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TO BORROW AND PROSPER: FINANCING THE CELTIC TIGER

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To Borrow and Prosper: Financing the Celtic Tiger

1. Introduction

During the 1990s, Ireland experienced growth rates 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 paper. Rather, the focus is on developments in private-sector credit (PSC) and the financial flows which facilitated this growth, 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, which created conditions in which PSC could accelerate sharply from 1994 onwards and continue 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.

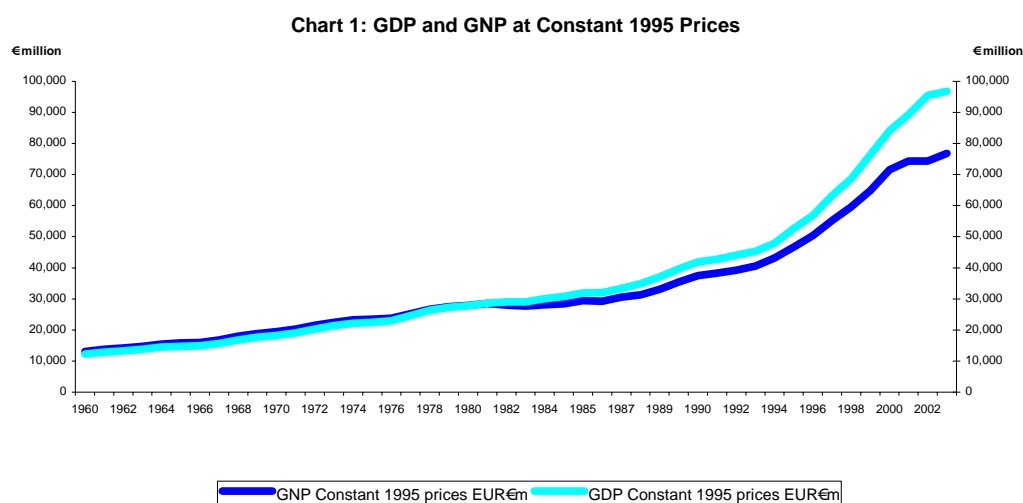
The main questions addressed are where did banks source the funds to finance the rapid credit growth and to which sectors of the economy did it go? In particular, was the increased globalisation of the Irish economy paralleled by more globalised financial flows? Did credit flow directly to the productive sectors of the economy or was its impact more indirect? The paper begins with a brief review of the growth experience and the reasons why Ireland was successful. It then 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 context for the subsequent focus on financial flows during the five-year period up to the start of EMU on 1 January 1999. The paper concludes with an assessment of the role of structural change in the financial sector in the Celtic Tiger experience.

2. The Exceptional Growth Experience

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 necessary. This section will briefly review the numerous theories and developments, which have been cited as potentially explaining the dramatic turnaround of the Irish economy in the late 1980s, and as such, set the seed for future success.

Table 1: Average Annual GNP Growth Rates

Period	GNP growth rates	Events of the period
1961-1972	4.25%	Open trade, developing manufacturing sector, booming growth.
1973-1978	3.67%	EEC membership, oil crises, rising unemployment.
1979-1986	0.94%	Recession, growing national debt, increasing taxes, EMS membership.
1987-1992	4.29%	Fiscal rectitude, turnaround, national pay agreements.
1993-1998	7.16%	Celtic Tiger era.
1999-2003	5.20%	Economic slowdown, convergence complete.



The path of the Irish economy has been turbulent and variable over the last few decades. GDP and GNP figures, presented in Chart 1, show the Irish growth performance from 1960 to 2003. The noticeable gap between the two series from

1981 onwards, is due to the large net factor income outflows from Ireland. The 1960s were a promising era for growth in Ireland. As shown in Table 1, the average GNP growth rate for the period encompassing the 1960s at 4.25% was quite impressive. The Irish economy maintained reasonable growth, *albeit* at a slower pace, in the 1970s. Inappropriate fiscal, monetary and incomes policies, together with the oil crises, then set the economy into a downward spiral. The economic situation looked bleak until the turnaround in 1987. Thereafter, dramatic productivity followed, with growth rates achieving over a 7% average during the “Celtic Tiger” era.

