Posn at Cent Bank (net f	0.00	0.00	-0.40	0.40	0.00
Net lndng by govt	0.00	0.06	0.00	-0.06	0.00
Balancing item	0.16	0.16	0.11	-0.40	-0.04
Financial surplus	4.32	2.27	0.00	-4.56	-2.03

Figure 1.

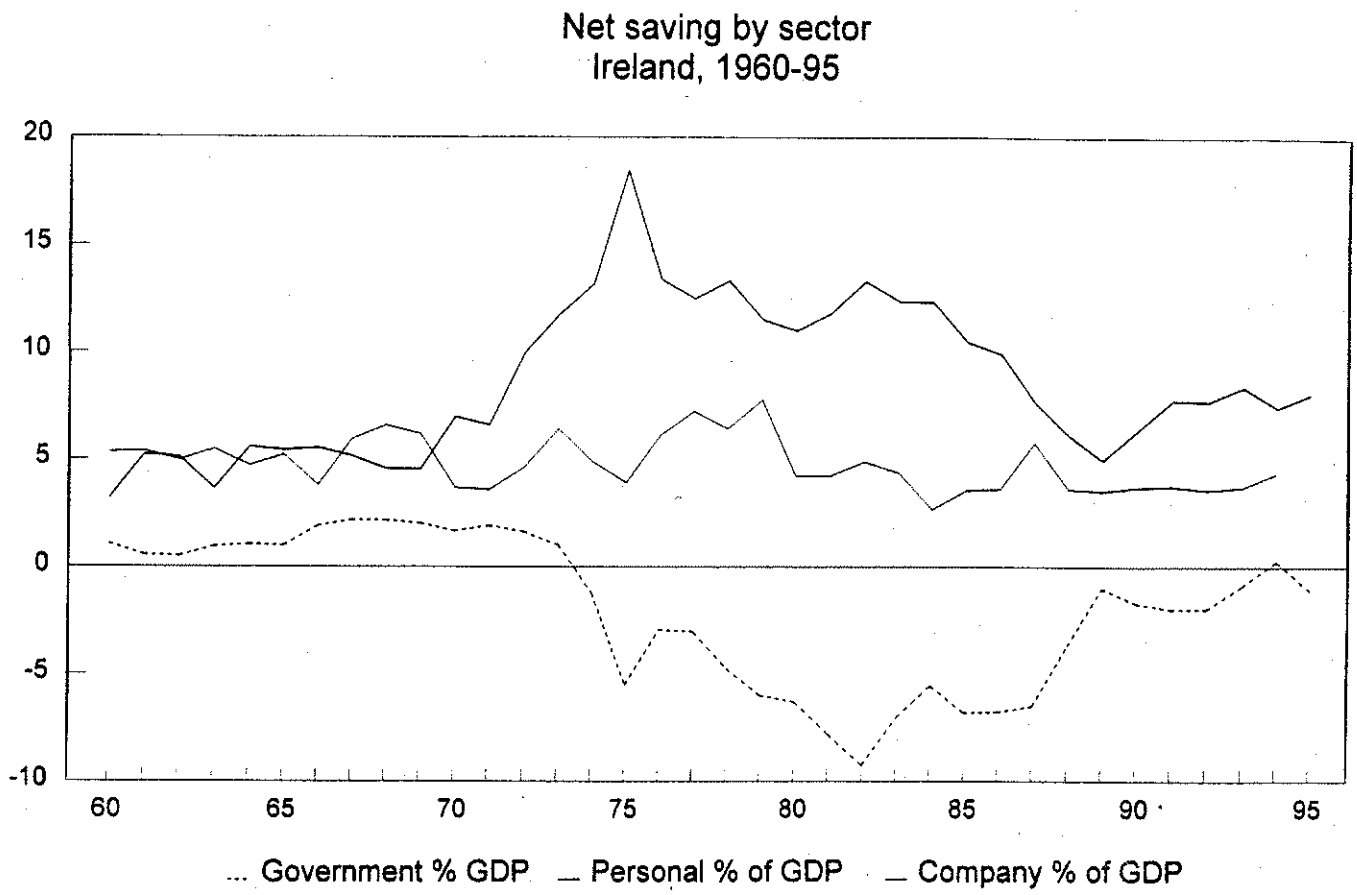

Net saving by sector
Ireland, 1960-95
20
15
10
5
0
-5
-10
60
65
70
75
80
85
90
95
... Government % GDP
_ Personal % of GDP
_ Company % of GDP

Figure 2.

