Financial Liberalisation and Economic Growth in Ireland

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ABSTRACT

Numerous theories have been advanced to explain Ireland's exceptional growth experience during the 'Celtic Tiger' era. Many of these have concentrated on structural developments in the labour market and the contribution of a plentiful supply of labour to this growth. The role of other factors, such as finance, by contrast, has received little attention. Development economists have long stressed the positive relationship between financial liberalisation and growth. This article reviews financial liberalisation in Ireland and the structural changes which affected both the supply of and demand for credit. Starting with the balance of payments, the financial flows which facilitated the very rapid expansion of private-sector credit from 1994 onwards are examined. These flows are then related to the banks' funding position and the bridging of the gap between loan and deposit growth over the 1994 to 1998 period. This analysis reveals a predominant reliance on external sources of finance and an increasingly globalised banking sector. Finally, further insights into the contribution of bank credit to the growth experience are obtained from a sectoral study of credit growth. Interestingly, those sectors where credit expanded most rapidly also enjoyed above-average employment growth.

1. Introduction

Ireland experienced growth rates during the 1990s which were without precedent, either historically or in other European countries. Many explanations have been advanced as to why the economy expanded so rapidly: fiscal stabilisation; social partnership; foreign direct investment; participation in the EU Single Market; labour force; and educational developments. It is not intended to add to the debate on the relative importance of these various factors in this article. Rather, the focus is on developments in the financial sector and structural changes which affected the supply of and demand for private-sector credit (PSC), which to date have received little attention.

The importance of financial liberalisation for growth in developing economies is widely accepted, and a positive link between these has been confirmed by many studies. Recently published research suggests that the ready availability of credit can itself be a factor in the growth process (Ranciere et al., 2003). In Ireland, significant financial liberalisation occurred during the 1980s and 1990s. The abolition of exchange controls and the move away from credit rationing and administered interest rates created conditions in which PSC could respond flexibly to strong

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GNP and investment growth. After a number of years of slow growth, PSC accelerated sharply from 1994 onwards and continued to grow at rates sometimes well in excess of 20 per cent for the remainder of the decade. Ample finance for investment helped to expand potential output and to sustain the exceptionally high non-inflationary growth of the 'Celtic Tiger' era.

The main questions addressed are where did banks source the funds to finance the rapid credit growth and to which sectors of the economy did it go? In particular, was the increased globalisation of the Irish economy paralleled by more globalised financial flows? Did credit flow directly to the productive sectors of the economy or was its impact more indirect? Following a brief review of the growth experience and the reasons why Ireland was successful, the article recalls the progressive moves to more liberal structures and policies during the 1980s and 1990s, as well as developments in PSC during the past decade. This provides a framework for the subsequent focus on financial flows during the five-year period up to the start of EMU on 1 January 1999 and an analysis of how credit was distributed between the various sectors of the economy. The article concludes with an assessment of the role of structural change in the financial sector in the Celtic Tiger experience.

2. The Exceptional Growth Experience

The path of the Irish economy has been turbulent and variable over the last few decades. In order to provide a context for the phenomenal growth rates and success of the Irish economy in the 1990s, a review of the Irish economic record prior to this period is given in Table 1. The numerous theories and developments, which have been cited as potentially explaining the dramatic turnaround of the Irish economy in the late 1980s, and sowing the seeds for future success, are also briefly reviewed in this section.

Table 1: Average Annual GNP and Investment Growth Rates

Period	GNP growth rates % per annum	Investment[a] % per annum	Events of the period
1961-1972	4.25	9.90	Open trade, developing manufacturing sector, booming growth.
1973-1978	3.67	5.89	EEC membership, oil crises, rising unemployment.
1979-1986	1.11	–0.75	Recession, growing national debt, increasing taxes, EMS membership.
1987-1993	4.13	2.40	Fiscal rectitude, turnaround, national pay agreements.
1994-2000	8.43	15.32	Celtic Tiger era.
2001-2003	2.33	–0.04	Economic slowdown.

[a]Investment comprises of gross domestic fixed capital formation and the value of physical changes in stocks.
Source: CSO

A range of economic theories and rationalisations has been offered as explanations for the dramatic growth developments in the Irish economy. The expansionary fiscal contraction hypothesis has frequently been cited as being a plausible theoretical account of the Irish economy's turnaround in the late 1980s. Blanchard (1990) and Alesina and Perotti (1995) both advocate this theory, which suggests that a permanent fiscal contraction raises private sector expectations of lower future government spending and can lead to increased demand and consumption. Giavazzi and Pagano (1990) present support for an expansionary fiscal contraction in Ireland. However, opinion is moving away from the expansionary fiscal contraction theory as an explanation for Ireland's experience, although there is still a general consensus that the fiscal contraction did lay the foundations for subsequent economic success.

Another theory, advanced by Ó Gráda (2002) is that the Celtic Tiger's performance was in fact an occurrence of delayed convergence and that Ireland's economic accomplishments in the 1990s were a *catch-up* to the living standards of other EU member states. A differing and alternative theory for Ireland's economic success offered by Krugman (1997) and Barry (2002), promotes the regional boom view.

In reality, no single theory can wholly account for the turnaround of the Irish economy. Outlined below are the predominant factors, which are commonly believed to have contributed to the exceptional growth experience. Internal and external events of the late 1970s, such as the oil crises, a surge in Government spending and national debt, threw the Irish economy off the promising track it had travelled during the previous decade. In the early 1980s, fiscal, monetary and incomes policies were unsuccessful and the Irish economy remained on a downward trajectory. Rising real interest rates, a global downturn, weak external demand and other exogenous factors undermined attempts towards fiscal prudence. Inflation was in double digits, reaching over 20% in 1981. By 1984, public sector borrowing as a percentage of GNP had risen to 16%, and the current budget deficit was 7% of GNP and growing. 1987 is commonly seen as the year that marked the turning point in the fortunes of the Irish economy, when capital and current expenditure were dramatically reduced. In that year and the following one, cuts were made in the current budget deficit and the Exchequer Borrowing Requirement (EBR), thus slowing the rise in national debt. Current spending turned from a deficit to a surplus from 1996 onwards; the overall budget moved into surplus in 1998.

