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Frank Barry,¹ John FitzGerald,² Patrick Honohan,³ and Iulia Siedschlag.²

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THE GLOBALIZED IRISH ECONOMY IN GOOD TIMES AND BAD

Ireland is one of the most globalized economies in the world, and it consolidated this position in the period 1986-2007, during which aggregate living standards in Ireland rapidly converged to those of the world's leading economies. During that apparently highly successful, period – dubbed the “Celtic Tiger” by commentators -- ambitious countries at lower levels of per capita income began more and more to look to Ireland as a potential model against which to evaluate their own growth strategies.

But Ireland's navigation through the hazards of the emergent global economy hit severe shoals in 2007-8, since when an acute economic contraction has seen per capita GNP fall – faster than almost anywhere else – back to the levels of 2000, a return to high net emigration reflecting job losses and high unemployment, and a loss of access to financial market access reflecting international financial market concern at the extent of bank losses and the sustained jump also in other government borrowing. In the end, while Ireland's engagement with globalization over the past quarter century cannot be counted a failure, its earlier characterization as a success must now be at least very heavily qualified. This experience has policy lessons for countries that have found globalization more of a challenge.

Elements of the research project on which this paper draws have clarified how the forces of globalization influenced the Irish economy and how Ireland managed to cope. Combined with realtime analysis of the unfolding situation as boom turned to bust, the findings enable a balanced summary to be developed around the main features of economic globalization in Ireland. Using diverse methodologies, we have learnt much about the impact of: inward foreign direct investment on firm productivity and use of technology; of international capital markets on fiscal policy, macroeconomic stability and competitiveness; of openness to the international labour market on wages, employment and skills/productivity of the labour force; and of the political institutions that were employed for managing EU structural funds.

The extent to which the Irish experience can be applied in different institutional environments and how the transplantation could be effected has been the subject of a final strand.

Complementing the individual research papers on each of the strands, this synthetic paper seeks to integrate these findings with those of pre-existing literature. It offers general conclusions, based on Ireland's experience, on what economic institutions and policies are most relevant if globalization is to be turned to national advantage in other countries also and if those countries are to avoid some of the pitfalls encountered by Ireland.

There are five main sections. The first section looks at the macroeconomy and identifies and examines the evolution of the main components of the international balance of payments and how these interacted with the rest of the economy. Two key dimensions to the globalization experience: the potential for turbocharging, and the risks of various forms of incompleteness and over-specialization, are introduced. The next three sections look more closely at trade, inward investment and the labour market, documenting the Irish experience. Section 5 describes some new findings on political and governance institutions.

The period of focus is from 1986 to 2010, but with the first 15-20 of those years well covered by earlier literature, there is a greater emphasis on the last decade.

Ireland's turbocharged macroeconomic performance under globalization

1.1 Risks and threats

If, as Ireland rapidly converged to full employment and high average incomes in the 1990s, the macroeconomic advantages of globalization seemed clear, the risks and threats were less obvious. Overall, the growth pattern of the macroeconomic and financial engagement of Ireland with the global economy was turbocharged but incomplete, and there is reason to suppose that – even if not inevitable – the tendency for a highly globalized economy to evolve in this way may be to some extent endemic, presenting clear risks which need to be better managed than they were in Ireland.

Exposure to risks -- turbocharging

A commonplace observation is that the open economy can be exposed to external macroeconomic risks that would not affect the closed economy. Conversely openness can allow the open economy to escape some of the consequences of an internal shock, real or monetary (by absorption through the balance of payments). Traditional analyses of the impact of international opening discuss this question of exposure in terms of the likely balance of internal and external shocks.

A less expected and recently very conspicuous variant on this risk exposure is the phenomenon which we may call turbocharging where globalization can amplify and prolong a favorable or unfavorable macroeconomic trend. Because the globalized economy is not limited by the size of the domestic market whether for inputs or outputs, a favorable trend can go much further and much faster in the expansion phase. At the same time, the elasticity of demand and supply for economic output is also much faster. Ireland experienced this both in the upswing, during the 1990s and 2000s for product demand and factor inputs, and in the late 2000s as international market funding was withdrawn (albeit fully replaced by central bank funding which was also available on a correspondingly large scale).

The phenomenon of turbocharging is something which can be exploited in the expansion, by ensuring scalability of growth initiatives; but it must also be guarded against, to the extent that a contraction of previously exploited demand or factor supply may also be rapid and on a large and hard-to-absorb scale.

Incompleteness and over-specialization

Outsourcing is a widely commented-upon phenomenon in the globalized world. Ireland's macroeconomic experience points to this as just one aspect of a wider phenomenon of which two other manifestations are: over-specialization (as into just a few industrial sectors in manufacturing output and exports, and into construction in the bubble phase) and an incomplete or "hollowed-out" pattern of development both in productive capacity and in the repertoire of macro-fiscal and prudential policy tools as reliance is increasingly placed on (i) external markets for components or factors of production (including liquidity) and on (ii) external institutions and analyses for the design and in some cases delivery of policy. While the word *monocultural* would exaggerate the degree to which over-specialization occurred in Irish production, *incompleteness* would describe with increasing accuracy the quality of macro-policy formulation and implementation in Ireland as more and more decisions were either ignored or regarded having been adequately outsourced during the good years.

Focusing on the international payments links and their interaction with the rest of the economy, what follows illustrates the power of globalization in moulding Irish macroeconomic performance for good and ill during the three main phases in which the past four decades can be divided. It illustrates the effect of shocks and the external role in turbocharging the economy positively and negatively. The emerging structural incompleteness of the macroeconomy, both in regard to over-dependence on some sectors and in the emergence of policy action and analysis lacunae is described.

The process of globalization has been a powerful agent of convergence in average living standards of Ireland to world leading levels, but it contained these hidden pitfalls. As the economy begins to rebuild after recoiling from its excesses, policy must guard against the risks generated by turbocharged expansion, by the tendency toward monocultural production and a complacent neglect of comprehensive policy controls.

2.2 International aspects of the fiscal crisis and recovery of the 1980s

Ireland has been an exceptionally open economy for a very long time. The large migration flows, especially to the UK and the New World, and the currency and banking links go back to the early 19th Century at least, with scarcely any overall interruption.

Nor is the current crisis the first (O Grada, 2011) – indeed the potentially turbocharged nature of the globalized economy is well-illustrated by the rapid recovery from the previous severe crisis of less than a generation ago, whose onset coincided with the decoupling – for the first time since just after the Napoleonic Wars – of Ireland’s currency from sterling.

The 1980s began with a fiscal crisis which, though home grown, was strongly mediated by global links. That crisis had its origin in the turbulent macroeconomic years of the 1970s which themselves saw Ireland make several severe demand management errors which stifled its capacity to benefit fully from the opportunities offered by EU (EC) membership from 1973. New opportunities there were, and especially the higher prices for agricultural produce under the Common Agricultural Policy. Exposure to a wider range of foreign administrative and policy practices would bring changes in Irish policy behaviour – hitherto very strongly influenced by Britain – but for the first few years, geographical trade patterns shifted surprisingly little in the direction of the new partners.

The major international influence on Ireland in the 1970s came from the oil shock of 1973 and its aftermath – the inflationary recession. Like Britain, Ireland reacted to the oil price shock with an attempt to offset its contractionary effect with domestic demand expansion. Actually, the Government had already shown itself to be minded to use the budget to expand demand; a deficit on the so-called “current account” had been budgeted already for 1972, whereas for the previous two decades fiscal doctrine in Ireland had proscribed borrowing for other than capital purposes.

The expansionist response to the oil crisis into a deteriorating international environment had predictable consequences: a ballooning balance of payments deficit on current account. Inflation also tracked, and even exceeded, that in the core country of the currency union, namely the UK. Paralleling then contemporary events in the UK, there was also a sharp rise in unemployment, reflecting the degree to which the Irish labour market was still influenced, through migration and trade union links, with the larger neighbour. Savings rose in response to the uncertainty generated by inflation and unemployment, amplifying the latter. Facing a

spiralling deficit and debt ratio, the Government took decisive corrective action in the 1976 budget, which still ranks among the most deflationary of Ireland’s history in terms of how much demand it took out of the economy.

These corrective efforts in fiscal policy were soon overturned when the new Government of 1977 launched a “dash for growth” predicated on expanding public investment and public employment. Although the spending programme aimed inter alia at improving infrastructure efficiencies (for example, by addressing clear deficiencies in telecoms and public transport), it lacked a sufficient basis in improved competitiveness and inevitably generated a huge and spiralling Government and balance of payment deficit which proved difficult to reverse in the early 1980s. By this stage, membership of the ERM of the European Monetary System had broken the currency link with sterling, and the Irish pound was prone to being realigned against the stronger ERM currencies – something that happened about once a year for the first 8 years of the system.

It is interesting therefore to contemplate how international factors influenced the fiscal correction of the 1980s. Although exchange controls still existed and indeed had been applied with respect to the UK for the first time in anticipation of ERM membership and the end of the sterling link, the borrowing needs of Government began to exceed domestic financing capacity (as reflected also in the swelling current account balance of payments deficit Figure 1.1). With the domestic market being perceived as almost tapped out – with Irish pound denominated debt having reached 60 per cent of GNP in 1979 – incremental debt in the early 1980s was increasingly borrowed from abroad to the point where foreign currency debt rapidly approached 50 per cent of GNP (Figure 1.2). Holdings by non-residents of Irish pound-denominated government paper also grew after the devaluation of 1986, reaching 16 per cent of GNP by the end of the decade. By this stage, international market conditions and the attitude of international investors to the Irish sovereign as well as to the prospects for the Irish pound were central influences on interest rates and borrowing conditions.

Figure 1.1: *Ireland: Current Account Balance and Fiscal Balance as a percentage of GDP.*
 Source: Department of Finance Budget Statistics, various years and Central Statistics Office.