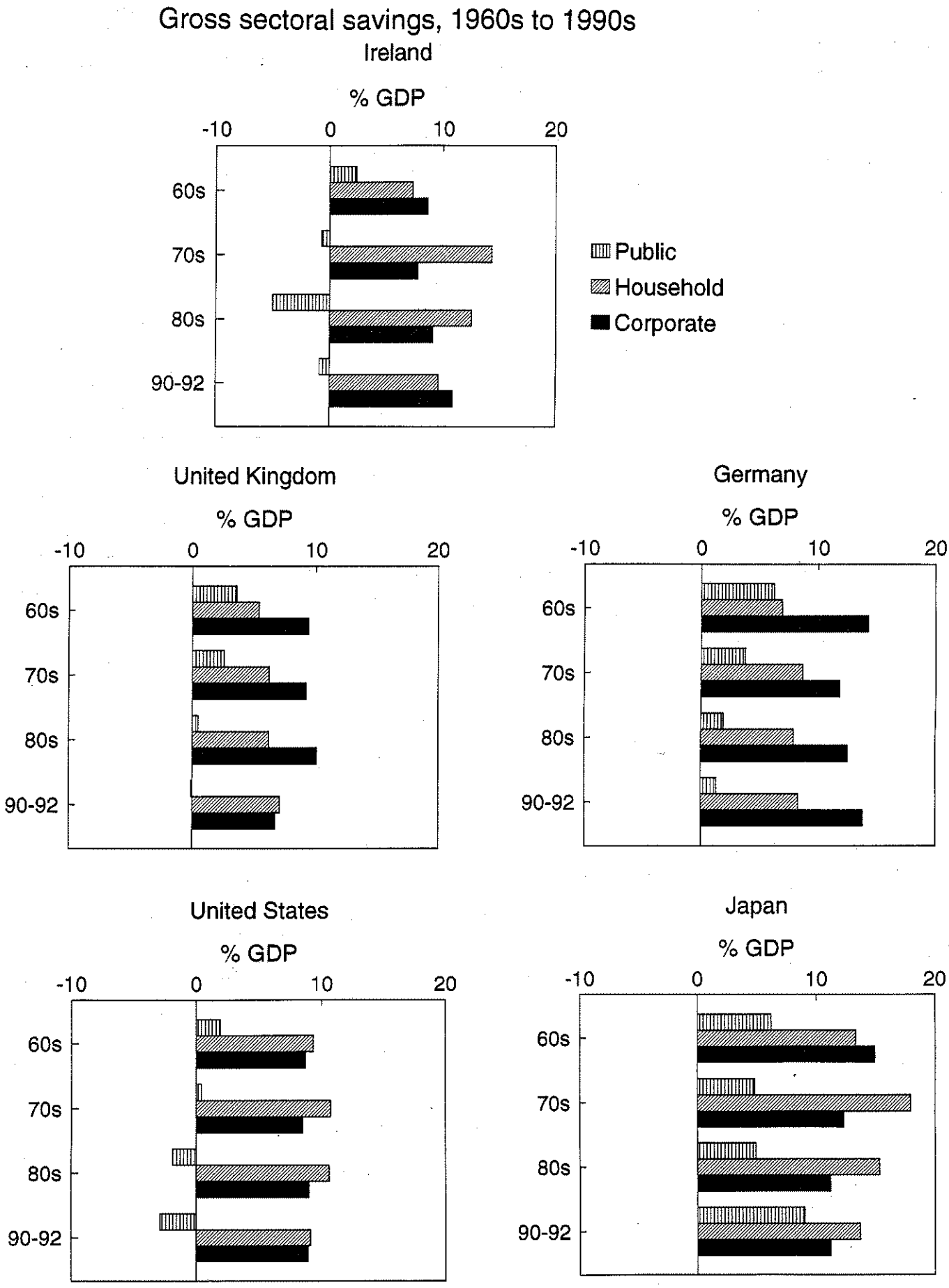
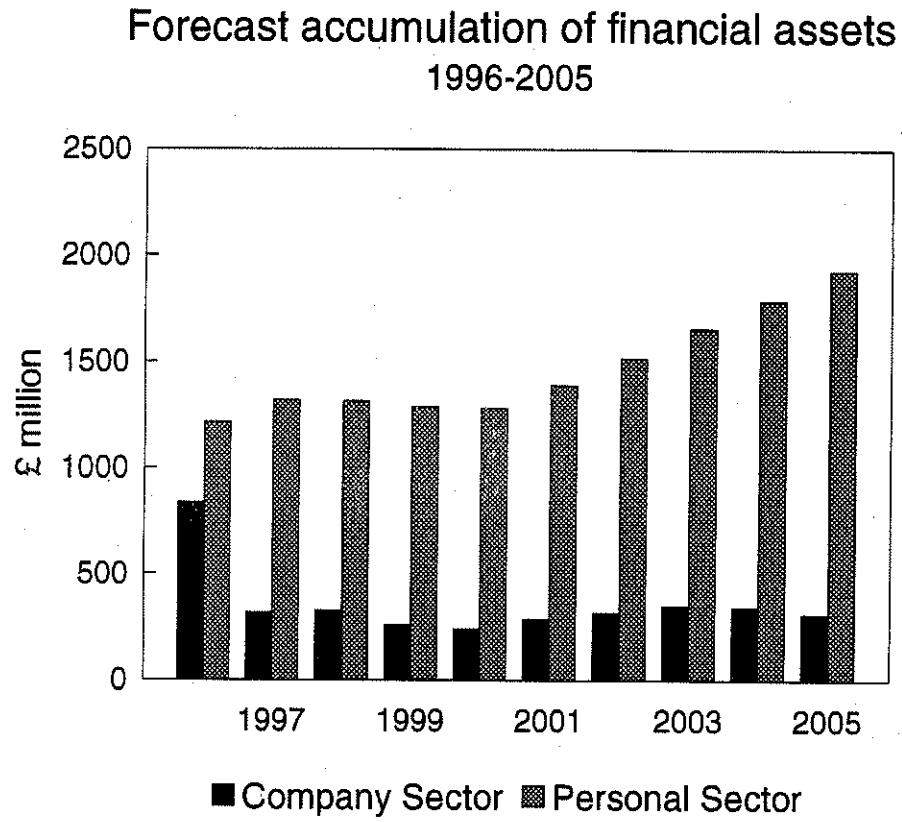

Gross sectoral savings, 1960s to 1990s
Ireland
% GDP
-10
0
10
20
60s
70s
80s
90-92
Public
Household
Corporate
United Kingdom
% GDP
Germany
% GDP
United States
% GDP
Japan
% GDP

Figure 3.


Forecast accumulation of financial assets
1996-2005
£ million
2500
2000
1500
1000
500
0
1997
1999
2001
2003
2005
Company Sector
Personal Sector