Other factors and foundations of the economic turnaround included the increase of EU structural funds from 1988 and receipt of cohesion funds, introduced in 1992. According to the European Commission's Single Market Review Series, Ireland's

success in increasing employment and output in the manufacturing sector was, in large part, due to membership of the Single Market. Aided by wage moderation and improving competitiveness, Ireland became a net exporter from 1985 onwards. Avoidance of real exchange rate overvaluation and euro weakness in the early years of EMU were favourable to exporting industries. An active industrial policy and a positive corporate tax regime, created a favourable environment for foreign direct investment. Ireland offered attractive conditions for multinational corporations to locate here, due to the availability of fiscal and financial incentives, EU membership and the presence of a skilled and educated workforce.

Many commentators have linked Ireland's exceptional growth to the successful structural reforms in the Irish labour market.[1] In particular, growth has been attributed to policies which increased the labour market's flexibility and supply, both through increased participation and inward migration. In addition to a young highly educated and skilled workforce, structural reforms included national wage agreements[2], special employment schemes and tax and social security reforms. These reforms contributed to the reduction of unemployment rates from a peak of 14.6% in 1989 to 4.7% in 2003.

3. Financial Liberalisation and Credit Growth

Amongst the many explanations for the Irish growth experience which have been advanced, the role of structural change in the financial sector has received scant attention. Yet since the 1970s, development economists have argued that financial liberalisation can play an important role in facilitating and sustaining economic growth (McKinnon, 1973; Shaw, 1973). Later contributions to the literature linking financial liberalisation to growth, such as Bekaert et al. (2001) and Levine (2001), have shown that the removal of restrictions fosters growth by increasing stock market liquidity and the efficiency of the banking system. The message is that deep and efficient financial markets can contribute to increased efficiency in the allocation of resources. While financial markets cannot create investment opportunities, the absence of finance can prevent an opportunity from being exploited. Thus in financial markets, as in product markets, structural reforms that increase flexibility can have a role to play in achieving higher sustainable growth.

The earlier theories on the role of the financial sector in economic growth have received more recent empirical support from an NBER Working Paper (Ranciere et al., 2003). This study examined the experiences of fifty-two countries, including Ireland, and found that many of the fastest growing experienced

1 For example, Walsh (2004) and Trichet (2004).
2 Beginning with The Programme for National Recovery in 1988.

lending booms; countries in which credit growth was smooth, by contrast, had the lowest real growth rates. In quantitative terms, the analysis suggested that countries where credit could expand rapidly grew by two percentage points a year more, on average, than those in which credit growth was stable. Bank lending, it was estimated, accounted for about one quarter of this growth differential. The downside, however, is that some countries which experienced high GDP and credit growth also experienced occasional crises. Ireland was singled out as a notable exception in this respect.

Structural change in Ireland has affected both the supply of and demand for credit. On the supply side, first, progressive steps were taken from the 1980s onwards to dismantle credit, capital and interest-rate controls. These steps included the abolition of quantitative restrictions on credit growth; the lowering of banks' reserve requirement ratios; the progressive dismantling of capital controls; the break-up of the 'interest-rate cartel' and the eventual removal of all restrictions on interest rates; and the removal of legal and tax impediments to the development of the non-Government securities market. In addition, market-oriented monetary policy instruments were developed by the Central Bank and competition in retail lending markets was encouraged. All of these moves made the Irish financial system more open and more globally integrated and allowed it to respond promptly and flexibly when demand for credit strengthened during the Celtic Tiger period.

Developments in Ireland reflected significant changes in the international financial environment during the early years of the European Monetary System (EMS). As financial markets became more integrated, most countries' reliance on direct credit and interest-rate controls declined and money-market policy assumed a larger role (Kneeshaw and Van den Bergh, 1989). Within the EU, the liberalisation of capital movements was accorded a high priority in the context of the provisions of the Single European Act. Ireland moved relatively quickly in this respect. Formal credit guidelines gave way to indicative guidelines in 1984 and by 1986 all guidelines were discontinued. In line with the move from direct to indirect methods of credit control, the Central Bank encouraged greater competition in the financial sector. In 1985, more market-oriented arrangements for the setting of interest rates by the four clearing banks were introduced, under which each bank was free to decide on the level of its lending and deposit rates, subject only to a maximum related to the level of money-market interest rates. Irish exchange controls began to be relaxed from January 1988, most restrictions on external portfolio investment flows were removed the following year and controls were progressively dismantled between then and January 1993. Details of the restrictions on banks' activities and their subsequent dismantling are provided in Box 1.

Box 1: Building and Dismantling Controls — Financial Liberalisation in Ireland

Event	Date	Actions
Credit Policy	February 1973	Banks advised not to increase private-sector credit to non-productive sectors (i.e., financial, property companies and personal sectors).
Credit Policy	June 1974	Credit restrictions on banks reinforced by provisions for special deposits at non-commercial rates of interest.
Credit Policy	October 1978	Stricter credit guidelines, including a specific, more restrictive guideline for the personal (excluding housing) component of private-sector credit, backed by supplementary non-interest bearing deposits, applied to banks.
Exchange Controls	December 1978	Exchange controls extended to transactions with the UK, in preparation for EMS membership.
Interest Rates	June 1979	Short-Term Facility introduced, permitting secured borrowing by banks under a quota system overnight and up to seven days.
Reserve Requirements	November 1979	Primary liquidity ratio unified for all banks at 10 per cent.
Credit Policy	February 1981	Explicit sectoral credit guidelines discontinued.
Credit Policy	April 1982	Specific guidelines reimposed on banks' sectoral lending.
Money Market	May 1983	Introduction of sale and repurchase agreements in respect of Government securities, for supplying liquidity to the interbank market.
Credit Policy	February 1984	Formal guidelines for bank lending to private sector ended. Instruments of liquidity management and interest-rate policy to be used increasingly to influence monetary conditions.
Interest Rates	May 1985	New interest-rate arrangements to facilitate greater competition among banks at retail level.
Credit Policy	March 1986	Issue of indicative credit guidelines to banks ended. Primary reliance placed on liquidity management and interest-rate policy.
Exchange Controls	January 1988	Major relaxation of exchange controls.