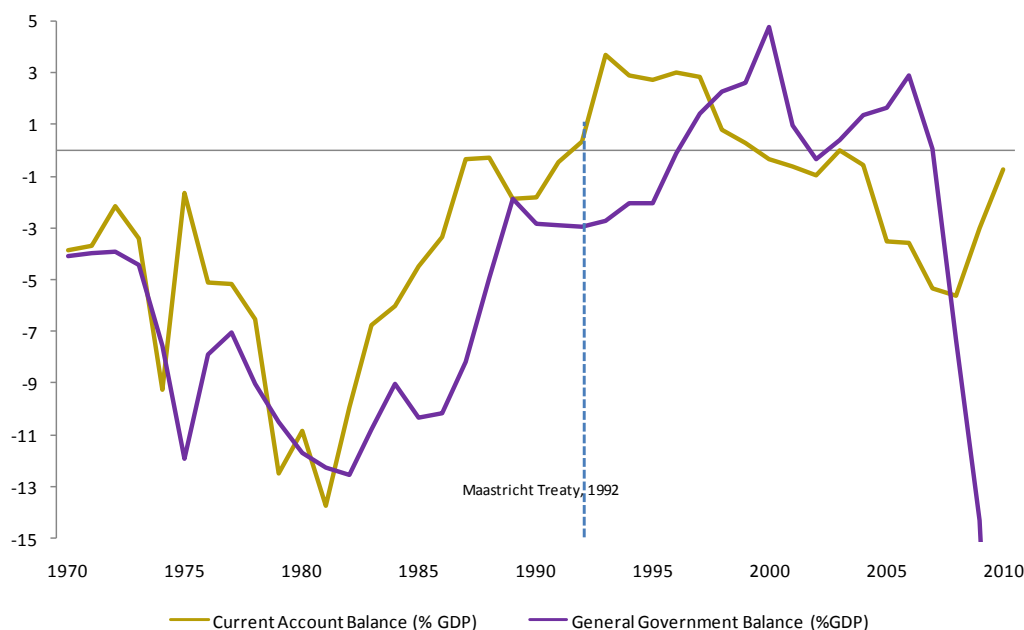
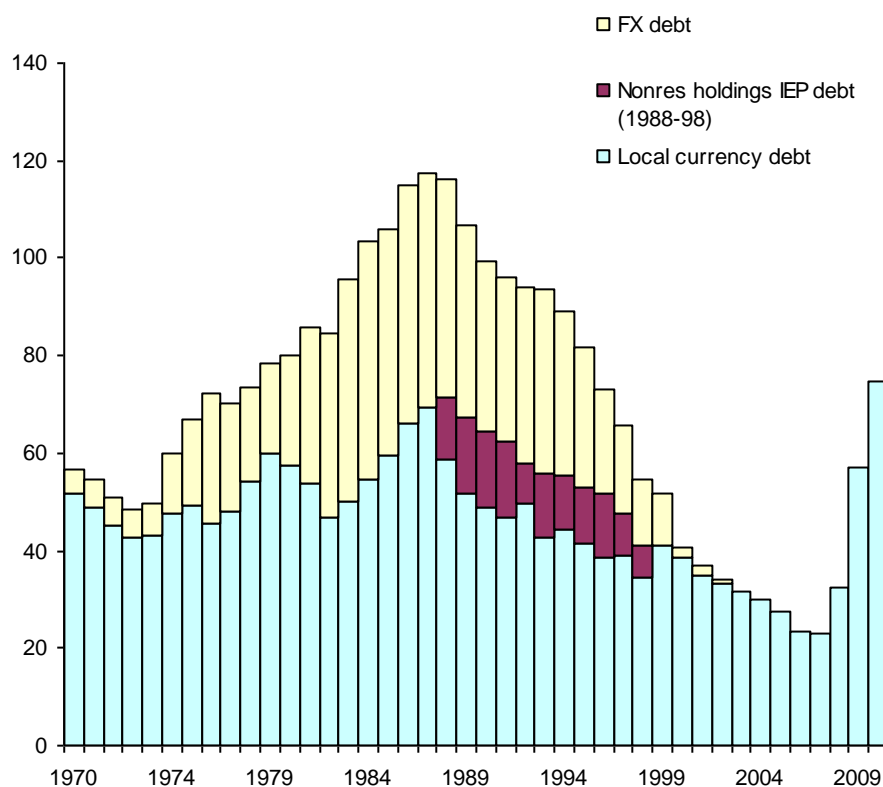


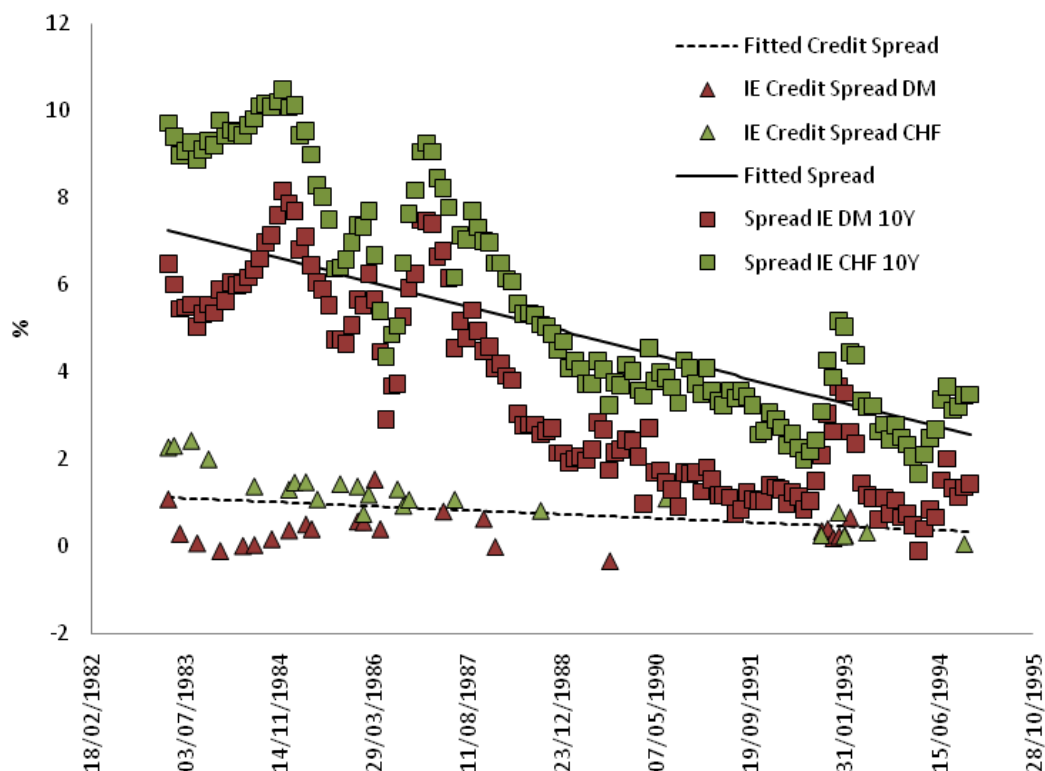
Figure 1.2: Ireland: National Debt: Foreign and Domestic 1970-2010

Source: NTMA website and Central Bank Bulletins. Note that the first five data points refer to March, the remainder to end-year. National debt does not correspond to General Government debt.



Soaring Irish pound interest rates in the early 1980s reflected each of these uncertainties in a way that is has proved hard to disentangle using regression methods: clearly higher deficits were linked to higher interest rates, but was this due to default risk or devaluation risk? Earlier work (Honohan and Conroy, 1994) pointed out that Irish pound interbank interest rates (three-months maturity) returned on average 2½ percentage points over corresponding German rates in the last ten years of the narrow bank ERM before the ERM crisis. Credit risk at such maturities was arguably very low in those years, so that most if not all could be accounted for by devaluation risk. For yields at longer-term the gap was even higher – a regression approach suggests a spread of about 6-7% in the mid-1980s (Figure 1.3): but the influence of credit risk over the longer term would not be negligible. In principle, data on sovereign debt spreads for foreign-currency denominated debt could be used to separate these two. Unfortunately, the data that exists – which is not fully comprehensive – does not yield very tight estimates of default risk insofar as, for example, the spreads on DM and Swiss franc-denominated debt for comparable maturities are rather different. Still, with yield spreads at issue over Swiss franc long-term bonds varying from about 2¼ per cent in 1983 to about 1¼ per cent by 1986, and lower spreads relative to German bonds, the data shown in Figure 1.3 suggest that the bulk of the raw spread – perhaps as much as 5-6% relative to German bonds – should be thought of as a credit/default spread, the remainder being devaluation risk.

Figure 1.3: Ireland yield spreads 1982-95



The figure shows two sets of data, shown with triangles and squares respectively. The triangles can be thought of as measuring credit risk; it is the spread of primary market yield on Irish Government DEM and CHF foreign currency denominated bonds over similar-maturity Sovereign bonds of Germany and Switzerland respectively (but terms and conditions of the debt of different issuers may not be fully comparable – possibly explaining the negative data points). The squares can be thought of as combining credit and currency risk; it is the secondary market spread on Irish pound Sovereign debt over German and Swiss Sovereign issues of similar maturity. The regression lines link these spreads to currency dummies, liquidity (size of issue) and date (linear time trend). (Source: Peter Dunne, forthcoming note).

Nevertheless, that the country was “living beyond its means” was universally acknowledged, as evidenced in particular by the large and persistent “current account” deficit of the central government – a benchmark measure of fiscal prudence, or the lack of prudence. Gradually attention shifted from flow indicators such as the deficit (especially misleading in a time of rapid inflation and a large gap between nominal and real local currency interest rates), to stock indicators such as the debt-to-GNP ratio, which was used in Irish official documents first in 1985 (specifically in the Government’s economic plan *Building on Reality*). With the surge in global interest rates following the Volcker anti-inflation policy initiatives of 1979-80, and the subsequent surge in the spread of Irish interest rates above those abroad, the interest cost of servicing the growing debt provided useful dramatizations of the problem (cf. Figure 1.4 showing the share of income tax revenue going simply to pay the national debt interest.)