Several economic theories and rationalisations have 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. This theory 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. Blanchard (1990) concedes that changes in expectations as a result of fiscal retrenching, accompanied with an increase in taxes, can prove expansionary. Alesina and Perotti (1995) conclude that economies that employ fiscal retrenching in their expenditure, such as Ireland did, enjoy successful fiscal adjustments. Opinion is moving away from the expansionary fiscal contraction theory as an explanation for Ireland’s experience. However there is 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. Krugman (1997) suggested that Ireland should be thought of as a regional economy due to the free movement of labour, flowing in and out of the country, prior to the boom period. In the application of the regional boom view to Ireland, Barry (2002) argues that Ireland’s convergence, a delayed occurrence compared with other EU

peripheral, cohesion fund recipients, is better explained by the regional boom hypothesis. Barry, therefore, advocates the regional boom hypothesis in favour of convergence theory, as the regional boom view promotes the need for the introduction of innovative policies. These included active industrial policy and the low corporation tax regime, which attracted foreign direct investment into the economy.

In reality, no single theory can wholly account for the turnaround of the Irish economy. Of course, the statistics can be used to quantify any or all of these hypotheses. 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. By the early 1980s, the Irish economy was on a downward trajectory, and incumbent Irish Governments attempted to adjust fiscal policy via the implementation of contractionary measures. Attempts to lay the foundations for growth were made by increasing taxes and cutting capital expenditure, and also by means of debt financing. Rising real interest rates, a global downturn, weak external demand and other exogenous factors counteracted the attempts towards fiscal prudence. Inflation was in double digits, reaching 17% in 1982. By 1984, public sector borrowing as a percentage of GNP was 16%, and the current budget deficit was 7% of GNP and rising. 1987 is seen as the year that marked the turning point in the fortunes of the Irish economy, when the newly elected Government implemented fiscal rectitude. Capital and current expenditure were dramatically reduced. In that year and the following one, cuts were made in the current budget deficit and borrowing requirements, 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.

The initiation of a series of national wage agreements (to restrain wage growth), beginning with The Programme for National Recovery in 1988, set the foundations for a boom in employment rates. Concurrent and resultant events, for example, back to work allowances, wage inflation moderation and a young educated work force, contributed to the reduction of unemployment rates, from a peak of 14.6% in 1989 to 4.7% in 2003.

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. Ireland benefited from access to the EU's Single Market. According to the European Commission's Single Market Review Series, Ireland's success in increasing employment and output in the manufacturing sector was 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 the exporting industries. Export profits were tax-free for multinational corporations in Ireland, until they were increased to 10%. Even at this higher rate, overseas investment, particularly US multinational corporations, was attracted into Ireland. An active industrial policy created a favourable environment for foreign direct investment. Ireland offered a suitable atmosphere for multinational corporations to locate here, due to the availability of fiscal and financial incentives, the presence of a skilled and educated workforce and EU membership.

3. Financial Liberalisation and Credit Growth in Ireland

While many explanations for the Irish growth experience 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. 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, 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 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 countries experiencing high GDP and credit growth also experienced occasional crises. Ireland was singled out as a notable exception in this respect.

In Ireland, structural change has affected both the supply of and demand for credit during the Celtic Tiger period. On the supply side, first, progressive steps were taken from the 1980s onwards to dismantle credit, capital and interest-rate control. These steps included the abolition of quantitative restrictions on credit growth; the lowering of 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.

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. Some 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

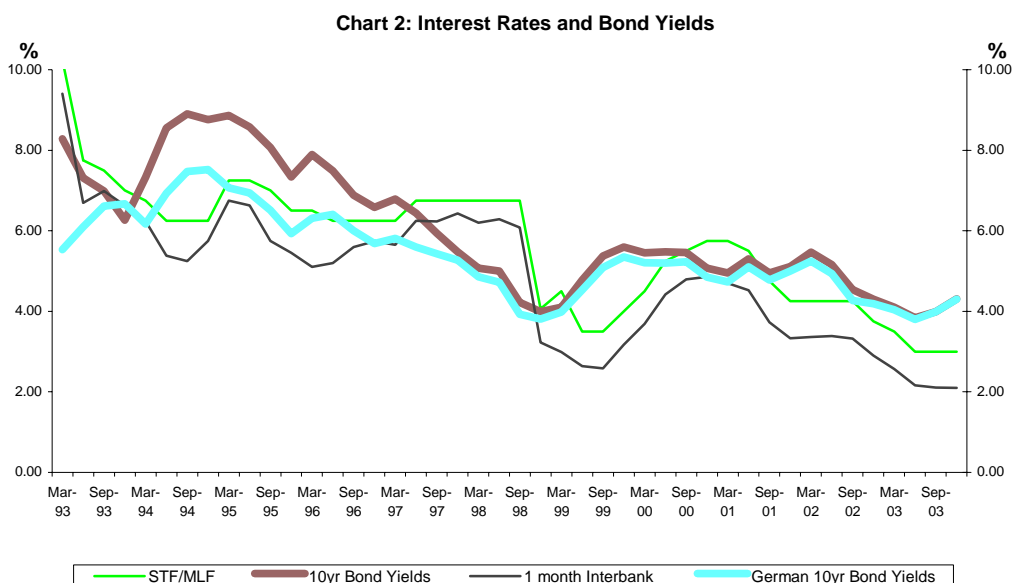
Event	Dates	Actions
Credit Policy	February 1973	Banks advised not to increase private-sector credit to non-productive sectors (i.e., financial, property companies and personal sectors).
Credit Policy	June 1974	Credit restrictions on banks reinforced by provisions for special deposits at non-commercial 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.
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.
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.¹