Box 1: Building and Dismantling Controls — Financial Liberalisation in Ireland—*contd.*

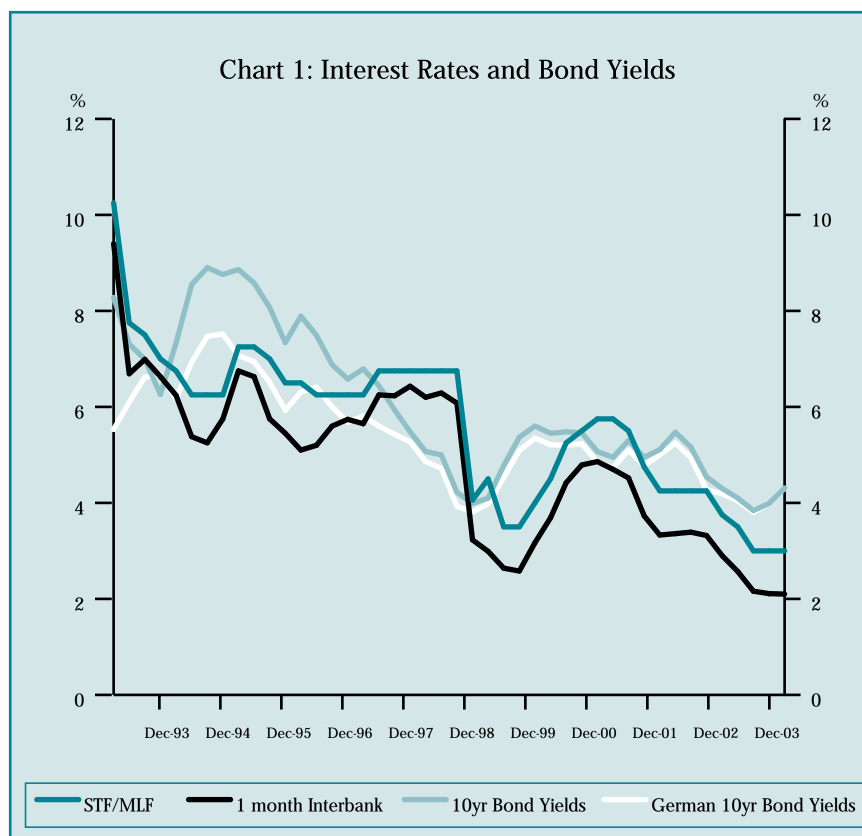
Event	Date	Actions
Exchange Controls	January 1989	Restrictions on purchase of medium- and long-term foreign securities removed.
Interest Rates	March 1991	Formal trigger mechanism for changes in retail interest rates suspended.
Reserve Requirements	March 1991	Primary liquidity ratio reduced from 10 per cent to 8 per cent.
Exchange Controls	January 1992	Restrictions on non-residents holding Irish pound (IR£) accounts and obtaining (medium-term) IR£ loans removed. Limitations on FX borrowing by residents removed.
Reserve Requirements	February 1992	Primary liquidity ratio reduced to 6 per cent. Secondary liquidity ratio: required holdings of Government securities frozen at end-December 1991 levels.
Exchange Controls	January 1993	Remaining exchange controls removed on schedule.
Corporate Bonds	Budget 1993	Stamp duty on most corporate bonds abolished in the Finance Act.
Interest Rates	February 1993	Following the resolution of the currency crisis, the Short-Term Facility is restored.
Reserve Requirements	November 1993	Primary liquidity ratio reduced to 4 per cent.
Reserve Requirements	January 1994	Reduction in primary liquidity ratio to 3 per cent. Secondary liquidity requirement abolished.
Reserve Requirements	January 1999	Reduction in primary liquidity ratio to 2 per cent.

In addition to the dismantling of controls, structural change on the supply side was reinforced by the move to a more competitive environment, which served to increase the availability of credit and reduce its cost. Not only were domestic banks free to compete in terms of interest rates charged, but deregulation also facilitated new entrants. This later had a marked impact on competition in the residential mortgage market.[3]

These supply side changes interacted on the demand side with a belief by borrowers that interest rates would fall sharply when Ireland joined EMU and remain permanently lower than they

3 The entry of the Bank of Scotland into the Irish residential mortgage market in August 1999, from its UK base, resulted in a significant reduction in mortgage lending rates.

otherwise would have been. In these circumstances, it became optimal for Irish firms and households to invest and consume more and to take on substantially more debt (see Nickell, 2003).



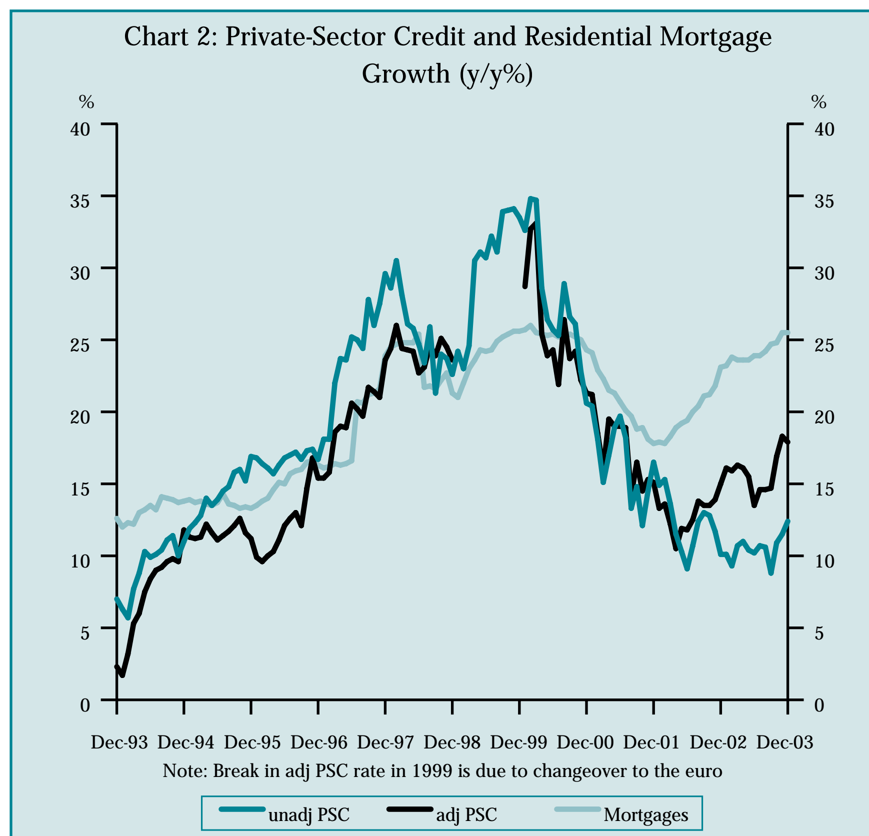
Trends in interest rates and bond yields from 1993 to 2003 are shown in Chart 1. From mid-1993 until late-1998 the one-month interbank rate remained generally in a range of 5.5 to 6.5 per cent, before falling sharply to around 3 per cent as EMU approached. Borrowing decisions, however, were being made on the basis of prospective rather than actual rates. Just when this interest-rate effect began to impact is open to debate but it certainly pre-dated 1999 and it is reasonable to assume that it was closely linked to expectations about Irish participation in EMU. In this context, the convergence of Irish bond yields towards German levels may be a reasonably good indicator of expectations. Bond yields reflected the disturbances in international bond markets in 1994 but, thereafter, yields and yield differentials over Germany fell steadily.