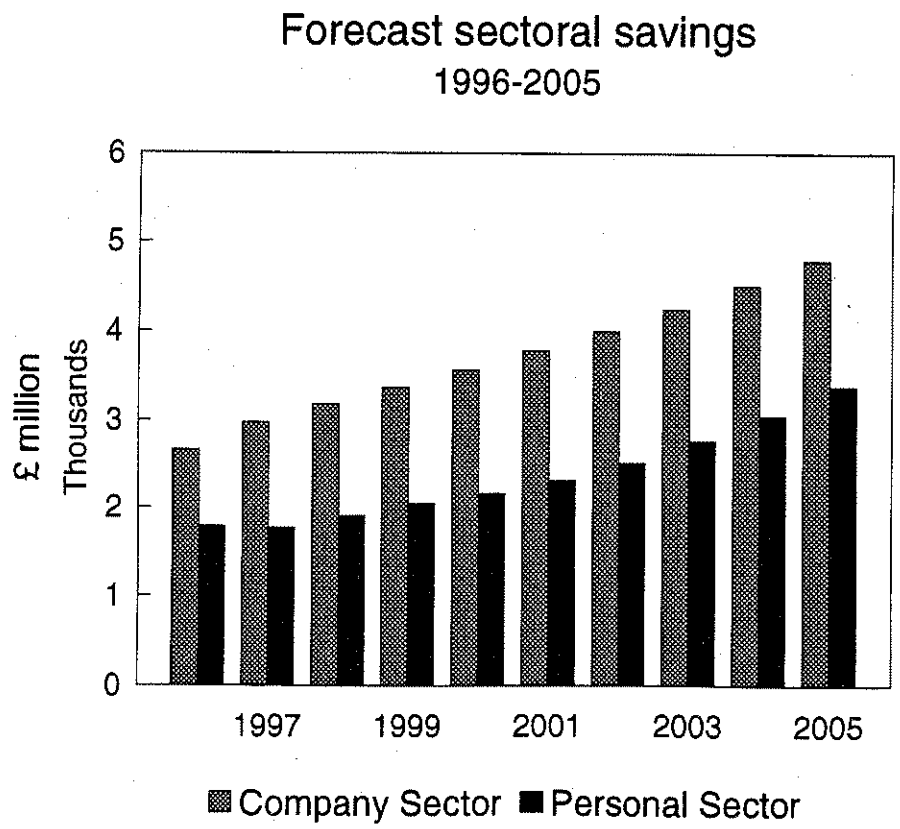
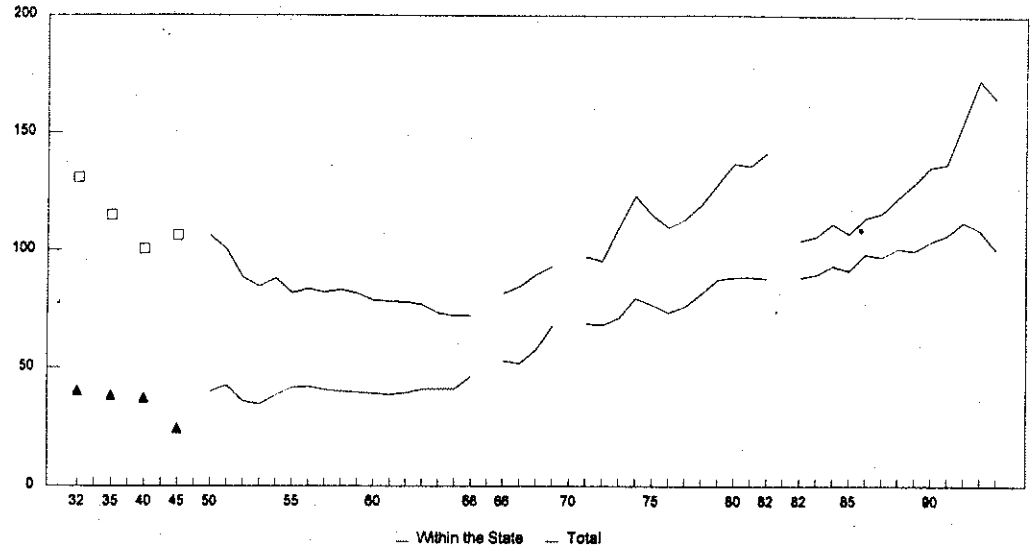
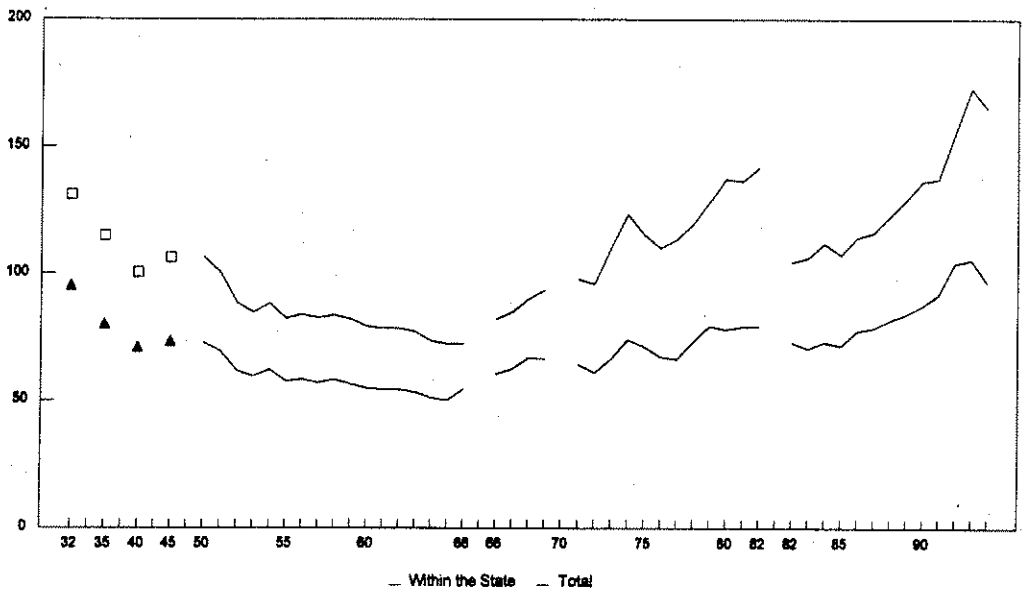

Forecast sectoral savings
1996-2005
£ million
Thousands
6
5
4
3
2
1
0
1997
1999
2001
2003
2005
Company Sector
Personal Sector

Figure 4.