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 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). Just when this interest-rate effect began to impact is open to debate but it pre-dated 1999 and it is reasonable to assume that it was closely linked to expectations about Irish participation in EMU.

¹ The entry of the Bank of Scotland into the Irish residential mortgage market in August 1999, from its UK base, resulted in a marked fall in mortgage lending rates.

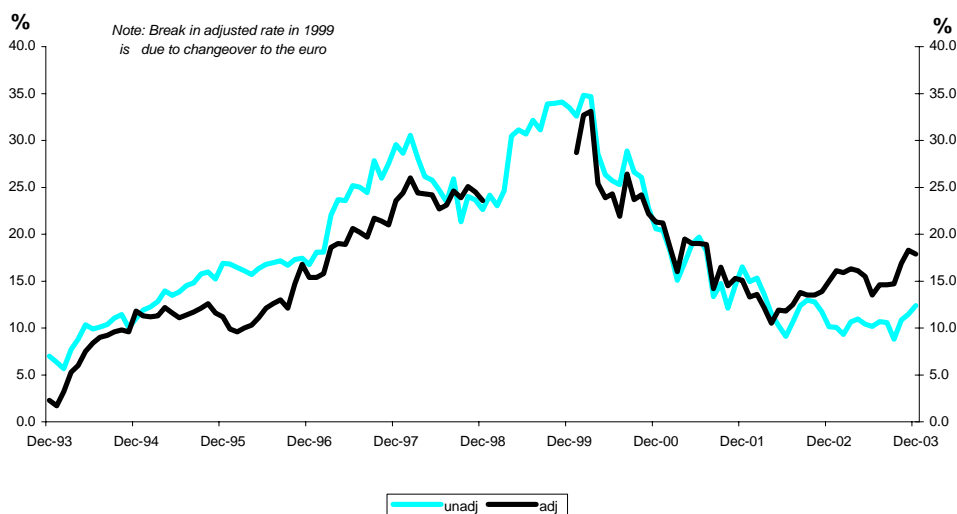


Trends in interest rates and bond yields over the decade from 1993 are shown in Chart 2. From mid-1993 until late-1998 the one-month interbank rate remained generally in a range of 5.5 to 6.5 per cent, before falling sharply to around 3 per cent as EMU approached. Borrowing decisions, however, were being made on the basis of prospective rather than actual rates, as expectations that Ireland would join EMU strengthened. In this context, the convergence of bond yields towards German levels may provide a better guide to expectations than changes in money-market rates, since Central Bank policy was directed towards keeping the latter stable for as long as possible. Bond yields reflected the disturbances in international bond markets in 1994 but, thereafter, yields fell steadily.

Private-sector credit 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**² credit growth are shown in Chart 3. Stable interest rates and 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.