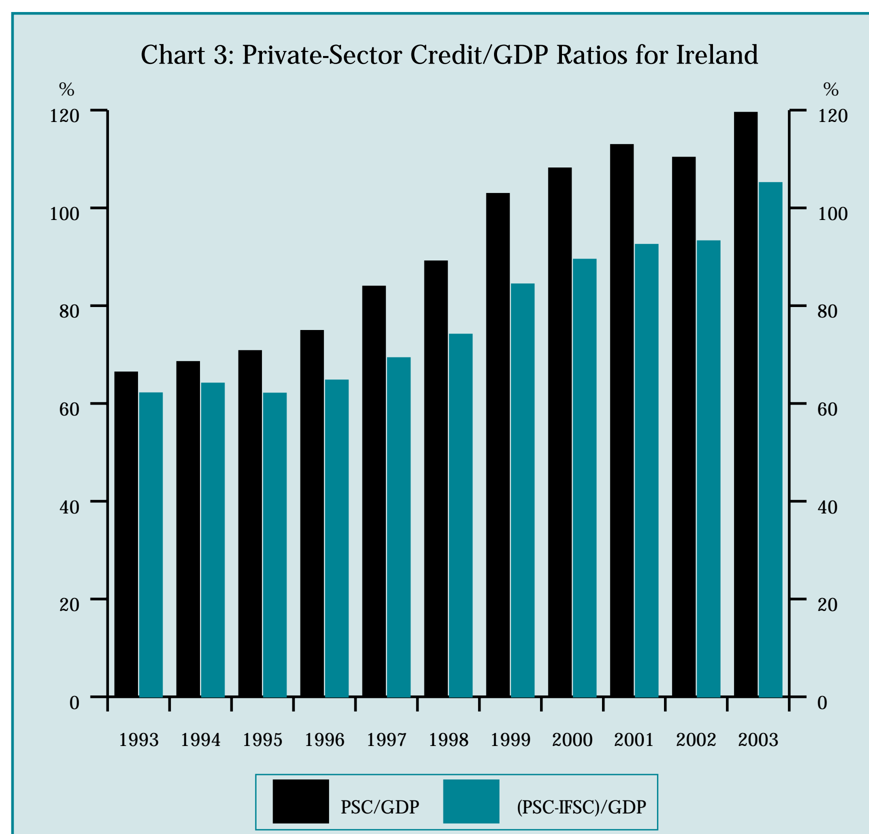
Against the background of capital liberalisation and structural change in the financial sector, Irish banks[4] were able to respond quickly when demand for credit strengthened. PSC growth did not reach double digits until 1994 but rapidly accelerated to rates in excess of 30 per cent in the early stages of EMU. Trends in **unadjusted** and **adjusted**[5] credit growth and residential mortgage growth are shown in Chart 2. Stable interest rates and

4 The term 'banks' is generally used in this paper to refer to Irish credit institutions, including building societies.

5 The adjusted rate of PSC growth excludes lending to non-bank IFSC companies and the effect of exchange-rate changes. For a full description see Box 1 in Kelly (2004).

expectations of lower rates to come provided an essential backdrop. Increased confidence, arising from the consistent strength of economic activity, and profitable investment opportunities further underpinned demand and led to a greater willingness to incur debt. Significantly, residential mortgage growth was not out of line with PSC growth during the 1990s; more rapid mortgage growth only occurred from 2002 onwards.





Despite the high real growth rates during the period, this very rapid growth in credit resulted in a rising trend in the PSC/GDP ratio – a classic 'financial deepening' which development economists had argued would result from financial liberalisation.