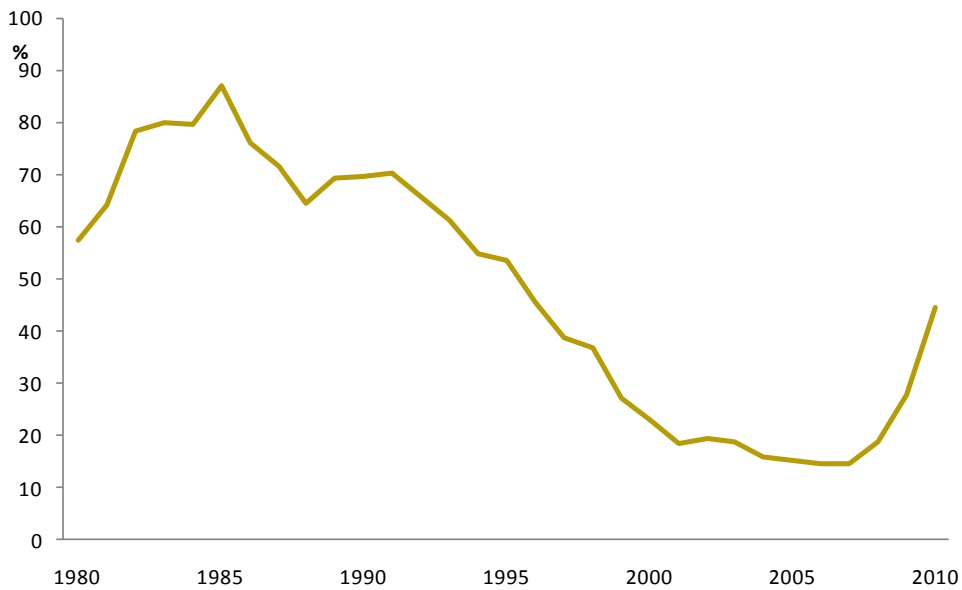


Figure 1.4: *National Debt Interest Payments as a % of Income Tax Revenue*

Source: Department of Finance Budget Statistics, various years

Although the availability of foreign borrowing could in principle have dampened the tendency to increasing borrowing costs, the coincidence of rising global interest rates with Ireland’s borrowing needs, and the exaggerated response of domestic currency interest rates to devaluation risks heightened by the fiscal situation, represented an accelerating factor for the worsening of the fiscal and balance of payments crisis. The crisis peaked in flow terms around 1983 and was not brought sufficiently under control to stop the debt ratio from rising before 1987. By that stage, the return of fiscal discipline at home fortuitously coincided with a global fall in interest which provided a globalisation accelerator (*exposure* and *turbocharging*) on the way down; a pendant to what had happened on the way up. These accelerators were accidental, though it can be argued that the fiscal correction might not have proved politically sustainable⁴ had it not occurred in a favorable interest rate environment (as also in a favorable competitiveness (devaluation) and world growth environment).

Ireland would have done well to resist the temptations of offered foreign loans on the scale offered, and adhered to conventional rules of thumb for sustainable fiscal policy. By establish a pattern of spending that required external financing on a scale that would inevitably become unsustainable, macro policy generated almost a decade of high unemployment, emigration and rising tax rates.

One globalization-related factor is often wrongly given credit for Ireland’s return to fiscal discipline. The Maastricht treaty’s deficit and debt criteria were designed and developed too late to have been decisive in this regard. As shown in Figure 1.5, the fiscal indicators had come back onto a clearly convergent path long before these externally-imposed constraints

⁴ Though in opposition after the change of Government in 1987, the former main Government party undertook – in what was called the “Tallaght Strategy” – to support the new Government in its continued pursuit of fiscal adjustment.

had been adopted in 1992. Even if they may, however, have continued to provide a new quantitative reference point for fiscal discipline, they were so far exceeded in the subsequent run-up to euro entry as to make this point of negligible significance.

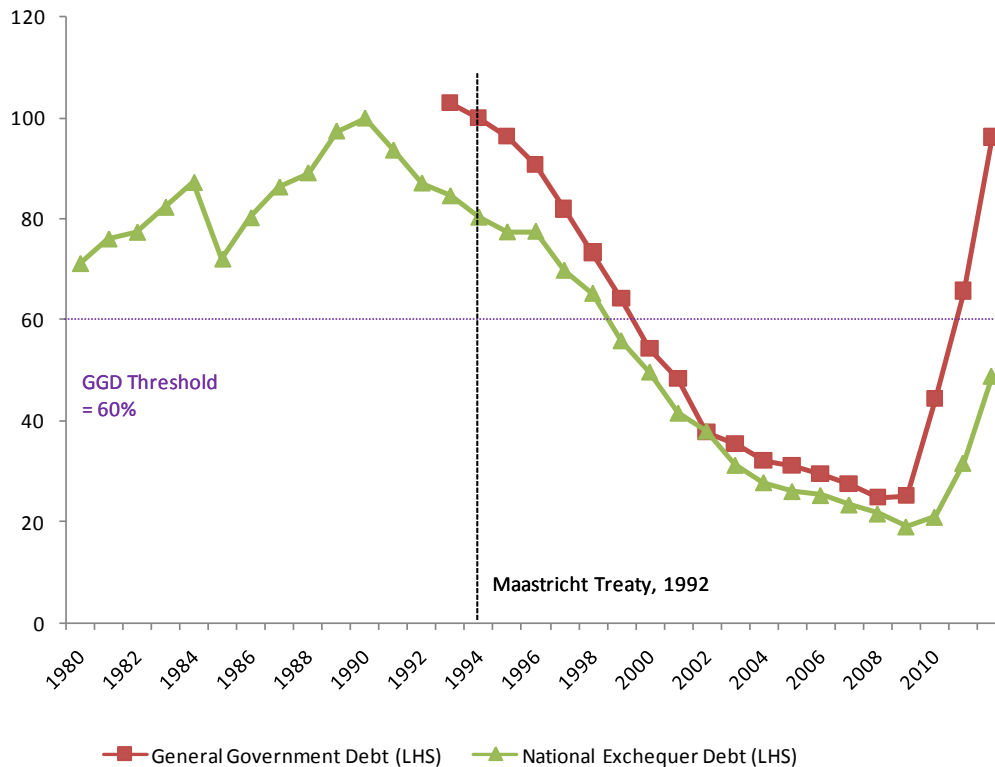


Figure 1.5: Ireland: *Government Debt as % GDP*

(Data on General Government Debt, used to evaluate performance relative to the Maastricht 60% criterion, are not available prior to 1991 so Exchequer figures are also shown).⁵

Source: Department of Finance: Budget Statistics, various years and Maastricht Returns, March 2011.

The near miraculous turnaround of the Irish fiscal and growth environment in the late 1980s has been the subject of a considerable amount of research, among others being the battleground of debates about the possibility of an expansionary fiscal contraction (see Barry and Devereux (1995), Bradley and Whelan (1997), Giavazzi and Pagano (1990), Honohan (1992) and McAleese (1990). From the present perspective, what is clear is that it depended heavily on Ireland’s globalized status. Without the potential and actual surge in exports and export-oriented investment, the surge of trend-following foreign investment in Irish government paper driving down long-term interest rates and the easy availability of labour not only from the pool of the unemployed but from the pool of returnees and other potential migrants from abroad, the Irish economy could not have moved into the Celtic Tiger phase with barely a hesitation related to the 1992-3 ERM currency crisis.

⁵ General Government measures include local authorities, non-commercial state sponsored bodies, the National Pensions Reserve Fund (NPRF) and the Social Insurance Fund, whereas the Exchequer Balance only includes Central Government transactions. The General Government measure also includes elements of accrual accounting while the Exchequer Balance is a cash-based measure.

2.3 The Irish economy's golden age: external demand and the evolution of external balances

In retrospect the mid 1990s can be seen as a macroeconomic “Golden Age” for Ireland (Honohan and Walsh, 2002). Yet it must not be thought of as an era to which the economy could even expect to return, or even to have sustained. The rapid growth rates represented a catch-up as the economy finally approached the production frontier by achieving essentially full employment (and with the traditional farming sector no longer quantitatively significant). The important continuing role played by inward FDI in this period confirms the ability of the globalization links of the economy to generate a powerful turbocharging effect. Indeed, the FDI boom helped suck in migrants from non-traditional sources for the first time, with the share of non-nationals in the total population eventually reaching a relatively high 13.8% by 2007 – from a position where Ireland had had one of the more ethnically homogeneous societies in Europe (Figure 1.6).

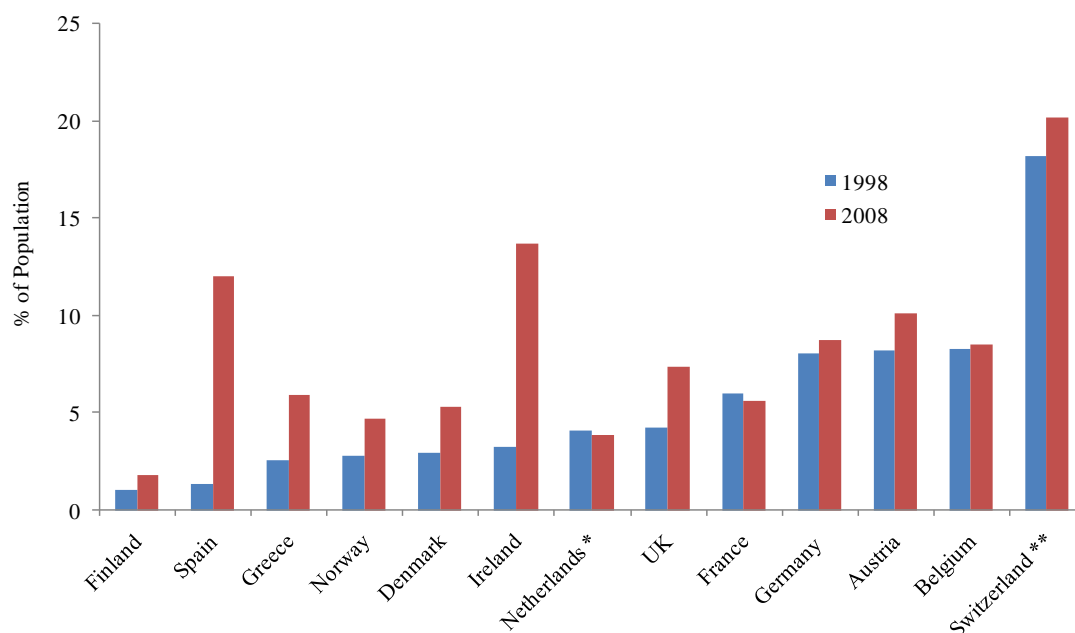


Figure 1.6: *Foreign Nationals as a Percentage of Total Adult Population.*

Source: CSO and Eurostat

Note: * Earlier figures for the Netherlands are for 1999.

** Later Figures for Switzerland are for 2007.

The heavy reliance in this period on inward FDI provides some evidence of the monocultural tendencies of the globalized economy. The sectors contributing by far the largest part of the growing exports and manufacturing output were highly concentrated in a small number of SITC codes corresponding to subsectors of pharmaceuticals and IT assembly and others well positioned to take advantage of the special tax environment. This concentration had the potential to create concentration risks, though these do not seem to have materialized to date.