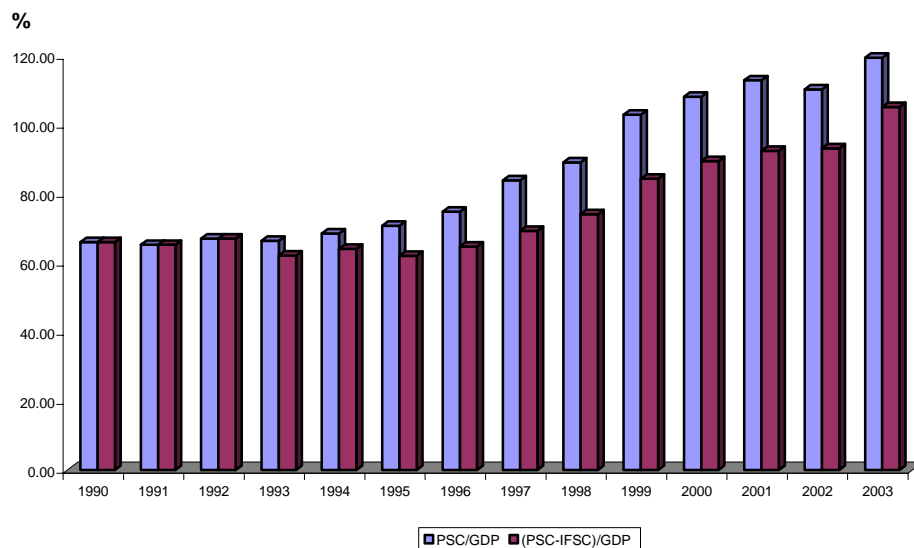
² The adjusted rate of PSC growth excludes lending to non-bank IFSC companies and the effect of exchange-rate changes. For a full description see Box 1 in Kelly (2004).

**Chart 3: Private-Sector Credit Growth in Ireland (y/y%)
1993-2003**



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.

Chart 4: Private-Sector Credit/GDP Ratios for Ireland



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 lending. The main source of bank resources comes from 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 banks³ as changes in their net external liability (NEL) and also as capital inflows/outflows in the balance of payments.

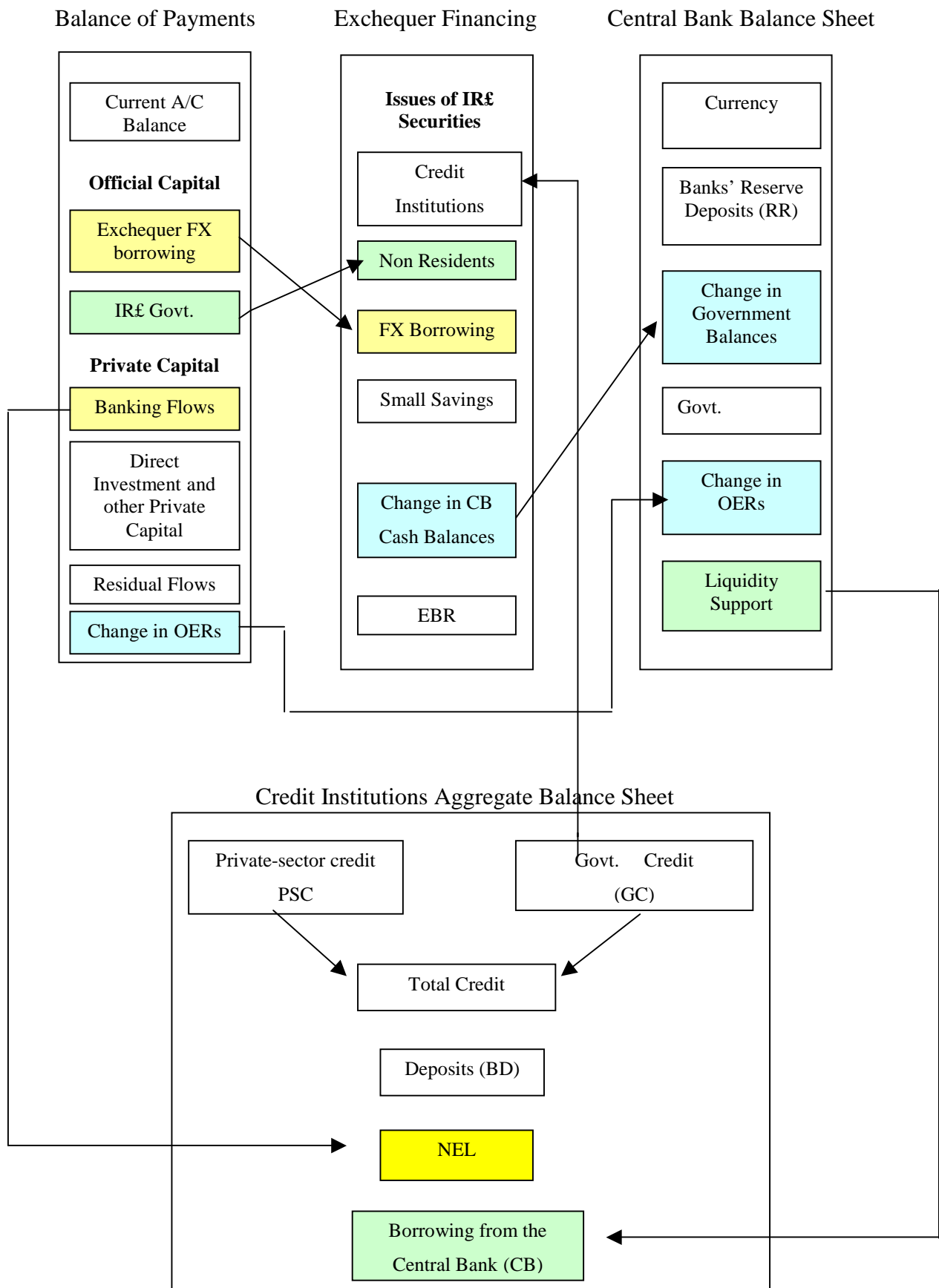
Another possible means of funding PSC is through reductions in holdings of Government securities, since total credit is divided between the Government (GC) and the private sector (PSC). The abolition of the secondary liquidity ratio in 1994 gave banks freedom in determining the level of their holdings 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 bank 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 1999.⁴