Banks' Assets as % GDP, 1932-94



Banks' Liabilities as % GDP, 1932-94



Net External Assets of Banks as % GDP, 1932-94

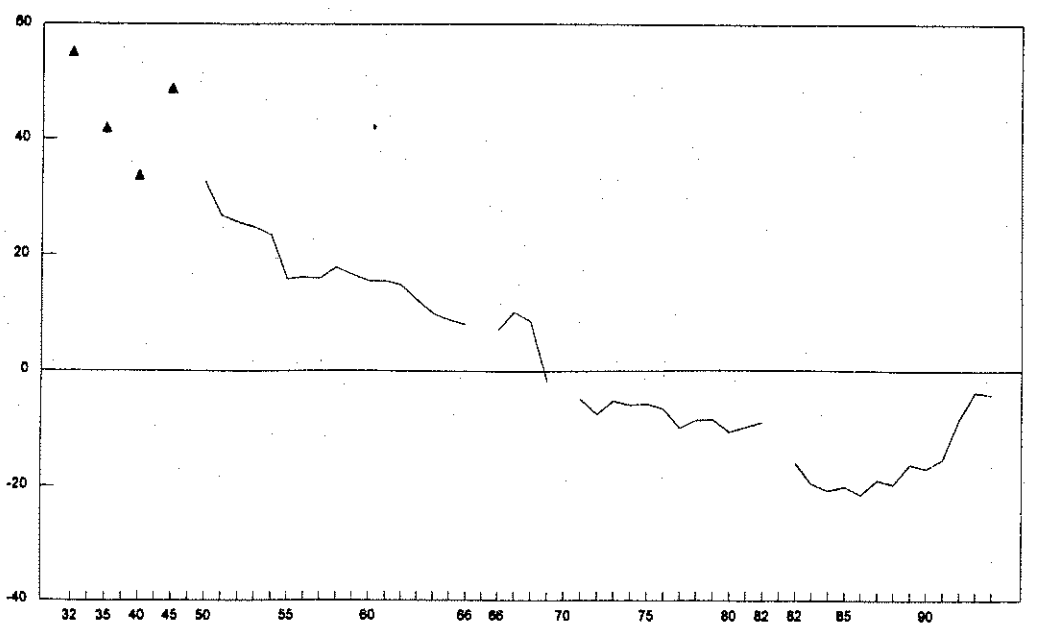


Figure 5.

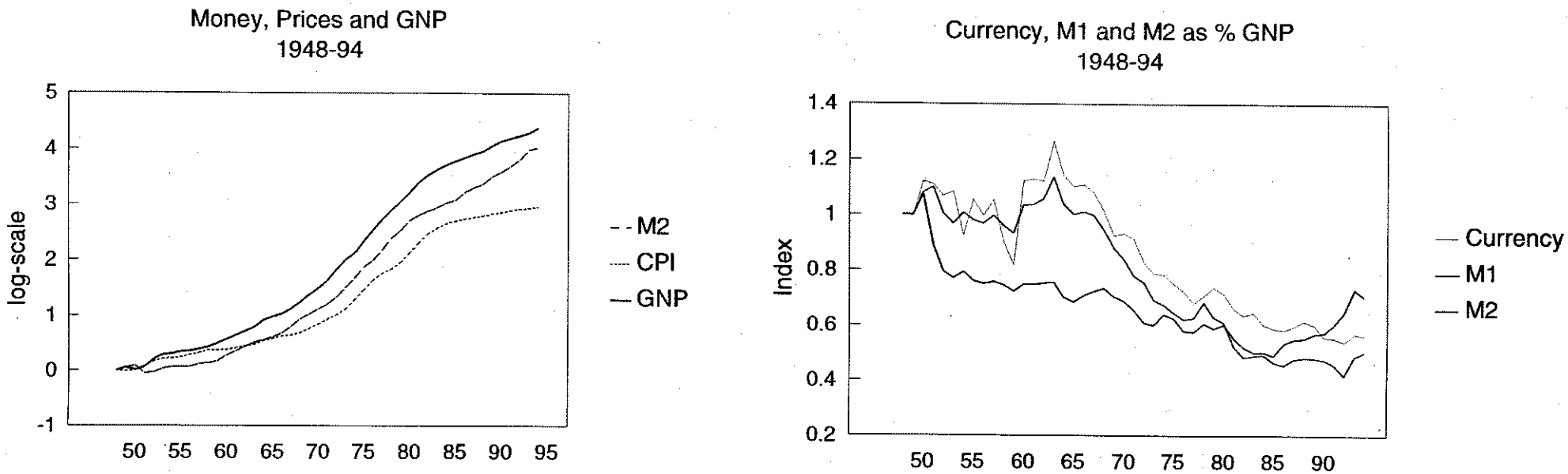

Money, Prices and GNP
1948-94
log-scale
5
4
3
2
1
0
-1
50 55 60 65 70 75 80 85 90 95
M2
CPI
GNP
Currency, M1 and M2 as % GNP
1948-94
Index
1.4
1.2
1
0.8
0.6
0.4
0.2
50 55 60 65 70 75 80 85 90
Currency
M1
M2

Figure 6.