4. International Capital Flows, Liquidity and Banks' Resources

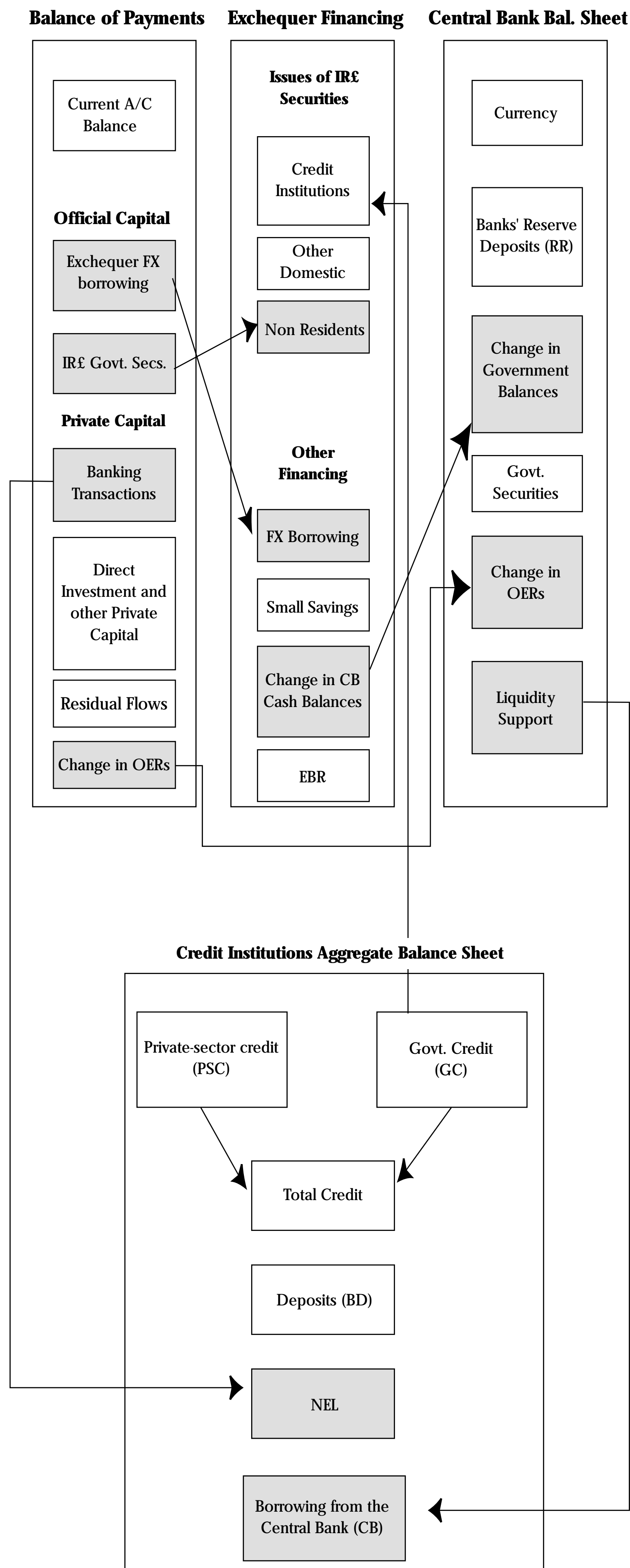
Banks' ability to respond to private-sector demand for credit ultimately depends on the availability of funds for onlending. The main source of bank resources is growth in deposits but in the more globalised setting of the 1990s, Irish banks' domestic lending was not constrained by growth in their resident deposit base. Banks had significant non-resident business also and changes in their loans to and deposits from non-residents, as well as external interbank borrowing, could be used to fund PSC. Such variations in assets and liabilities *vis-à-vis* non-residents are recorded in the aggregate balance sheet of banks as changes in their net external liability (NEL) and also as capital inflows/outflows under banking transactions in the balance of payments.

Another possible means of funding PSC is through reductions in holdings of Government securities, since total credit is divided between the Government (GC) and the private sector (PSC). The abolition of the secondary liquidity ratio in 1994 gave banks freedom in determining the level of their holdings of Government paper. In addition, reductions in the amount of reserves which banks were required to lodge with the Central Bank to meet their primary liquidity ratio, now known as their minimum reserve ratio (RR), also released funds for lending. This ratio was progressively cut from 10 per cent in 1991 to 3 per cent in 1994 and subsequently to the common Eurosystem level of 2 per cent in 1999.[6]

Finally, banks can obtain funds by borrowing from the Central Bank (CB). This borrowing may be through standing facilities, such as the Short-Term Facility (STF), or through money-market operations, such as repurchase agreements or foreign-exchange swaps. Borrowing from the Central Bank is generally viewed as providing the residual financing after all other flows have taken place. As a result, developments in the balance of payments and Exchequer financing, as well as trends in deposit and credit growth all have implications for the level of liquidity support provided by the Central Bank. As a basis for the examination of actual flows in the following sections, the main interrelationships between the balance of payments, Government finances and banking flows are illustrated in Figure 1.

6 The effect of reducing the ratio from 3 per cent to 2 per cent was in part offset by a widening of the reserve base in EMU (see Kelly, 1999).

Figure 1: Financing Credit Growth in Ireland



The banking system's resource constraints with regard to the funding of PSC are summarised in the equation below, where BD represents banks' deposits and Δ is a change in an aggregate:

$$\Delta PSC = \Delta BD - \Delta GC + \Delta NEL - \Delta RR + \Delta CB$$

Clearly, this is a static relationship and any increase in credit in period t will, in the absence of outflows, boost the deposit base of the banking system in period t+1.

Flows through the capital account of the balance of payments are of central importance for banks' resources. Official capital flows, in the form of Exchequer foreign-currency borrowing or non-residents' purchases of Irish-pound denominated Government securities, boost bank liquidity and leave more domestic funds available for PSC. Changes in banking flows (the banks' NEL) either absorb surplus deposits when credit demand is weak or provide resources when credit growth exceeds that of deposits. All capital flows, combined with the current-account balance, impact on the level of the official external reserves (OERs). Changes in the OERs, in turn, together with movements in Government deposits with the Central Bank and the Central Bank's holdings of Government securities[7], impact on the level of liquidity support. Increases in the OERs provide liquidity and hence reduce the need for Central Bank support at any given level of credit.

5. Balance-of-Payments Flows in the Run-Up to EMU

Financial flows impacting on PSC during the five-year period 1994 to 1998 are presented in Table 2. The emphasis is on flows which directly impinge on banks' resources, namely, official capital flows, banking transactions and fluctuations in the level of OERs. A distinction is also made between foreign-currency flows through FX markets and those directly through the Central Bank in terms of their impact on the OERs. All data are expressed as Irish pounds.

The start date of 1994 is chosen because this is the year in which PSC began to accelerate; for a number of years prior to that demand for credit was relatively weak and easily financed from banks' deposit growth. In addition, 1994 marks the beginning of a period of FX market stability after the 1992-93 currency crises and the widening of the EMS bands. Moreover, 1994 to 1998 was a period of preparation for EMU membership in which structural changes made in previous years began to bear fruit, barriers to competition were further reduced and adjustment to an environment in which interest rates were expected to be

7 Under Article 102 (formerly Article 104A) of the Maastricht Treaty, direct central bank lending to the Government is no longer permitted.

permanently lower was taking place. Finally, 1998 marks the end of monetary policy autonomy for Ireland. After that, as part of the euro area, Irish financial institutions participated fully in EMU-wide money and bond markets. Moreover, the balance-of-payments' collection system was overhauled completely in 1998, as a more detailed balance of payments' statement was necessary to meet ECB requirements and for the compilation of EMU aggregates. Due to this structural break in 1998, it is not possible to compare the flows post-1998 with the period 1994 to 1998, on a consistent basis[8].