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.

³ The term 'banks' is generally used in this paper to refer to Irish credit institutions, including building societies.

⁴ 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:

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

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 securities⁵, 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. Central Bank purchases of Government securities have a similar effect, while increases in Government deposits with the Central Bank absorb liquidity.

Financial flows impacting on PSC during the five-year period 1994 to 1998 are presented in Tables 2 to 4 in the following sections. 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

⁵ Under Article 102 (formerly Article 104A) of the Maastricht Treaty, direct central bank lending to the Government is no longer permitted.

expected to be permanently lower was taking place. Finally, 1998 marks the end of monetary policy autonomy for Ireland. After that, as part of the euro area, the distinction between purely domestic and intra-euro area flows becomes blurred as Irish financial institutions participate fully in EMU-wide money and bond markets.

5. Financial Flows in the Run-Up to EMU

5.1 Balance-of-Payments Flows

The first area to be examined is how developments in the balance of payments affected banks' ability to extend credit. 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. Trends in balance-of-payments flows from 1994 to 1998 are shown in Table 2. The balance of payments' collection system was overhauled completely in 1998, as a more detailed balance of payments' statement was required 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 1994-1998, on a consistent basis⁶. All data are expressed in Irish pounds.

⁶ One of the main innovations was the collection of data from IFSC non-bank entities. For further details see, O' Malley (2001).

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
<u>of which:</u>					
-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^b	-1,375	-1,824	-535	-2,616	-3,345
<u>of which:</u>					
-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^c	1,219	-136	-83	2,484	669
Changes in official external reserves^d	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 Private capital includes the net effect of reinvested earnings of direct investment enterprises. It also includes the estimated movements in the assets held with foreign banks of the resident non-bank, non-government sector. These estimates include relevant IFSC outflows as the CSO estimates are based on BIS data.

^c Balancing item for the current and capital and financial accounts.

^d 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. Official capital transactions fluctuated between inflows and outflows, but overall there was a net outflow of £4.7 billion over the 1994 to 1998 period. Most of this was accounted for by repayment of Exchequer foreign-currency borrowing, especially in 1996 and 1997.

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. In 1994, a weak performance in international bond markets, and negative sentiment towards less liquid peripheral markets, led to a rise in Irish bond yields over the year and to sales of securities by non-residents of some £421 million. In 1995 and 1996, international investors made a return to the Irish bond market and there were significant increases in their uptake of Government securities. Initially, this