Real Value of Money Stock
Ireland and Other Countries
1963-91

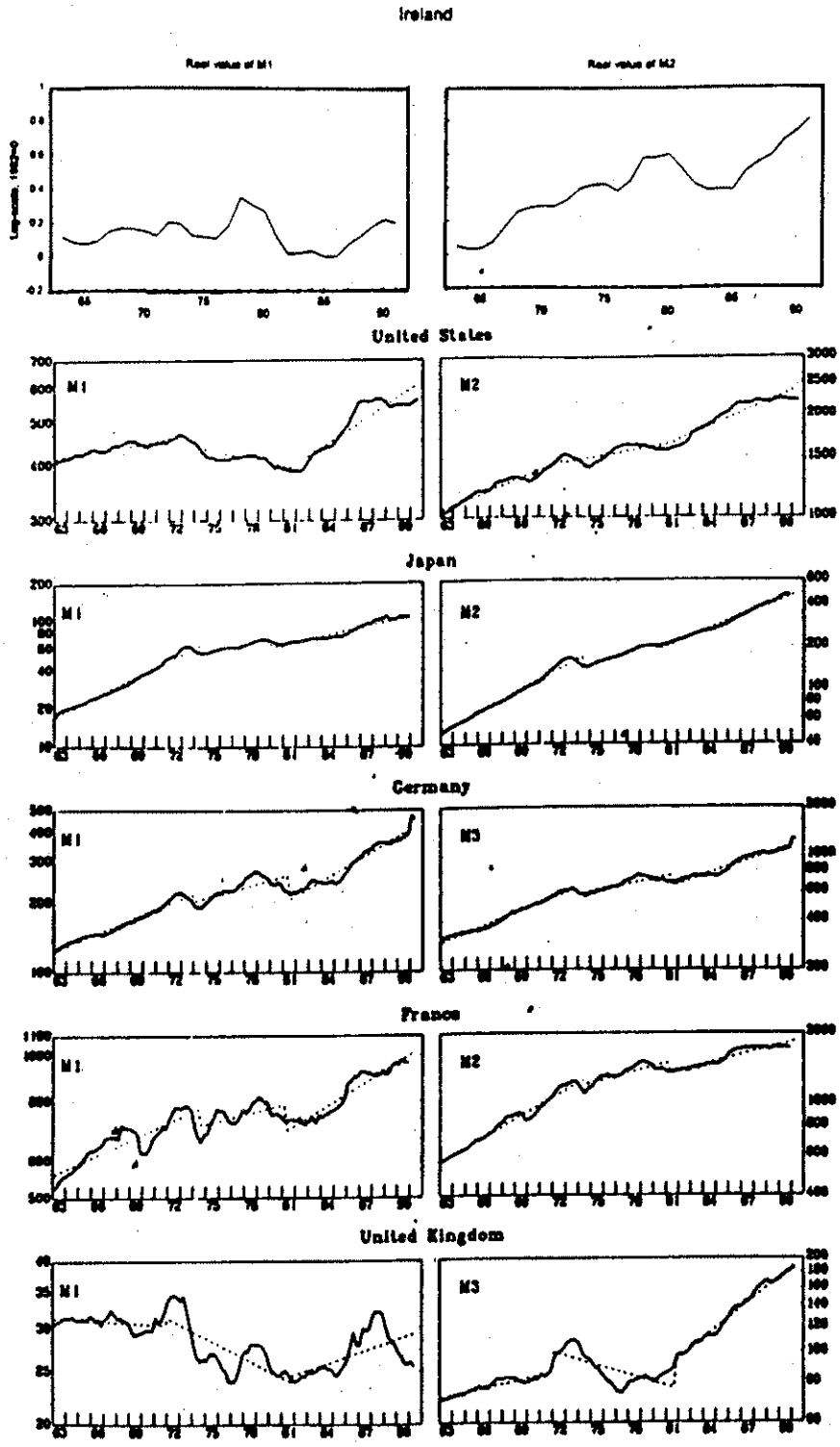


Figure 7.

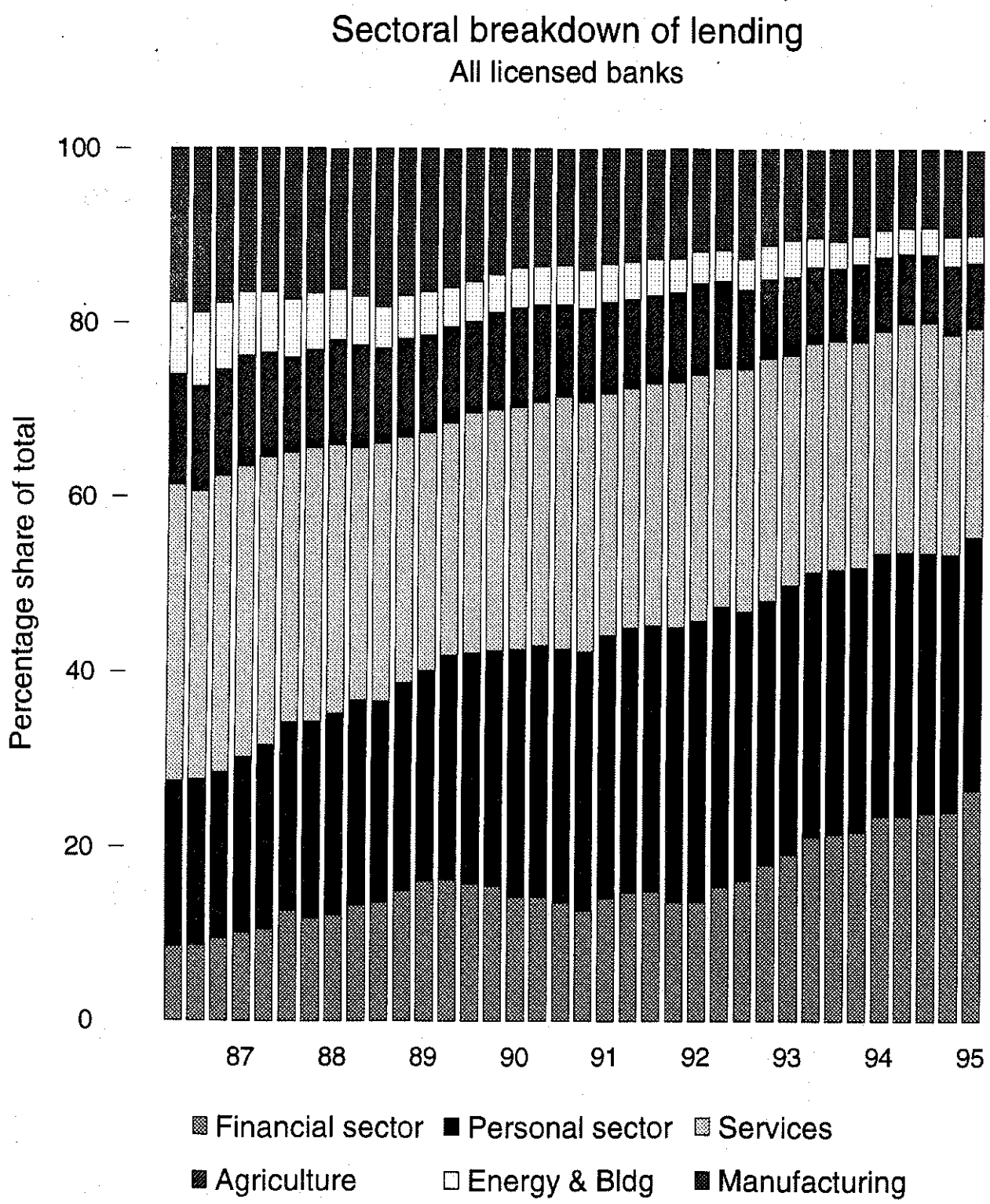

Sectoral breakdown of lending
All licensed banks
Percentage share of total
100
80
60
40
20
0
87
88
89
90
91
92
93
94
95
Financial sector
Personal sector
Services
Agriculture
Energy & Bldg
Manufacturing

Figure 8.