The IFSC represents of course another subsector which, thanks to energetic promotion and the considerable profits tax sensitivity of relevant parts of the internationally traded financial services centre, began to make a noteworthy contribution to tax revenue and employment (Honohan, 2006). European union and euro area membership of course considerably

turbocharged this sector, of course, giving it a growth potential that would simply not have been otherwise available.

Such was the success of the Irish economy in this period of the 1990s that the former currency weakness which had characterized the Irish pound in its first 14 years of independence vanished. Instead, despite the +/- 15% margins adopted against other ERM countries and despite the absence of any explicit or implicit indication of a policy stance, the Irish pound displayed a degree of nominal and real average exchange rate stability during the 1993-99 period, with a small *appreciation* against the DM in preparation for euro membership in 1998. This stability remains something of a puzzle: it's as if the global market acted to stabilize nominal magnitudes as a reflection of the healthy overall real economic developments. In contrast to the later period, and to many other country experiences of rapid growth, currency fluctuations for the Irish pound did not generate a loss of competitiveness in this period.

By the late 1990s, though, the economy began to slip out of balance, in a way which was largely home-grown, though some foreign shock factors did continue. Fiscal policy became rather more procyclical; the dependence on volatile or insecure taxes increased, as centralized wage settlements continued to be bought by income tax concessions. The external shock of euro membership lowered nominal and real interest rates by removing the exchange risk premium which had persisted since the early 1980s – albeit on a reduced scale. The sense that lower interest rates could be projected for the indefinite future rationalized a willingness to pay more for one's home. The seeds of the property bubble had been sown.

2.4 The economy over-inflated by foreign credit

As Ireland joined the monetary union in 1999, its status among the most globalized economies in the world was confirmed. In the following years, its finances would be submerged in those of the euro area – with international flows often not even being separately measured and assessed as attention focussed on the euro area as a whole. The idea that much of macro policy had been largely outsourced to the European Central Bank took hold in policy circles. A sizable fragmentation of policy thereby occurred: domestic policymakers no longer took full ownership of macro issues. Finance Minister McCreevy's stated views about fiscal policy ("when I have it I spend it") disavowed any stabilization role for fiscal policy. (However, the 1999 establishment of the National Pension Reserve Fund as a way of institutionalizing the need for countercyclical fiscal restraint shows implied that fiscal policy had not become entirely rudderless)

Interest rates were now fully imported from the rest of the euro area (as had been the case with sterling before 1979). After years of relatively high nominal and real interest rates, the new regime lowered the cost and enhanced the availability of credit to Irish borrowers. Not surprisingly, the change resulted in an expansion of the most credit-dependent sector, house-building and property development.

The story of the property price and construction boom that ensued (it began around 1997 in anticipation of the monetary changes) has been often told (cf. for example Honohan, 2009; Lane 2011; Whelan, 2011). Here it is most relevant to emphasize the globalization dimension. One key element here is the contemporaneous explosion of mortgage finance in the liberalized financial systems of the UK and US. Underpinned by an exaggerated confidence in the ability of mechanical risk management techniques to limit the potential for

losses, this explosion helped sustain in a more relaxed approach in Ireland and other countries to the growing scale of exposure even where these risk management techniques (ABS tranching etc) were not being used. Although other countries not in the euro area, such as Latvia and Iceland, also experienced a very large capital inflow mediated by banks (and also exploiting low interest rates, in those cases through the device of foreign currency or inflation-indexed loans), the scale to which the Irish credit bubble eventually grew was certainly facilitated by the absence of exchange rate risk. Together with another key element of globalization: the absence of any fear of exchange controls, this ensured the fuel for a turbocharged monocultural expansion of the Irish economy at a time when its previous, somewhat more broadly-based and certainly more sustainable, export driven growth was naturally slowing.

The world economy experienced few macro disturbances in the period 1993-2007, often referred to as the Great Moderation. The dot.com bubble and burst of the late 1990s followed by the 9-11 shock of September 2001 were the most conspicuous of these. The latter episode did slow the Irish economy, exposed as it was to the US economy and to the IT sector in particular. Even house prices in Ireland hesitated for a short period in late 2001 and early 2002 (see Figure 1.7). However, the momentum of the construction boom dominated, growing as it did to employ directly in construction over 13 per cent of those at work.

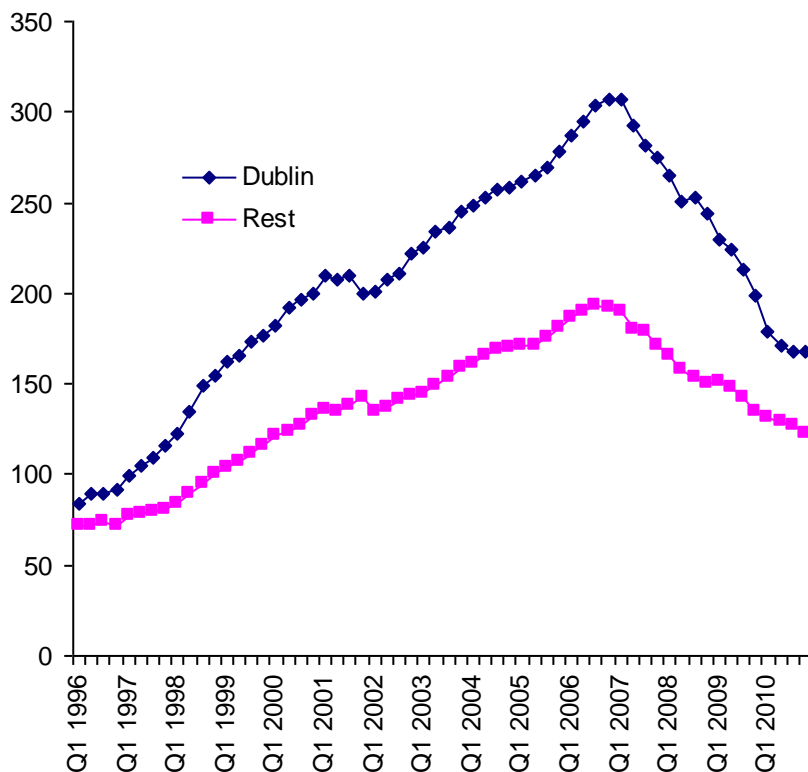


Figure 1.7 *Real House Prices, 1996-2010*
 (Source: ESRI-TSB index deflated by CPI)

Although Ireland could expect to import medium term inflation rates in line with the rest of the euro area, the external weakness of the euro in its early years, combined with the booming

national economy meant that inflation in Ireland soared to an annual rate as high as 7 per cent briefly. Once again, the outsourcing of anti-inflation policy meant that such an outturn did not result in an aggressive domestic policy response, and in 2004 the EU Commission launched an excessive deficit procedure against Ireland, reflecting the fact that budgetary policy had even relaxed in the face of booming domestic demand conditions.

The current account of the balance of payments remained surprisingly moderate during the boom. This reflected in part the continued strong export performance of the remainder of the economy, and the fact that a large segment – some €51.6 billion according to unpublished Central Bank data made available to the researchers – of the funds borrowed from abroad by the banks was ploughed back into foreign property investment by the banks’ borrowers, large and small.

Reversing as it did the excesses of the bubble, the bust in Ireland was much more severe than in the rest of the euro area – about three-quarters of the GDP decline could be attributed to the unwinding of the previous national excess (Honohan et al., 2010). To be sure, without the construction boom fuelled by credit sourced from abroad by the banks, the economy would doubtless have grown more slowly in the 2000s, as attempts at quantification of the counterfactual have pointed out (Figure 8).⁶

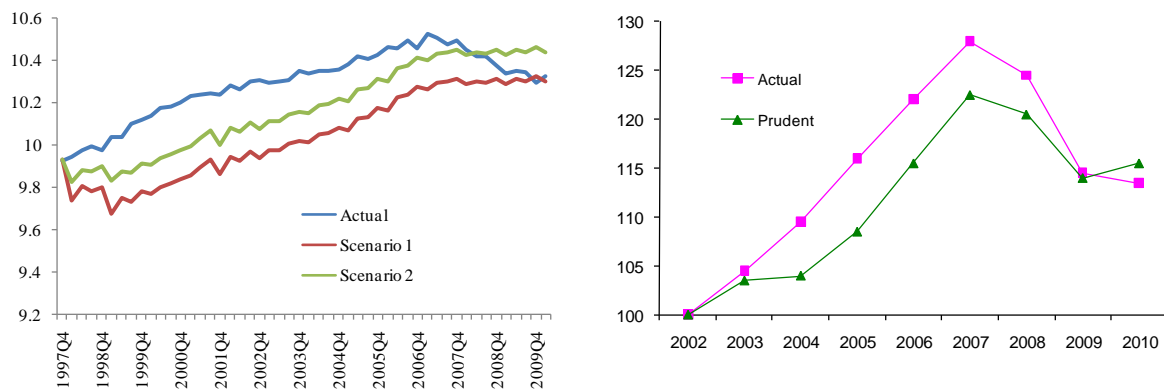


Figure 8: Ireland: Actual and Prudent Policy Counterfactual Real GDP

(a) In logs and based on lower counterfactual loan-to-deposit ratios from the model in Kelly, McQuinn and Stuart (2011);

⁶ For example, Kelly, McQuinn and Stuart (2011) present a simple model estimating the link between private sector credit and GDP, which can be used to assess how the economy might have grown had credit growth had been constrained to be more in line with bank deposit level growth over this period. Using this model two counterfactual scenarios for credit can be imagined

- (i) Credit constrained to the level of deposits (Scenario 1) and
- (ii) Credit running at 20 per cent above deposits (Scenario 2).

Thus, in the case of the first scenario, lending in the domestic Irish banking system would have been funded entirely through domestic deposit levels; banks would not have had recourse to wholesale funding. (It is worth bearing in mind that the recent EU-IMF program sets out specific targets for the loan-to-deposit ratio of each of the banks.) The actual track of GDP and the computed data under the two counterfactual scenarios are plotted in Figure 8. Because the hypothetical starting point involves a contraction of credit, both hypothetical scenarios begin with a severe recession induced by a credit crunch, nevertheless, by 2010, actual GDP has slumped to no better than the weaker of the two scenarios (Figure 8a). An alternative approach in Connor and O’Kelly (2010), in which “prudent policy” is based on limiting the financing of property development with foreign borrowing, produces a similar result (Figure 8b). More elaborate models can no doubt be constructed; they would doubtless all display the pattern where a higher actual output path in the 2000s is followed by underperformance thereafter.