Table 2: Balance-of-Payments Flows, 1994-1998

£ million	1994	1995	1996	1997	1998
Current-account balance	998	1,070	1,265	1,283	563
Official capital	–1,335	24	38	–2,180	–1,255
of which:					
–Exchequer foreign currency borrowing	–416	–614	–986	–1,055	–697
–Irish Government securities	–421	605	1,034	–1,122	–656
–Other transactions[a]	–498	33	–10	–4	98
Banking transactions					
–transactions of credit institutions	140	1,798	–1,229	–303	4,350
Private capital flows	–1,375	–1,824	–535	–2,616	–3,345
of which:					
–Semi-state companies	–285	–260	–146	47	314
–Direct investment and other private capital	–1,090	–1,565	–390	–2,663	–3,659
Residual flows[b]	1,219	–136	–83	2,484	669
Changes in official external reserves[c]	102	–1,443	55	754	–1,645

[a]The large outflow under other transactions in 1994 represents a decrease in the external debts of the Agricultural Intervention Agency.
[b]Balancing item for the current and capital and financial accounts.
[c]For a balance-of-payments perspective, a positive number denotes a fall in the OERs and a negative number a rise.
Source: CSO.

Official capital flows include the net external borrowing of the Exchequer in foreign currency, the changes of non-resident holdings of Irish-pound denominated Government securities and other transactions. Overall there was a net outflow of £4.7 billion in official capital transactions over the 1994 to 1998 period, mainly accounted for by repayment of Exchequer foreign-currency borrowing.

There were considerable variations in non-resident holdings of Irish Government securities from 1994 to 1998, with the overall outcome being a net reduction of £560 million. A weak performance in international bond markets and negative sentiment towards less liquid peripheral markets in 1994, led to a rise in Irish bond yields over the year and to net sales of securities by non-residents. International investors made a return to the Irish bond market in 1995 and 1996; these purchases were driven by 'convergence plays', as expectations that Ireland would

8 One of the main innovations was the collection of data from IFSC non-bank entities. For further details see O'Malley (2001).

participate in EMU at the outset strengthened. By 1997, Irish bond yields had converged substantially with those in Germany. This limited further profitable investment opportunities and, as maturing bond issues were redeemed, there were declines in non-resident holdings in 1997 and 1998.

Over the period, the net balance for banking transactions was an inflow of some £4.8 billion. There were significant increases in the NEL of credit institutions in 1998, largely resulting from the funding of a net increase in residents' foreign-currency borrowings and net forward purchases of foreign currency.

Private capital flows, which incorporate direct investment and other capital items in the balance of payments, are reported on a net basis. Inflows largely comprise of inward investment by non-resident companies in their branches and subsidiaries in Ireland, and the reinvested earnings of multinational companies located here. Private capital flows into Ireland in the 1990s were favourably influenced by the increased credibility of domestic economic policies. Capital flows were also affected by the lifting of exchange controls. Private capital outflows especially increased as a result of the lifting of restrictions on portfolio investment abroad, which allowed Irish life assurance and pension funds to diversify their investments into European and international equity markets. Portfolio outflows and foreign currency debt repayments by State-sponsored bodies are also included in outflows of private capital. The globalisation of financial and credit markets also impacted on the volume of the private sector's loans and deposits held abroad, mainly by large corporates and Irish Financial Services Centre (IFSC) companies.

After the widening of EMS bands in August 1993, the need for Central Bank intervention in foreign-exchange markets was much reduced and the exchange rate was largely determined by supply and demand. In these circumstances, changes in the OERs largely reflected non-market flows, such as EU payments and transfers and net Government direct external borrowing and related interest payments, which were effected directly through the Central Bank.[9] Large repayments of external borrowing, which took place over the period, helped to avoid an undesirable surplus of domestic liquidity, which would otherwise have occurred had the OERs been allowed to rise over time. Nevertheless, from 1994 to 1998, there was an increase in the OERs of over £2 billion, with large increases occurring in 1995 and 1998. This, in turn, provided extra liquidity, which boosted deposit growth and helped to fund the increasing credit demands of the rapidly expanding domestic economy.

9 These resulted in net inflows of foreign currency through the Bank which boosted the OERs. The Irish-pound equivalent of these inflows was credited to the Government's accounts with the Bank and, as these balances were spent, extra liquidity was released into the domestic money market.

6. PSC — Whence it Came and Where it Went

6.1 Sources of Bank Funding

It was the weakness of PSC growth, rather than its strength, which was of most concern in the early 1990s; PSC did not reach double-digit growth rates until mid-1994 but thereafter acceleration was rapid (Central Bank, 1992; Kelly, 2004). Money supply growth, on the other hand, was reasonably strong in these early years and, as a result, credit institutions tended to continue to accumulate holdings of Government securities, even though their required holdings under the Secondary Liquidity Ratio had been frozen at end-December 1991 levels (Box 1). While during the 1980s there were concerns that high and rising Exchequer borrowing was 'crowding out' the private sector, in the mid-1990s the reverse was true; against the background of dramatically lower EBRs', banks were able to use reductions in lending to Government to help fund PSC and 'crowd in' the private sector.

Developments in credit institutions' lending and resources over the 1994 to 1998 period are presented in Table 3. In line with the acceleration in year-on-year growth rates (Chart 2), this shows a marked rise in annual changes in PSC over the period and also considerable variation in the means by which these changes were financed. While total credit growth just exceeded growth in deposits in 1994, the gap widened significantly thereafter. A large jump in PSC in 1995 was financed from external sources (NEL), coupled with a small reduction in Government credit. Strong deposit growth and substantial sales of Government securities facilitated the PSC increase in the following year and, with the help of a small increase in Central Bank support, allowed much of the previous year's NEL increase to be reversed.

Table 3: Financing PSC Growth, 1994-1998 (year-to-year change)

£ million	1994	1995	1996	1997	1998
Credit					
–Private-sector credit	2,461	4,219	4,900	10,078	9,933
–Government credit	281	–23	–606	160	485
Total Credit	**2,742**	**4,196**	**4,294**	**10,238**	**10,418**
Resources					
–Deposits	2,581	2,946	4,583	6,599	6,829
–Central Bank support	–312	–249	224	1,376	118
–Net external liability	234	1,764	–1,142	–135	3,899
–Other	238	–265	629	2,398	–428

Source: Table C3: Credit Institutions: Aggregate Balance Sheet, Statistical Appendix to the Central Bank's Quarterly Bulletin.