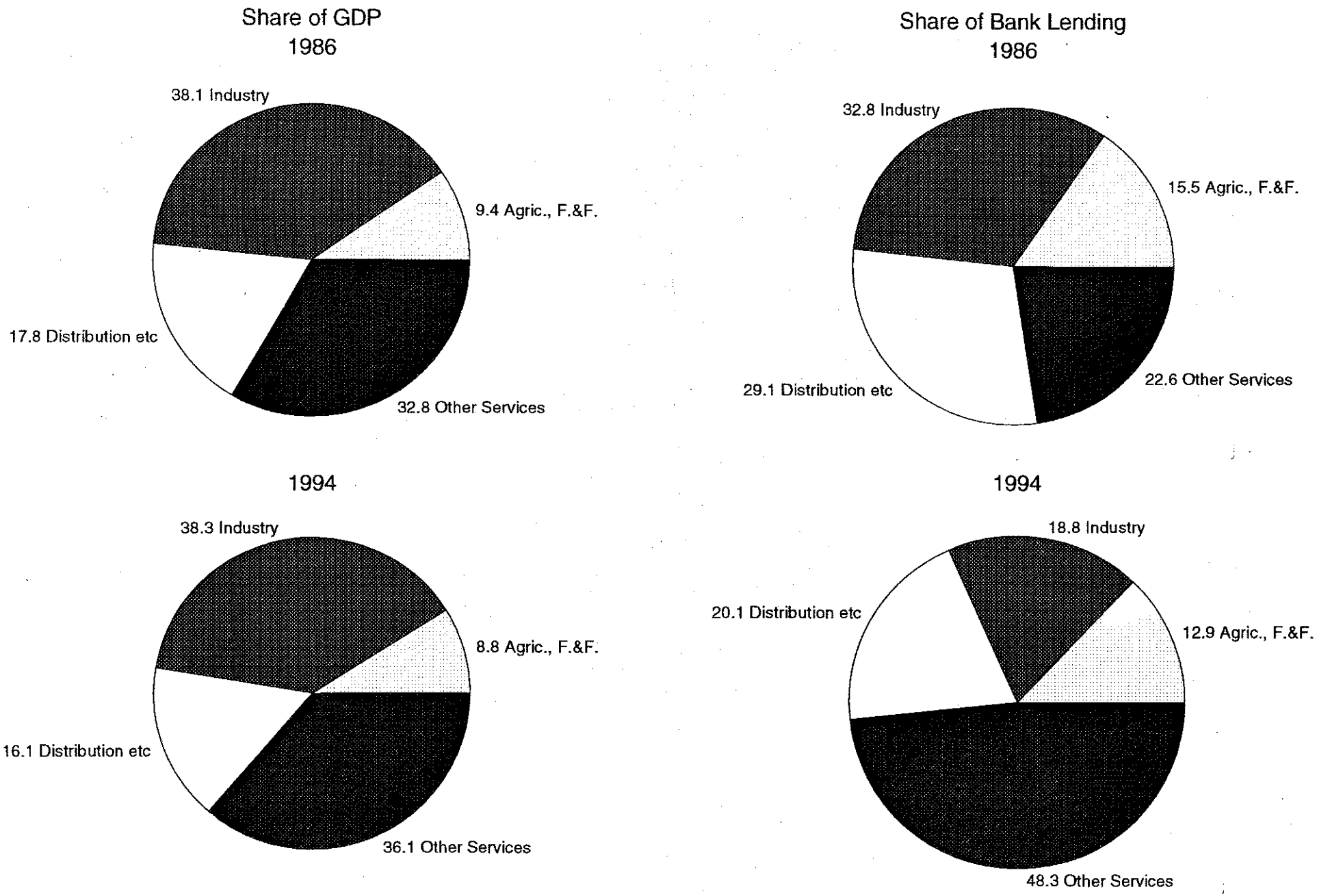

Share of GDP
1986
38.1 Industry
9.4 Agric., F.&F.
17.8 Distribution etc
32.8 Other Services
Share of Bank Lending
1986
32.8 Industry
15.5 Agric., F.&F.
29.1 Distribution etc
22.6 Other Services
1994
38.3 Industry
8.8 Agric., F.&F.
16.1 Distribution etc
36.1 Other Services
1994
18.8 Industry
20.1 Distribution etc
12.9 Agric., F.&F.
48.3 Other Services

Figure 9.