(b) In levels and based on lower counterfactual property lending financed by foreign borrowing (Connor and O’Kelly, 2010).

The post-Lehmans global contraction certainly provided a dramatic illustration of exposure to external shocks. By that time, however, the globalization turbocharger was already working in reverse as Anglo and other banks struggled to refinance their foreign borrowings. Indeed, a partial decoupling of the globalized economy was under way as money markets began to fragment and the limitations of the monetary integration in Europe became evident.

But the underperformance after 2007 more than offsets the gains of the property bubble-driven growth. The 2008-9 recession would have been less severe, and the recovery from 2010 would not have been weighed down by the overhang of indebtedness – as shown schematically in Figure 9.

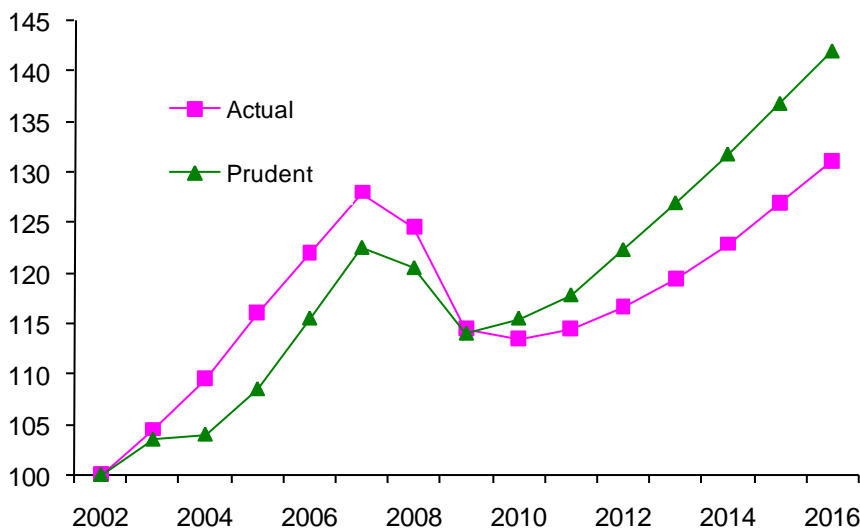


Figure 9: *Real GDP Level in Ireland: Actual, Forecast and Counterfactual Simulation Assuming Prudent Bank Behaviour 2000-2016 (Index, 2000=100)*

Source: “Actual” uses IMF forecasts for post 2011; “Prudent” is based on Connor and O’Kelly (2010) to 2010; 2% in 2010 and 3.8% per annum thereafter.

* * *

Three countries stumbled badly in the euro area in the global downturn - Greece, Ireland and Portugal. But the patterns were different in each. What it seems to show is that economic management of these economies failed to insulate them vis-a-vis the threats of the enhanced globalization generated by euro membership. Our study of Ireland shows that, in the macro sphere, global links can help turbocharge trends – both positively and negatively – and that the structures of policymaking can become fragmentary, with excessive reliance on less connected foreign structures.

2. Industrial structure

Ireland's engagement with the globally integrated production process – initially in manufacturing and later in internationally traded services – dates back to the liberalization of the late 1950s. At first, the MNC investors established light engineering plants exploiting grant aid, low labour costs and locational advantages in supplying the European market. Progressively, this kind of activity displaced long-standing firms – often British-owned – which had mainly produced for the national market albeit with some exports mainly to the UK. Progressively, as taxation became increasingly important as a driver of the location of MNC and the industrial promotion agency IDA responded by concentrating on growing sectors whose production patterns enabled vertically integrated firms to exploit the tax advantages of Ireland by locating part of the production chain in Ireland. Pharmaceuticals and information technology are good examples, accounting alone for a large share of the exports, gross output and tax receipts from MNC activities in Ireland – but to a much lower employment or domestic value added component.

A long-standing goal of the welcoming approach to FDI from MNCs was that technology and know-how would be transferred from the MNCs to locally-owned entrepreneurs. Direct technology transfers and other spin-offs were slow to be observed, though overall productivity improvements may have been enhanced by the FDI indirectly.

2.1 The global context

The last three decades have witnessed an acceleration of the process of international integration of markets which epitomises globalization. China, India and much of the former Soviet bloc have integrated into the global economy. Vertical fragmentation and vertical FDI have raised the importance of parts and components in international trade (Yeats, 2001) and led to the emergence of global value chains (OECD, 2010). Technological change in air shipping and the declining cost of rapid transit have been crucial to the process (Hummels, 2007).

There has also been a massive increase in the transnationality of firms over the period. Between 1990 and 2005, the number of transnational companies doubled to 70,000, the number of TNC affiliates grew more than fourfold, and the number of countries in which the average TNC operated grew from four to ten (UNCTAD, 2006). The global FDI stock increased by more than 200 percent between 1987 and 1997, and by more than 300 percent over the following decade.

Advances in information technology have allowed many formerly non-traded services to become tradeable, facilitating services offshoring and “trade in tasks” (Baldwin, 2006). Services sectors are now the largest recipients of inward FDI, particularly in advanced economies, while services exports have expanded rapidly. World services exports grew from 15 to 19 percent of all exports between 1980 and 2005, driven by increased trade in Computer and Information Services, Finance and Insurance (Forfás, 2006).

Another dimension of globalisation of relevance to our account of the change in Irish industrial structure over recent decades is the growth in the offshoring of R&D functions by MNCs over the 1990s and beyond (UNCTAD, 2005).

2.2 Structural change in Ireland, 1980-2000

Ireland has long been one of the most open and most FDI-intensive economies in the developed world. OECD (2010) reports that foreign affiliates account for almost 50 percent of manufacturing employment and 80 percent of manufacturing value added, around twice the equivalent EU shares. Services are less FDI intensive, though again the Irish proportions are around twice the EU average. Excluding financial intermediation, foreign affiliates are reported to account for around one-quarter of Irish services employment and around 40 percent of value added.

Ireland's openness and FDI-intensity are related, as foreign affiliates account for the vast bulk of Irish exports. Many services remain largely non-tradeable, so Ireland's FDI intensity in this segment partly reflects, for example, the strong presence of foreign multiples in the retail sector.

Foreign-affiliate presence drove much of the structural change in Ireland over the export-led growth era, and indeed even earlier. The share of foreign-dominated chemicals in Irish exports for example grew from 0.5 percent at the end of the 1950s to 6 percent at the time of EU entry, while foreign industry was also largely responsible for the diversification of Irish exports away from the UK market over that period (Barry, Lux).

Foreign ownership has become increasingly concentrated in higher-technology sectors, reflecting among other things ongoing changes in Irish comparative advantage associated with the increasing educational attainment of the workforce. The major expansions in foreign-owned manufacturing over the period were in computing equipment and electronic components, pharmaceuticals and medical and optical devices (Barry, SEHR)..

Table 2.1: *Sectoral allocation of manufacturing-sector foreign-firm employment*

	1973	1987	2000
Food, Beverages and Tobacco	24	18	11
Textiles, Clothing and Footwear	19	14	3
Chemicals (excl. pharma)	6	7	5
Pharmaceuticals	2	6	11
Machinery and Equipment	4	6	5
Office and Data Processing Equipment	1	7	19
Electrical and electronic components	4	10	14
Medical and Optical Instruments	4	8	11
Transport Equipment	11	7	7
Remainder	24	17	12

Note: Remainder comprises Wood, Pulp, Paper and Printing; Rubber and Plastics; Non-Metallic Materials; Basic and Fabricated Metals; Coke and Refined Fuels, and Miscellaneous Manufactures

Because of the very high measured labour productivity of foreign affiliates in Ireland, these structural changes would be magnified if output rather than employment data were used.⁷

Vertical fragmentation also grew in importance in Ireland, as elsewhere. Görg (2000) uses "inward processing trade" (IPT) as a proxy for fragmentation, where IPT refers to imports from the US which are further processed and then re-exported. IPT as a share of Irish

⁷ OECD (2010, 175) reports that labour productivity levels in foreign affiliate manufacturing in Ireland are four times those in indigenous manufacturing, while those in services are 1.5 times higher than the indigenous equivalent.

imports from the US grew from 24 percent in 1988 to 44 percent in 1994, by far the largest proportion for any EU country. Ruane and Görg (2001) found evidence of increasing fragmentation in the computer hardware sector, with the ratio of bought-in materials to total sales rising significantly over the course of the decade analysed. Further evidence of fragmentation in the sector is provided by Barry (2004).

The trend towards services offshoring became discernable in the 1980s, though the IDA first launched its Service Industry Programme in 1973 (MacSharry and White, 2000, 292). Even before the establishment of the IFSC in 1987 there were sixteen international banks operating in Ireland, though they entered to service the needs of the large multinational corporations who had located there (Reddan, 2008, 59-62).⁸

As MacSharry and White (2000, 318) note with reference to the establishment of the IFSC, “a combination of factors now created an opportunity for a regional location like Ireland to become a player in the international financial services industry. First, world financial markets had become highly interdependent and operated on a round-the-clock basis. Second, the technology to set up and run international data- and fund-management centres was, in turn, creating an electronic market place, thanks to improvements in international telecommunications. And, third, global deregulation of financial services meant that an increasing range of these services were provided from beyond national boundaries”.

Table 2.2: *Foreign-Owned Full Time Permanent Employment in Services*

	1986	1991	2000	2007
Financial Services	0	653	6,607	14,222
Internationally Traded Services	2945	6,745	34,420	40,328

Source: Forfás Employment Survey (various years)

Ireland increased its share of world services exports from 0.36 percent in 1980 to 2.2 percent in 2004, ranking Ireland the 13th highest exporter of services in the world that year. Between 2000 and 2005, the contribution of services to total Irish exports increased from 22 percent to 35 percent (Forfás, 2006), with Computer, Financial and Insurance services comprising the most significant services export sectors, together accounting for 60 percent of total Irish services exports in 2005. Excluding financial services, foreign affiliates account for around 70 percent of Irish services exports (Lane and Ruane, 2006).

2.3 *Structural change in the Irish economy over the last decade*

We begin then with a brief review of changes over the last decade, focussing on the structure of employment.⁹

⁸ As these were not agency-assisted, they do not appear in the Forfás data.