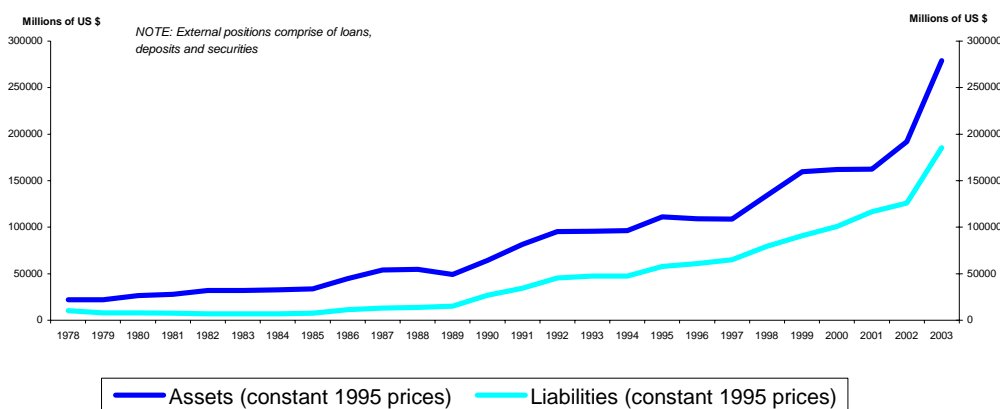
took place against a background of greater stability in world bond markets and the considerable yield advantage which Irish bonds had built up vis-à-vis continental European markets. Later purchases were driven by 'convergence plays', as expectations that Ireland would participate in EMU at the outset 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. Inflows in 1994 and 1995 reflect net forward purchases of foreign currency and lending of foreign currency to residents in excess of their foreign currency deposits. The outflows in 1996 and 1997 partly reflect net forward sales of foreign currency. There were significant increases in the NEL of credit institutions in 1998, largely resulting from a net increase in residents' foreign currency borrowings and net forward purchases of foreign currency.

Private capital flows into Ireland in the 1990s were favourably influenced by the increased credibility of domestic economic policies. From the early 1990s onwards, capital flows were also affected by the lifting of exchange controls. Private capital outflows were especially affected as a result of lifting of restrictions on portfolio investment abroad. This can be seen from the net deficit balance for private capital of £9.7 billion, for the period. Portfolio outflows and foreign currency debt repayments by State-sponsored bodies are also included in outflows of private capital.

Chart 5 displays non-bank residents' deposits and loans abroad. There is a notable increase in the non-banking sector's assets and liabilities held with foreign banks from 1989 onwards. The lifting of exchange controls affected non-bank residents' deposits abroad (see Chart 5). The increase in loans coincides with the development of the Irish Financial Services Centre (IFSC), but large corporates, in particular, also increased their use of external sources of funding in this period. The globalisation of financial and credit markets also impacted on the development of the non-banking sector's loans and deposits held abroad.

Chart 5: Positions of Non-Resident Banks vis-a-vis Ireland's Non-Bank Sector



Source: BIS International Banking Statistics

After the widening of EMS bands in August 1993, the need for Central Bank intervention in foreign-exchange markets was much reduced. Exchange rate pressures could be accommodated to a much greater degree by upward or downward movement in the band and the exchange rate was largely determined by supply and demand in foreign-exchange markets. The move from an exchange-rate system where intervention was important to a largely-floating regime also changed the role of the OERs. With the exchange rate being determined by supply and demand, foreign-exchange market flows would be in balance and would have no effect on the level of the OERs. In these circumstances, changes in the OERs largely reflect non-market flows, such as EU transfers and net Government direct external borrowing and related interest payments, which were effected directly through the Central Bank.⁷ This meant that, in the absence of repayment of external borrowing, there would be a tendency for the OERs to increase over time and for the domestic money market to move towards a position of structural liquidity surplus. In order to prevent this, the Central Bank reached agreement with the NTMA that external borrowing should be repaid where possible, and the large repayment which took place over the period helped to avoid an undesirable build-up of domestic liquidity.

Nevertheless, from 1994 to 1998, there was an increase in the OERs of over £2 billion, with large increases occurring in 1995 and 1998. These were attributable to EU receipts paid directly through the Central Bank foreign-exchange market

intervention and foreign-exchange swaps. The fall in the reserves in 1997 resulted from substantial outflows during April, which led to £1.6 billion in negative foreign-exchange market intervention.

5.2 Financing the Exchequer Borrowing Requirement

The financing of the Exchequer Borrowing Requirement (EBR) displayed in Table 3, reflects many of the official flows in the balance of payments. The EBR declined steadily from 1994 onwards, reaching a surplus of over £700 million in 1998. Funding via the sale of Irish-pound denominated securities was positive until 1998, when sales of securities by non-residents and other domestic residents outweighed purchases by credit institutions. Small savings, incorporating savings bonds and certificates contributed £1,239 million to the financing of the EBR, over the period. From 1994 to 1998, repayments of foreign currency borrowing amounted to almost £4 billion. Despite a drop in the uptake of Government securities in 1998, the EBR surpluses allowed repayments of foreign exchange borrowing of £748 million. Government cash balances were reduced by over £300 million in both 1994 and 1998, and this released additional liquidity into the domestic economy.