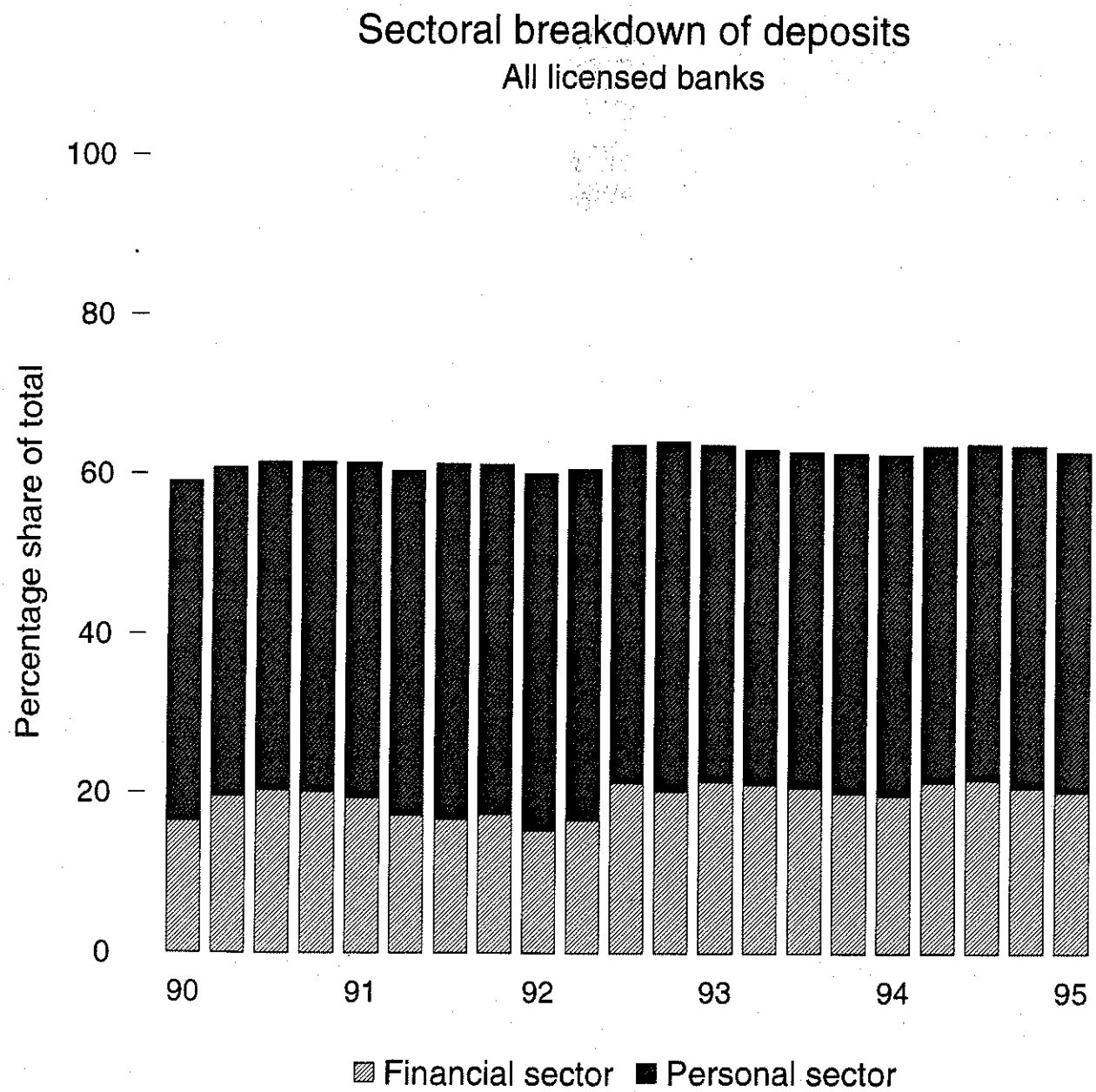

Sectoral breakdown of deposits
All licensed banks
Percentage share of total
100
80
60
40
20
0
90
91
92
93
94
95
Financial sector
Personal sector

Figure 10.

Aggregate Bank Assets and Liabilities

% of GDP

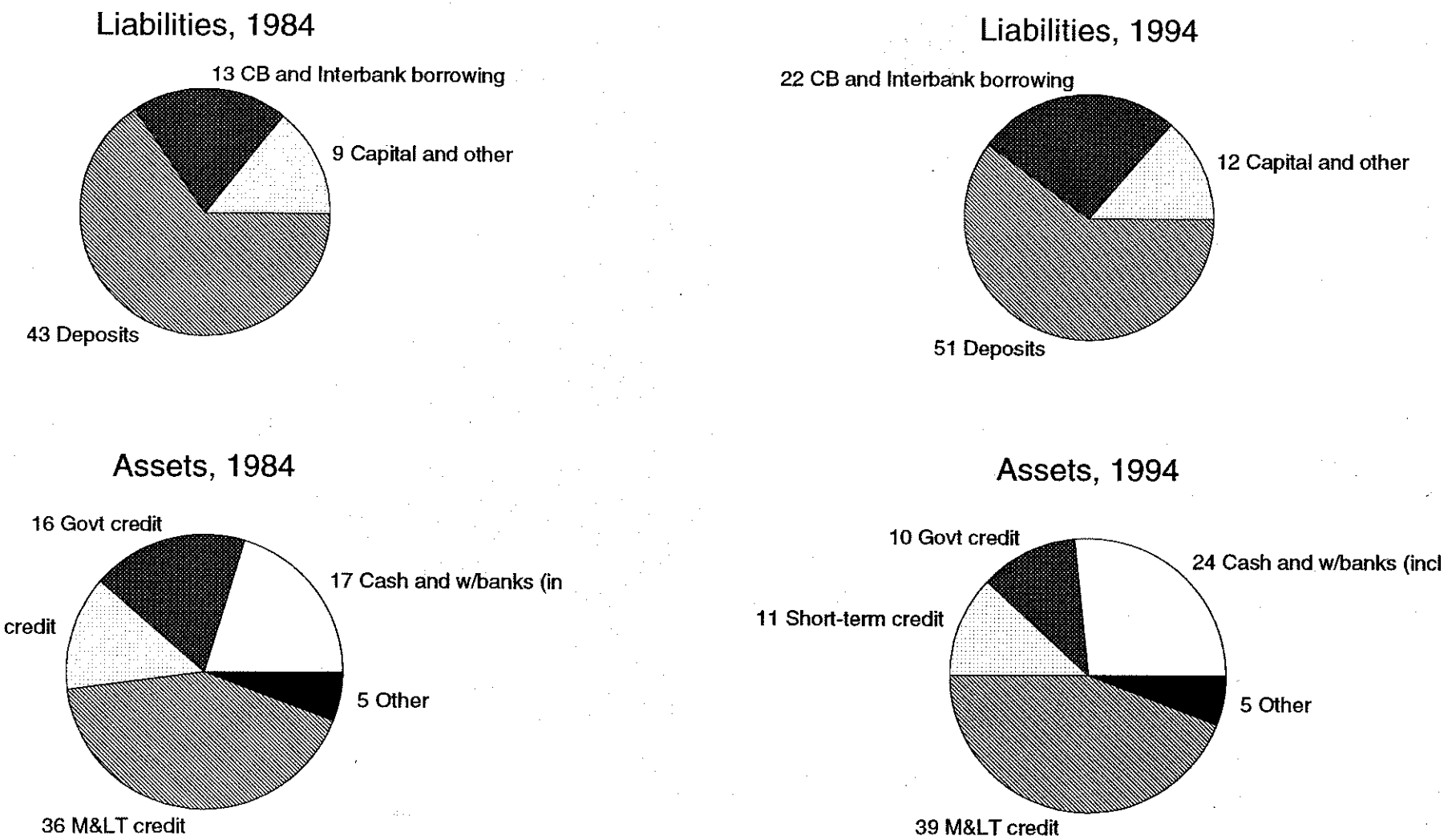
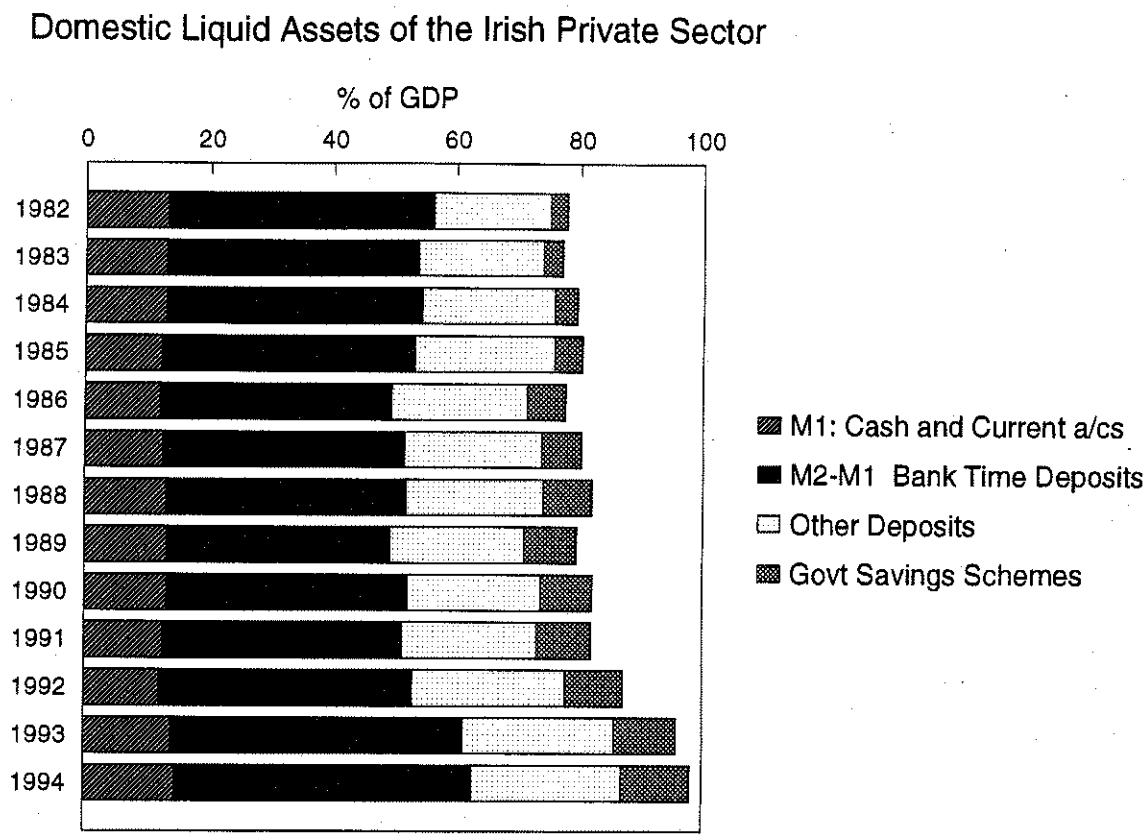