⁹ The public sector is defined (imperfectly) from the QNHS data as comprising the following segments: public administration and defence; compulsory social security; education, human health and social work activities. The 2000 figures are taken from the ESRI databank. The figures for 2009 are based on the average seasonally adjusted employment levels for the first three quarters of 2009, with the 2009 growth benchmarked against the first three quarters of 2008.

Table 2.3: *Direct Employment in Exports and in the Public and Private Sectors*

Thousands	2000	2007	2008	2009	% change 2000-07	% change 2007-09
Private Sector	1,354	1,665	1,628	1,446	23.0	-13.2
<i>Foreign-owned Exports</i>	151	136	133	122	-9.9	-10.3
<i>Indigenous Exports</i>	55	54	50	48	-1.8	-11.1
<i>Construction</i>	166	267	236	156	60.8	-41.6
Public Sector	343	457	472	483	33.2	5.7
Total	1,697	2,123	2,100	1,929	25.1	-9.1

Sources: Calculations from Forfás (2010, ABSEI) yield direct employment from exports; ESRI databank and QNHS for aggregate economy; CSO (2006, Construction and Housing in Ireland) for employment in construction in 2000.

Over the period 2000-2007, employment growth in both construction and the public sector exceeded growth in the overall private sector, while direct employment in both indigenous and foreign-affiliate export activities declined.¹⁰ The reduction in overall direct employment in exports is not necessarily indicative of future trends. The internationally traded sector would have been crowded out by the massive growth of non-traded sectors (including construction and public services) over the period 2000-2007 (Morgenroth and FitzGerald, 2006).

We can further divide direct export jobs into job numbers associated with manufacturing and services exports.¹¹

Table 2.4: *Direct Employment in Foreign-Affiliate Exports*

Thousands	2000	2007	2008	2009	% change, 2000-07	% change, 2007-09
Manufacturing	108.5	92.0	88.0	79.0	-15.2	-14.1
Services	42.0	43.5	45.0	42.5	3.6	-2.3
Total	150.5	135.5	133.0	121.5	-10.0	-10.3

Table 2.5: *Direct Employment in Indigenous Exports*

Thousands	2000	2007	2008	2009	% change, 2000-07	% change, 2007-09
Manufacturing	43.0	38.5	35.0	32.0	-10.5	-16.9
Services	12.0	15.0	15.0	15.5	25.0	3.3
Total	55.0	53.5	50.0	47.5	-2.7	-11.2

The expansion in the ratio of services to manufacturing employment seen in both of these tables can be expected to continue over the longer term, as is the normal pattern in economic development.

¹⁰ Note that the more commonly used Forfás data source – the *Annual Employment Survey* – provides data on employment in all agency-assisted firms, whether sales are made on the home market or abroad, and is therefore less useful for present purposes.

¹¹ Note: totals do not sum to those in the above table due to rounding errors. These Forfás data are not constructed with employment specifically in focus.

Though foreign-affiliate exports greatly exceed indigenous exports (Table **), the importance of the latter should not be underestimated. Firstly, they are more employment-intensive than foreign-affiliate sales; data from Forfás (2009) show that it took €876,000 of 2007 foreign-affiliate sales to support one job in the sector, while for indigenous firms the figure was €242,000. Secondly, indigenous exports are much less import-intensive than foreign-affiliate exports. When foreign MNC profits are taken into account, the balance of payments effects of each direct exporting job in indigenous and foreign industry are quite similar.¹²

Table 2.6: *Exports of Indigenous and Foreign-Affiliate Companies (€m)*

	2000	2007	2009
Indigenous	9136	12930	11514
<i>manufactures</i>	7588	9885	8245
<i>services</i>	1548	3045	3270
Foreign	73333	118512	114445
<i>manufactures</i>	47914	67684	62564
<i>services</i>	25419	50828	51882

Source: Forfás, 2009, ABSEI

The reversal in crowding out entailed by the collapse of construction, much slower (if not negative) growth in the public sector in the near future, and the improvement in cost competitiveness seen over the course of the downturn is likely to prove a greater stimulus to the indigenous sector, which is both more employment intensive and cost sensitive.

If the reversal in crowding out were to prove insufficient to reverse the downward trend in the direct employment effects of exports, how might export-led growth be expected to stimulate aggregate employment in the economy?

This depends on the indirect employment effects of exports. These arise through wage expenditures (which in turn depend on job quality), total taxes paid, linkages, productivity spillovers and other beneficial effects on the innovativeness of the enterprise environment. Since, as we have seen, the bulk of export jobs are in the foreign-affiliate sector, some perspective on these effects can be gleaned from a comparison of foreign and indigenous industry. Foreign affiliates dominate indigenous firms on most of these fronts (Barry, 2004). They pay higher wages and spend much more per job on training and on research and development.

Though indigenous firms purchase more materials in Ireland, foreign affiliates spend significantly more on Irish services (Table 2.7). These are particularly employment

¹² Foreign-affiliate net exports are calculated as exports less materials and services purchased from abroad (from Forfás, 2009, *Annual Business Survey Of Economic Impact*) less the sum of foreign-affiliate profits and royalties/licence fees paid (from CSO Balance of Payments Statistics). Indigenous net exports are calculated as exports less materials and services purchased from abroad. These calculations must be treated with extreme caution given the different data sources used and the assumptions that all royalties and licence fees are paid by foreign affiliates and that foreign profits are immediately repatriated. Nor are the differences in taxes paid by the sectors taken into account.

intensive, which explains O'Malley's (1995) finding of higher backward linkages – in terms of upstream employment creation – per manufacturing job for the foreign affiliate sector. Though the €9 billion of services purchase by foreign affiliates in Ireland in 2009 was down from a high of €11 billion in 2003, it is notable that the bulk of Irish services purchases are made by the growing services segment of the foreign-affiliate sector.¹³

Table 2.7 Materials and Services Purchases in Ireland (€k)

	Raw materials purchased in Ireland, 2009	Services purchased in Ireland, 2009
Indigenous	8,465	4,493
manufactures	7,954	3,666
services	511	827
Foreign	2,495	9,107
manufactures	1,882	2,733
services	612	6,373

Source: Forfás (2008) ABSEI

It is worth bearing in mind that though employment considerations have returned to the top of the policy agenda in recent times, “moving up the value chain” became the policy priority in the early years of the new millennium. This was heralded by the release in 1996 of the first-ever Irish Government White Paper on Science, Technology and Innovation and was underlined by a five-fold increase in investment in these areas under the 2000-06 National Development Plan, by the launch in 1998 of the Programme for Research in Third-Level Institutions, the establishment of Science Foundation Ireland (SFI) in 2000 and the introduction of a tax credit for incremental R&D in 2004.

Forfás (2010) provides data on the increase in business expenditures on R&D by key sector over this period.

Table 2.8 Business R&D Expenditures by Sector (€m)

		1999	2003	2007
Food and Beverages	Indigenous	26.8	25.5	50.7
	Foreign	17.3	15.9	37.5
Chemicals and Pharmaceuticals	Indigenous	8.9	17.1	31.6
	Foreign	97.7	191.3	286.2
Computers, Electrical & Electronic	Indigenous	35.4	28.7	46.8
	Foreign	249.5	158.2	303.4
Medical Devices & Other Instruments	Indigenous	13.7	12.0	24.7
	Foreign	24.9	101.9	127.2
Software & Other Computer Services	Indigenous	114.7	141.8	139.7
	Foreign	70.3	257.2	264.2

Source: Forfás (2010) Research & Development Activity of Irish Based Enterprise: Volume 2 – Data

¹³ Services purchased in Ireland by foreign affiliates in manufacturing and in services both peaked in 2003, while total services purchases in both segments continued to grow. The reduction in Irish services purchases may then be a consequence of the reduction in Irish competitiveness over this period.

These data show strong growth in R&D expenditure over the period 1999-2007, specifically in the modern high productivity and internationally trading sectors of the economy, while R&D intensity within sectors also improved (Forfás, 2010). Another dimension of the contribution of the foreign sector to productivity growth refers to spillovers. Though the international econometric evidence on productivity spillovers from foreign affiliates is mixed, the effects are generally found to be positive for Ireland (Görg and Greenaway, 2004). The case study evidence supports this. Giblin and Ryan (2011) find evidence of beneficial intra-industry spillovers from the presence of the leading foreign medical devices firms in the west of Ireland, while Barry (2011) argues that the variety of FDI firms and sectors in Ireland in the 1970s and 1980s created an environment conducive to the emergence of a successful indigenous IT software export cluster. This indigenous cluster furthermore represented the only significant source of export growth during the export downturn of 2009.

More generally however, the export sector has performed strongly in international comparative terms over the course of the entire global downturn, as seen in Table 2.9.

Table 2.9: *Export Volumes – 2010 outcomes compared to 2007*

	2010 outcome as % of 2007 outcome			Share of services in total exports
	Total	Goods	Services	2007
EU27	-2	-2	-1	23
EU15	-3	-3	-1	23
Germany	0	-1	10	14
Ireland	1	-1	3	31
France	-5	-4	-8	18
UK	-4	-1	-8	40

Source: Eurostat: Exports and imports by EU countries and third countries - volumes.

Irish *goods exports* in 2010 were marginally down on 2007 levels, as was the case also for Germany and the UK, while the other geographic entities fared worse. Ireland's performance was particularly resilient in terms of *services exports*. Though Germany recorded a stronger recovery than Ireland in this category, the higher share of services in Irish exports gave it the strongest overall performance of the economies shown.