Table 3: Financing of the Exchequer Borrowing Requirement

£ million	1994	1995	1996	1997	1998
1. Issues of Irish-pound denominated securities	462	868	1191	952	-677
i) Credit Institutions	299	100	-383	276	462
ii) Other domestic	585	162	540	1798	-482
iii) Non-residents	-421	605	1034	-1122	-656
2. Small savings	377	297	322	60	183
3. Other Irish pound ^a	-100	0	0	0	0
4. Foreign-currency borrowing	-388	-672	-1009	-1041	-748
5. Small savings reserve	0	0	0	288	119
6. Change in Government cash balances	321	134	-67	-24	376
7. Exchequer borrowing requirement	672	627	437	235	-747

a. NTMA foreign currency swap transaction

⁷ 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. Private-Sector Credit – 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. 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. 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 4. 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 4: 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, banks were establishing or increasing their credit lines with other European banks in preparation for 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 available, credit growth would have been constrained and perhaps real growth would have been lower.

6.2 Sectoral Distribution of Bank Lending

In looking at where credit went, a breakdown by eleven main sectors is examined below. The most striking development is the rise in the share of lending to the 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.

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 contributes to the rise in the Financial sector's share.

Table 5: 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.

Looking at the eleven-sector breakdown of PSC in Table 5, 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. While lending to non-bank IFSC companies was a major factor behind the very rapid increase in lending to the Financial sector, this sector also acted as a 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 the productive sectors, in turn, acted as a substitute for credit.

An analysis of PSC less lending to the Financial sector brings a number of other developments into sharper focus. Trends in the share of four main sectors are shown in Table 6. 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 suggests that demand for credit was broad-based 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 6: Trends in Shares of PSC less Financial Sector

Share, %	Nov-94	Nov-95	Nov-96	Nov-97	Nov-98
Manufacturing	8.2	8.0	8.3	8.0	8.6
Building and Construction plus property companies	7.4	7.5	8.1	8.2	10.5
Hotels and Catering	4.0	4.1	4.1	4.7	5.2
Personal	54.0	55.1	54.6	55.9	54.1

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

Given the strong growth in investment and output during this period 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. As seen in Chart 5 in the previous section, such credit 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 obtained above-average credit shares. Data on overall employment growth from 1994 to 1998 is presented in Table 7, together with a breakdown for the above-average credit growth sectors.

Table 7: Employment Growth, 1994-1998

All Persons (Thousand)						% Change
	1994	1995	1996	1997	1998	1994-1998
Labour Force	1431.6	1459.2	1507.5	1539.0	1645.7	15.0
In Employment	1220.6	1281.7	1328.5	1379.9	1520.8	24.6
Industry Sector	343.6	360.5	367.3	398.8	435.5	26.8
Construction	91.5	96.6	100.8	110.4	130.1	42.2
Hotels and Restaurants	68.4	70.6	73.5	76.4	100.1	46.3
Financial and other Business Services	114.3	126.4	135.2	134.7	175.7	53.7

Source: CSO – LFAA Labour Force Estimates (ILO) 1994-1998

The results are striking. All the sectors which increased or held their shares in PSC, also enjoyed above average employment growth. The increase in employment, in turn, led to increased demand, particularly for new housing, which fuelled growth in investment and created extra job opportunities.

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 1994-1998 period reveals that both the bank and non-bank 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 non-bank residents increased their transactions with non-resident banks and deposits and loans with such banks grew sharply.

No information is available about the sectors of the Irish economy which borrowed from non-resident banks but a sectoral breakdown of resident 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 maintain the strong real growth in the economy and added to further demand for credit, for house purchase in particular.

It is not possible to determine just how much of Ireland's exceptional growth experience during the 1990s was a direct result of financial liberalisation and structural changes in the financial sector. It is reasonable, however, to argue that the financial innovation and global integration of Irish banks removed domestic resource constraints and enabled them to make an important contribution to growth during the Celtic Tiger years.

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 is invariably inflationary, while over-extension of credit in some countries has led to financial crises. 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. Macro 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. The challenge is in maintaining this balance.

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