The increase in PSC was exceptionally strong in 1997, at more than twice that of the previous year. While there was also a marked rise in deposits, this was insufficient to fund loan growth and credit institutions increased their indebtedness to the Central

Bank by some £1.4 billion in order to bridge the gap. Similar loan and deposit growth in 1998, however, resulted in a very different funding scenario; in that year the shortfall was met almost completely by a rise of almost £4 billion in the NEL. Greater recourse to external sources is perhaps not surprising in 1998. In the first half of that year the countries which would participate in EMU were announced, and it was also decided that their currencies' euro conversion rates would be based on their EMS central rates. This virtually eliminated exchange-rate risk and the need for forward cover on borrowings in major EU currencies. In addition, Irish banks were establishing or increasing their credit lines with other European banks in preparation for participation in the euro-area money market in EMU.

Over the five-year period, recourse to external sources of funding dwarfed changes in other resources as a means of bridging the gap between PSC and deposit growth, although credit institutions indebtedness to the Central Bank did also rise by almost £1.2 billion. If access to global markets had not been freely available, credit growth would have been constrained and perhaps real growth would also have been lower.

6.2 The Sectoral Distribution of Bank Lending

In looking at where credit went, a breakdown by eleven main sectors is examined in Table 4. The most striking development is the rise in the share of lending to the Financial sector. Two *caveats* apply to the data in this section: first, the year-end data refer to November rather than December; and, second, there is a break in the series in 1997 due to reclassifications; this has contributed to the rise in the Financial sector's share.

Table 4: Sectoral Distribution of Advances — All Credit Institutions

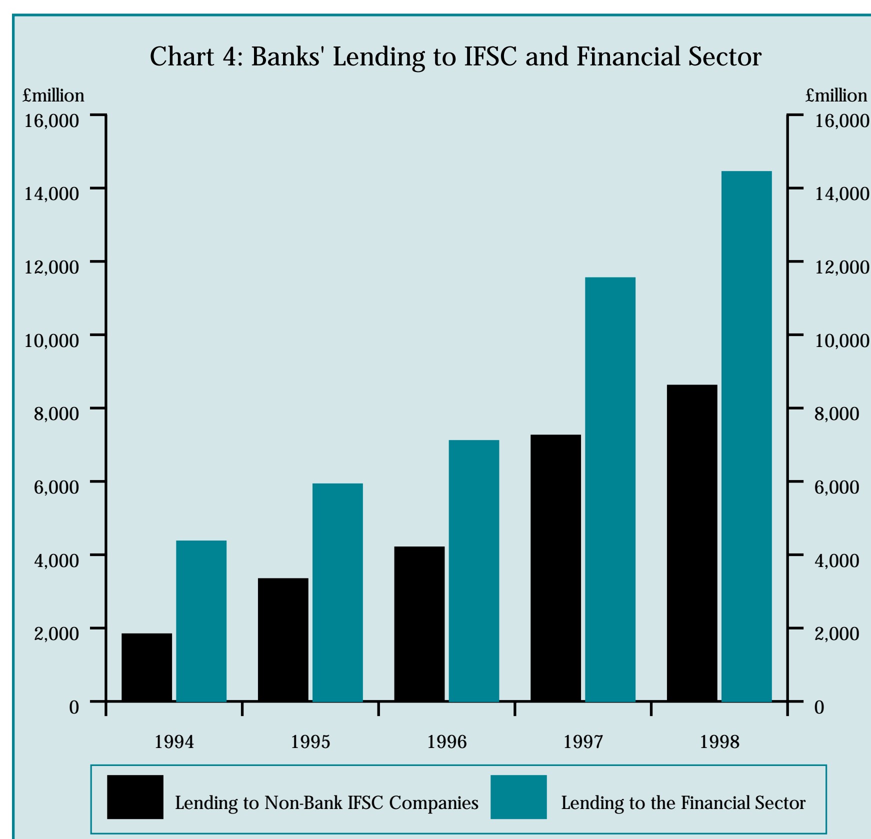
Share, %	Nov-94	Nov-95	Nov-96	Nov-97	Nov-98
Agriculture, Forestry and Fishing	6.3	6.0	5.6	4.8	4.3
Energy	0.8	0.8	0.6	0.4	0.7
Manufacturing	6.7	6.4	6.5	5.8	6.2
Building and Construction plus Property Companies	6.1	5.9	6.4	6.0	7.6
Distribution and Garages	6.7	6.1	6.1	5.5	5.0
Hotels and Catering	3.3	3.2	3.2	3.4	3.7
Transport and Postal Services/ Communications	2.1	1.9	1.6	1.6	1.7
Financial	17.8	21.0	21.4	27.2	27.5
Business and Other Services	5.0	4.6	5.1	4.0	3.4
Schools, Charities, Churches and Hospitals	0.8	0.6	0.6	0.6	0.5
Personal	44.4	43.6	42.9	40.7	39.2
Total %	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Total — £ million	**24,513**	**28,239**	**33,251**	**42,423**	**52,479**

Source: Table C8, Statistical Appendix to the Central Bank's Quarterly Bulletin.

From the eleven-sector breakdown of PSC in Table 4, it can be seen that the Financial sector's share increased by almost ten

percentage points over the period. As a result, the shares of almost all the other sectors declined; the exceptions were Building and Construction and Hotels and Catering. Lending to non-bank IFSC companies was a major factor behind the very rapid increase in lending to the Financial sector. This can be seen from Chart 4, which shows that lending to IFSC companies increased from 42 per cent of financial sector credit in 1994 to 60 per cent in 1998. In addition to providing IFSC credit, however, the Financial sector also acted as an important conduit through which credit was passed to other sectors. A good example of this is lending to leasing companies which increased by almost 700 per cent from some £600 million to £4.7 billion. The leasing of assets by sectors such as manufacturing, distribution and transport, in turn, acted as a substitute for direct lending to these sectors.

Chart 4: Banks' Lending to IFSC and Financial Sector



In order to obtain greater insights into relative trends in other sectors, changes in the share of PSC less the Financial sector are examined separately in Table 5. This brings a number of developments into sharper focus. First, in an era of rapid PSC growth, lending to Building and Construction grew even more quickly, with its share in the remainder rising by over three percentage points. Second, the increased share of Hotels and Catering is more marked. Third, and more significantly, the share of PSC going to Manufacturing now increases. Finally, the Personal sector's share is virtually unchanged. This confirms that demand for credit was broad-based in this period and not driven by rising house prices and mortgage lending. Indeed, growth in residential mortgage lending was lower than that in PSC for most of the period; it was late 1997 before it began to accelerate.