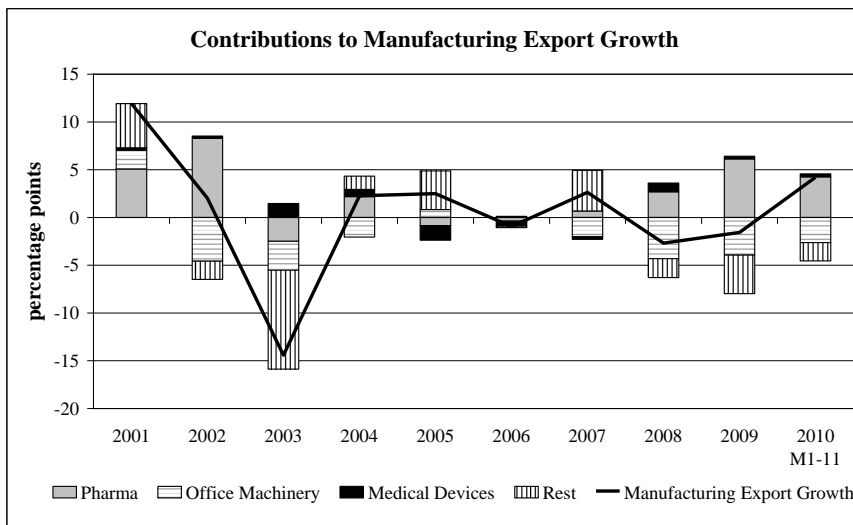
These outcomes are clearly related to differing sectoral export compositions across countries and geographic areas. Revealed comparative advantage (RCA) indicators for manufacturing based on export data over the period 2000-04 showed Ireland to have a strong RCA in pharmaceuticals and other chemicals, medical and surgical equipment, office and computing machinery, a number of food and drink sub-sectors, and in recorded media (Amador et al., 2007). Ireland is likely to have lost its RCA in office and computing equipment more recently, particularly with the closure of Dell's manufacturing facilities, though the sector had been migrating out of Ireland over the last decade (Barry and Van Egeraat, 2008). Siedschlag's (2008) recent estimates of RCA in services, based on data from 1998 to 2006, show Ireland developing a strong and increasing RCA in computer and information services (into which 'recorded media' has merged over time) and in insurance and financial services.

Pharmaceuticals and chemicals have increased as a share of EU15 manufactured exports over the downturn, as have medical devices, suggesting – unsurprisingly – that these sectors are less vulnerable to recession. Ireland's RCA in these sectors has been to its advantage.

Correspondingly, the fact that Ireland does not have an RCA in transport equipment will have helped to insulate the economy since this sector – globally and at the EU level – performed poorly over the recession. In terms of services, computer and information services increased as a share of EU15 services exports over the downturn, again suggesting that Ireland’s revealed comparative advantage in this sector has been a stabilising factor.¹⁴

Figures 2.1 and 2.2 chart the contributions of these and other sectors to Irish manufacturing and services export growth over the period 2001-2009. Pharmaceuticals and medical devices exports, as expected, helped to stabilise the economy, while office machinery imparted a destabilising effect.

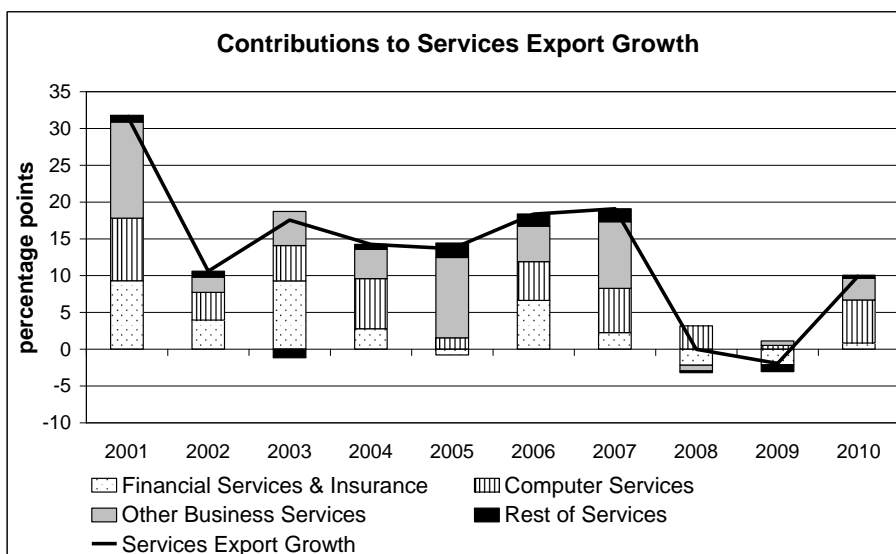
Figure 2.1: Sectoral Contributions to Irish Manufacturing Export Growth (€ millions)



Source: CSO External Trade Statistics.

Note: The graph shows the growth in manufacturing exports in the first 11 months of 2010 compared to the first 11 months of 2009.

Figure 2.2: Sectoral Contributions to Irish Services Export Growth



Source: CSO Balance of Payments.

¹⁴ See Barry and Bergin (2010) for data on the aggregate performance of specific sectors at the EU level.

Within services, computer and information services exports played a similar role to that seen above for pharmaceuticals and medical devices (Figure 2.2).

With the collapse in Irish domestic demand and ongoing fiscal consolidation, Irish exports are likely to remain the sole engine of growth for the foreseeable future. Since foreign affiliates account for some 90 percent of exports, export prospects are inextricably linked to the country's remaining attractive as an export platform for FDI.

3. Globalization and productivity

International trade and investment are key drivers of the globalisation process. Since firms and not industries and countries trade and invest internationally, understanding how firms characteristics impact on patterns and trends in international trade and investment and how firms perform and adjust in response to changes in international trade and investment patterns is highly relevant and important.

The patterns of aggregate exports, imports and foreign direct investment (FDI) are explained by changes in two dimensions: changes in the intensity of international activities measured as exports, imports and FDI per firm (intensive margin) and changes in the number of firms involved in international activities (extensive margin). Mayer and Ottaviano (2008) find that changes in aggregate trade and FDI flows take place mostly through the extensive margin. This finding suggests that successful internationalisation of firms implies an increase in the number of firms with international activities more than an increase in the intensity of international activities of firms already internationally active.

The internationalisation of firms can have two types of effects on aggregate productivity: (i) direct effects due to the allocation of resources in more productive firms; (ii) indirect effects via international spillovers. International spillovers can take place through a number of channels: *embodied technology* can be transmitted through international trade with goods and services; capital flows; and mobility of scientists; *disembodied technology* is diffused via international trade of technology. However, international technology diffusion is neither inevitable nor automatic. Empirical evidence suggests that international technology spillovers are conditioned by domestic R&D expenditure, human capital and the quality of institutions. Thus, domestic R&D expenditure has the potential to generate total factor productivity growth from both innovation and technology transfer. This effect is different for laggard countries and technology leaders.

This section provides a synthesis of the international and Irish empirical evidence on direct and indirect effects of the internationalisation of production and services on productivity and highlights the policy implications of this evidence. The evidence discussed in this section suggests that policies enabling firms to grow, innovate and increase their productivity are likely to be more important than fostering exports and FDI *per se*.

3.1 Direct effects of the internationalisation of production and services on productivity

Existing empirical evidence indicates that firms with international linkages (exporters, importers and multinational firms) differ systematically from firms that serve only the national market¹⁵. They are larger, generate higher value added, employ more capital per worker, have higher skilled workers and higher productivity.

A large empirical literature has established that exporters are more productive than non-exporters and they often have higher productivity growth¹⁶. This productivity advantage of exporters could be explained by two hypotheses (Bernard and Jensen, 1999; Bernard and

¹⁵ Recent micro-econometric evidence has been surveyed by Helpman (2006), Greenway and Kneller (2007) and Wagner (2007)

¹⁶ Wagner (2007) and Martins and Yang (2009) surveyed recent empirical studies

Wagner, 1997: (i) more productive firms self-select into export markets; (ii) learning-by-exporting.

Self-selection of more productive forms into export markets can be explained by the presence of fixed and variable costs of exporting (Melitz, 2003): only firms with a productivity level above a critical threshold find it profitable to export. Exporting could make firms more productive through two channels: (i) export starters could improve their post-entry performance due to knowledge flows from international buyers; (ii) international competition may put pressure on exporters to improve their productivity faster than firms selling only on domestic markets.

Wagner (2007) surveyed 54 empirical studies covering 34 countries published between 1995 and 2006. He concludes that the evidence confirms the self-selection of more productive firms into export markets while the evidence on learning-by-exporting is not conclusive. ISGEP (2008) examined the relationship between exports and productivity using comparable micro-data from 14 countries (11 EU countries, Chile, Colombia and China) and estimated identically specified empirical models. The evidence supports the hypothesis of self-selection of more productive firms into export markets while there is nearly no evidence for the learning-by-exporting hypothesis. Export premia tend to increase with export intensity (the share of exports in total sales). Larger firms are more likely to export and they have a higher export intensity. Furthermore, export premia differ across countries: they are larger in countries with lower export participation rates, with more restrictive trade policies, lower per capita GDP, less effective government and worse regulatory quality and in countries exporting to relatively more distant markets. These results are consistent with theoretical predictions (Melitz, 2003; Helpman, 2006). Martins and Yang (2009) conducted a meta-analysis of 33 studies on the relationship between exporting and productivity and found that the impact of exporting on productivity was higher in developing countries in comparison to developed countries. Further, they found that the export premium was higher in the first year of exporting.

A growing empirical literature has focused on the links between importing and productivity and found that importers are more productive than firms that do not trade internationally¹⁷. Firms that export and import are more productive than firms that import only and firms that export only, or do not trade internationally. Importers are the next most productive group followed by exporters. Firms serving only the domestic markets come last. The theoretical explanations for the productivity advantage of importers are similar as in the case of exporters: self-selection of more productive firms into imports and learning-by-import effects (Kashara and Lapham, 2008; Andersson et al, 2008; Castellani et al., 2010). Evidence on a positive relationship between importing and productivity is available for both developed, transition and developing countries: Belgium (Muûls and Pisu, 2009); the US (Bernard et al. 2007); Sweden (Andersson et. al 2008); Germany (Vogel and Wagner, 2010); Hungary (Halpern et al. 2005; Altomonte and Bekes 2008); Poland (Hagemejer and Kolasa 2008); Chile (Kashara and Rodrigue, 2005; Kashara and Lapham 2008); India (Tucci 2005); Indonesia (Sjöholm 1999a).

¹⁷ Vogel and Wagner (2010) review this new and growing empirical literature

Evidence for Ireland

Ruane and Sutherland (2005) found that exporters in Irish manufacturing over the period 1991-1998 were more productive than non-exporters. Furthermore, their analysis suggests that export premia were higher for firms that export to countries other than the nearby United Kingdom. ISGEP (2008) analysed the relationship between exporting and productivity in Ireland using micro data for the period between 1991 and 2004. They found high export participation rates and export intensity as expected for a small and open economy: in 2004, 70 per cent of firms with at least 20 employees were exporters (the highest export participation rate was found in Sweden, 83 per cent) and the average share of exports in total sales for exporting firms was 53 per cent (China had the highest export intensity, 60 per cent). Exports were highly concentrated: the top 1 % of exporters accounted for 78 per cent of export sales, while the top 10 per cent of exporters accounted for 98 per cent of exports (the same high concentration was found in France). Over the analysed period, on average, after accounting for unobserved firm heterogeneity, exporters in Ireland were more productive than non-exporters by 7.3 per cent. To put this result into perspective, the export premia for other small open economies were 9.8 per cent in Belgium; 5.3 per cent in Austria; 6.6 per cent in Denmark; 5.0 per cent in Slovenia.