Figure 11.


Domestic Liquid Assets of the Irish Private Sector
% of GDP
0
20
40
60
80
100
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
M1: Cash and Current a/cs
M2-M1 Bank Time Deposits
Other Deposits
Govt Savings Schemes

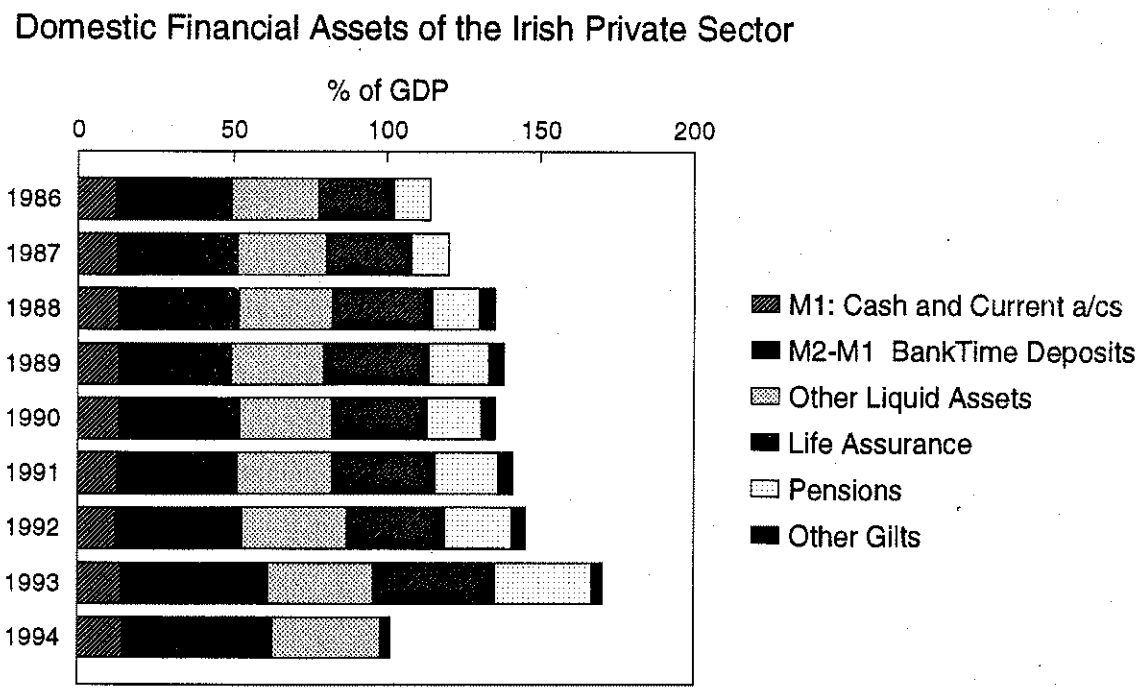

Domestic Financial Assets of the Irish Private Sector
% of GDP
0
50
100
150
200
1986
1987
1988
1989
1990
1991
1992
1993
1994
M1: Cash and Current a/cs
M2-M1 BankTime Deposits
Other Liquid Assets
Life Assurance
Pensions
Other Gilts

Figure 12.

Money as a Share of GDP
Selected Countries, 1985 and 1994