Table 5: Trends in Shares of PSC less Financial Sector

Share, %	Nov-94	Nov-95	Nov-96	Nov-97	Nov-98	% Change 1994-1998
Manufacturing	8.2	8.0	8.3	8.0	8.6	97.5
Building and Construction plus Property Companies	7.4	7.5	8.1	8.2	10.5	168.2
Hotels and Catering	4.0	4.1	4.1	4.7	5.2	140.4
Personal	54.0	55.1	54.6	55.9	54.1	89.2

Source: Table C8, Statistical Appendix to the Central Bank's Quarterly Bulletin.

Given the strong growth in investment and output between 1994 and 1998, it may seem a little surprising that lending to Manufacturing did not grow more strongly. There are, however, a number of explanations for this:

- Larger corporates had access to credit from the commercial paper market and, later, the corporate bond market.

- Tax incentives and/or a desire to reduce gearing may have led to the substitution of leasing arrangements for borrowing by some manufacturing companies. It also appears that banks may have channelled leasing arrangements to their non-bank subsidiaries and then provided these subsidiaries with the finance to fund the leasing. This would explain some of the large rise in lending to the leasing sub-sector of the Financial sector.

- Manufacturing profits were growing strongly and were used to fund investment. During this period, the profit share in National Income rose substantially relative to the share of wages. The fact that Ireland was willing to accept a large fall in the wage component over a relatively long period was seen by some as important in maintaining the exceptional growth experience (Kennedy, 2001).

- The larger corporates had access to credit from non-resident banks. This increased sharply in the mid-1990s.

- Multinational manufacturing companies also had access to finance from their parent company or Group Treasury.

Further insights into the role of PSC in the growth of the real economy can be obtained by examining the employment experience of the sectors which were most important in terms of their credit shares. Data on overall employment growth from 1994 to 1998 is presented in Table 6, together with a breakdown for the four sectors which accounted for most of the credit growth.

The relationships are striking. While growth in the numbers employed in manufacturing was somewhat below employment growth in the economy as a whole, the three sectors in Table 4

which increased their credit shares also enjoyed well above-average employment growth. The increase in employment, in turn, fed into increased demand in subsequent years, especially for new housing, which fuelled growth in investment and created extra job opportunities. Further work in this area, at a more disaggregated level, could be useful in shedding more light on the relationship between credit growth and the Celtic Tiger experience.

Table 6: Employment Growth, 1994-1998

All Persons (Thousand) Annual Averages	**1994**	**1995**	**1996**	**1997**	**1998**	**% Change 1994-1998**
Labour Force	1,431.6	1,459.2	1,507.5	1,539.0	1,645.7	15.0
In Employment	1,220.6	1,281.7	1,328.5	1,379.9	1,520.8	24.6
Industry Sector						
–Construction	91.5	96.6	100.8	110.4	130.1	42.2
–Production Industries[a]	252.1	263.9	266.5	288.5	305.5	21.2
Services Sector						
–Hotels and Restaurants	68.4	70.6	73.5	76.4	100.1	46.3
–Financial and Other Business	114.3	126.4	135.2	134.7	175.7	53.7

[a]In addition to manufacturing, production industries includes mining and quarrying, electricity, gas and water supply.
Sources: CSO-LFAA Labour Force Estimates (ILO) 1994-1997 and QNAQ-QNHS Labour Force Estimates (ILO). The QNHS began in 1997 and replaced the LHS. For further detail, see the CSO's Quarterly National Household Survey.

7. Conclusions

Structural changes and financial innovation and integration led to a marked increase in the elasticity of supply of credit in Ireland during the 1990s. At the same time, demand was enhanced by the prospect of permanently lower interest rates in EMU. In this environment, banks were able to use external sources of funds to overcome domestic constraints in meeting demand for loans. This enabled them to respond flexibly and efficiently to the credit demands of the rapidly growing real economy.

An examination of financial flows during the 1994 to 1998 period reveals that both the bank and non-bank financial sectors were effectively globalised. Banks' participation in global markets provided the funding which was crucial in enabling them to maintain PSC growth. Non-residents were active in Irish Government bond markets, with large inflows in 1995 and 1996 being reversed later as yields converged with other euro-area markets. Free from exchange controls, Irish portfolio managers precipitated large private capital outflows as they increased their exposure to international equity markets.

It is not possible to determine just how much of Ireland's exceptional growth experience during the 1990s can be attributed to financial liberalisation and structural changes in the financial sector. It is clear, however, that the global integration of Irish banks removed domestic resource constraints, while

financial liberalisation and innovation enabled them to make an important contribution to economic growth. The 'Celtic Tiger' era was a period of catch-up for the Irish economy; in employment, in incomes and in living standards. While Ireland rose towards the top of the EU league in terms of GDP per capita, the credit growth which financed these developments also brought our PSC/GDP ratio up to above the euro-area average.[10]

With regard to the linkages between Irish economic growth and credit growth, a sectoral breakdown of banks' PSC reveals that credit was directed towards sectors which were relatively important in terms of employment creation. Growth in these sectors, in turn, helped to maintain the strong real growth in the economy and, later in the cycle, added to further demand for credit, for house purchase in particular.

Finally, while the ability of PSC to expand rapidly in this period facilitated growth, it cannot be taken to mean that rapid credit growth is always good. Monetary growth in excess of productive potential can be inflationary, while over-extension of credit has led to financial crises in many countries. Obviously, there is a need to strike a balance. Past crises in other countries have displayed common characteristics. Weak fundamentals contributed to problems in south-east Asia and Russia: on the macro side, because of inappropriate fiscal and exchange-rate policies; and on the micro side, because of failures of bank regulation and poor legal structures and corporate governance (Haldene, 1999).

Ireland avoided these pitfalls in the period under review. Macroeconomic policies were improving, with a fiscal surplus and exchange-rate stability, while the supervisory structure was being strengthened. During the 1990s, non-bank financial entities, such as unit trusts and money market funds, came under the supervision of the Central Bank and many new prudential directives, covering both banks and non-banks, were adopted. In terms of risk, credit was directed towards the fastest-growing sectors and was well diversified. The challenge is in maintaining this balance in the future.

10 At end-2003, Ireland's PSC/GDP ratio was 120 per cent, compared with a euro-area average of some 112 per cent. If lending to non-bank IFSC companies is excluded, however, Ireland's ratio falls to 105.7 per cent (Kelly, 2004).

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