McCann (2009) find that two-way traders and exporters are more productive than importers-only and non-traders. Importing has a minor effect on productivity. McCann (2011) finds that firms that outsource internationally increase the productivity of domestic non-exporters, while the productivity increases for exporters and foreign affiliates are comparatively lower, insignificant and sometimes negative. A higher intensity of international outsourcing is more important for larger, internationalised firms.

While the productivity advantage of firms with international activities is a well established empirical fact, little is known about the sources of this productivity differential. Siedschlag et al (2010) contribute to filling this gap by linking the productivity of firms with international linkages to their innovation performance. More specifically, they analyse the effects of the internationalisation of firms via foreign direct investment and exporting on the innovation and productivity performance of firms in Ireland. Using data over 2004-2008 they estimate an augmented structural model and find that in comparison to firms that serve only the domestic market, foreign-owned firms and domestic exporters were more likely to invest in innovation and they had a better innovation and productivity performance. The empirical results suggest both similarities and differences for firms in manufacturing and services. In comparison to firms that served only the Irish market, domestic exporters in manufacturing as well as in services were more likely to invest in innovation and they were more productive. While in comparison with domestic non-exporters, foreign-owned firms in manufacturing were more likely to invest in innovation, there was no significant link between foreign ownership and innovation investment in services.

3.2 International technology spillovers

The importance of international technology spillovers is well established in modern (endogenous) growth theory and documented by empirical evidence. Keller (2004) provides a review of theory and empirical findings on international technology diffusion.

As pointed out by Keller (2004), the point of departure of the theories of endogenous growth (Aghion and Howitt, 1992; Grossman and Helpman 1991; Romer 1990) are two related

characteristics of knowledge/technology: (i) knowledge/ technology is non-rival (the marginal cost for an additional technology user is negligible); (ii) knowledge is partially non-excludable due to imperfect intellectual property protection which implies that the return to investments in technology is partly private and partly public (social).

Existing empirical evidence at firm and industry levels suggests that social rates of return to R&D/technology investment are higher than the private rates of return (Griliches, 1992). Jones and Williams (1998) relate the theoretical models of new growth theory to empirical results of the productivity literature and show that these results can be taken as lower bounds for the social rate of return to R&D.

Given that new technologies are created in a small number of industrialised countries, in many countries foreign sources of technology account to a large extent for technology adoption (Keller, 2004). It has been argued that the bigger the technology gap the larger the potential to benefit from international technology spillovers (Gerschenkron, 1962). However, international technology spillovers are neither inevitable nor automatic (Keller, 2004). While firms, industries and countries below the frontier are more likely to benefit from international technology diffusion they need to have the capability to internalise the external knowledge available in the frontier technology.

It has been shown that international technology spillovers are conditioned and enhanced by prior R&D investment (Cohen and Levinthal, 1989; Geroski et al., 1993; Mancusi, 2008). Existing empirical evidence indicates that domestic expenditure on R&D and innovation improves the capacity to absorb foreign country technology (Fagerberg, 1994; Verspagen, 1991; Griffith et al 2004; Cameron et al 2005; Kneller, 2005).

There is also evidence showing that technology spillovers are limited in space suggesting a distance effect (Jaffe, 1986, 1989, Audretsch and Feldman, 1996). A number of contributions have suggested that technology externalities are mainly intra-national (Jaffe et al. 1993; Branstetter, 2001; Maurseth and Verspagen, 2002; Peri, 2005).

Channels of international technology spillovers

International technology spillovers can take place through a number of channels: international trade, foreign direct investment, and mobility of scientists. Earlier empirical studies have focused on international trade as a significant source of technology diffusion. Coe and Helpman (1995) find evidence of trade related international knowledge spillovers on growth rates of total factor productivity (TFP) in 22 OECD countries over the period 1971-1990. They built on Grossman and Helpman (1990) who argued that the stock of knowledge is the result of both domestic and foreign R&D spending and constructed for each country “knowledge stocks” with spillovers measured as stocks weighted by trade flows. In particular Coe and Helpman (1995) focus on imports of manufactured goods as the channel of knowledge spillovers. Additional evidence on international knowledge spillovers through imports include Coe, Helpman and Hoffmaister (1997, 2009), Keller (1998), and Madsen (2007).

Another strand of literature suggests “learning-by-exporting” as a possible channel for knowledge spillovers through contact with more advanced foreign competitors in international export markets. However, empirical evidence on this channel is inconclusive (Bernard and Jensen, 1999; Clerides et al., 1998).

Foreign direct investment (FDI) is often associated with a technology advantage of the foreign investor which helps to overcome the lack of knowledge of local markets. Evidence about knowledge spillovers from foreign direct investment is provided by Aitken and Harrison (1999), Keller and Yeaple (2003), Javorcik (2004), Brandstetter (2006), and Haskel et al. (2007).

In contrast to previous studies which have focused on a particular channel of international knowledge spillovers, Lee (2006) examines the relative effectiveness of several channels including inward and outward FDI, imports of intermediate goods, and a disembodied direct channel measured by technological proximity and patent citations between countries. By using data from OECD countries over the period 1981-2000 he finds that, while international knowledge spillovers through inward FDI and the disembodied direct channel were significant and robust, outward FDI and imports of intermediate goods do not appear effective as channels for in the international transmission of knowledge.

Framework conditions and international technology spillovers

Griffith et al (2004) provide empirical evidence that the size of international technology spillovers depends on domestic R&D expenditure. They suggest that in non-frontier countries (US is taken as the technology leader), domestic R&D expenditure has the potential to generate TFP growth from both innovation and technology transfer. Their conclusion is supported by Eaton et al (1998) who found that with the exception of Portugal, social rates of return to R&D were higher in OECD countries than in the US.

Mancusi (2008) analyses the role of international technology spillovers and domestic absorptive capacity on innovation in a large group of OECD countries using data on patents over the period 1978-2003. She finds that international technology spillovers (international patent citations) from technology leaders (US, Japan, Germany) had a positive effect on innovation (patent applications at the European Patent Office) in countries below the technology frontier. Further, while prior R&D experience (self-citations to previous patents) increased the elasticity of innovation capacity to international technology spillovers in laggard countries, its marginal effect was negligible in countries at the technological frontier. Finally, the analysis decomposes international spillovers in their intra-industry and inter-industry components and finds that only intra-industry international technology spillover had a strong positive effect on the innovation output.

Parente and Prescott (1994, 1999) focus on institutions as a determinant of domestic absorptive capacity and barriers to foreign technology adoption such as monopoly rights. Crespo-Cuaresma et al. (2008) show that countries with lower levels of product market regulation, employment protection and lower barriers to entrepreneurship benefit most from foreign R&D. Further, the relationship between international knowledge spillovers and wage bargaining is found to be non-monotonic, with positive effects in the case of low and high coordination and insignificant effects for intermediate levels. Their results suggest that absorptive capacity increases with competitive products and labour markets.

Additional empirical evidence on the role of institutions on the impact of R&D spillovers on TFP is provided by Coe et al. (2009). They show that benefits from own R&D, from international R&D spillovers and from human capital formation are relatively high in countries where the ease of doing business and the quality of tertiary education systems are relatively high. Further, strong patent protection is associated with higher levels of TFP,

higher returns to domestic R&D and larger international R&D spillovers. Finally, countries whose legal origins are based on English or German law tend to benefit more from their own as well as from foreign R&D capital than countries whose legal origins are based on French and to a lesser extent on Scandinavian law.

Productivity spillovers from FDI

Productivity spillovers from FDI are expected due to beneficial externalities associated with advanced (new) technology brought in by foreign investors. It is assumed that in order to enter a foreign country successfully, multinational companies (MNCs) must possess an advantage over firms in the host countries (Dunning, 1979). This advantage is often assumed to be a technological advantage. Firm-specific technology is an important determinant of international production (Caves, 1974).

Productivity spillovers from MNCs to domestic firms can take place through three channels (Harris and Robinson, 2004): intra-industry (horizontal) spillovers through demonstration effects (Girma et al. 2001), competition effects (Aitken and Harrison, 1999), labour market effects (Driffield and Taylor, 2000); inter-industry (vertical) spillovers through forward and backward linkages (Markusen and Venables, 1999; Javorcik, 2004; Javorcik and Spatareanu, 2010); agglomeration (Audretsch and Feldman, 1996; Driffield, 1999).

There is a large literature on productivity spillovers from MNCs to domestic firms developed over the past two decades. The standard econometric approach is to regress labour productivity or total factor productivity on a number of factors assumed to influence productivity one of which is the presence of foreign firms. Empirical evidence on the presence of productivity spillovers from MNCs to domestic firms is mixed with positive, negative and neutral effects identified by different studies¹⁸ These different effects have been linked to different firm, industry and country characteristics (Blomström and Kokko, 1998; Lipsey and Sjöholm, 2005) or different estimation methodologies used (Görg and Strobl, 2001).

Effective productivity spillovers are conditioned by the characteristics of foreign and domestic firms.

Most empirical studies on productivity spillovers from FDI to domestic firms have treated inward investors as a homogeneous group and FDI as an exogenous event (Driffield and Taylor, 2005). This might be one reason as to why empirical evidence on productivity spillovers from FDI is contradictory. Girma et al. (2008) account for the heterogeneity of foreign investors by distinguishing export-oriented multinationals and domestic-oriented multinationals. They find that while export-oriented multinationals generate horizontal spillovers, domestic-oriented multinationals generate positive spillovers through buyer-supplier linkages for both domestic exporters and non-exporters.

Productivity spillovers from foreign multinationals also vary depending on the country of origin of investors. Driffield and Taylor (2005) find that North American establishments have a higher probability of being more technologically intensive than their UK counterparts. Bloom et al. (2007) show that US multinationals in the UK have a higher productivity than

¹⁸ Reviews of these studies are Blomström and Kokko (1998), Görg and Strobl (2001), Görg and Greenaway (2004)

non-US multinationals primarily due to the higher productivity of their information and communication technologies (ICT). Furthermore establishments taken over by US multinationals improve the productivity of their ICT while identical establishments taken over by non-US multinationals do not. Javorcik and Spatareanu (2010) find evidence of a positive link between the presence of North American (US and Canada) owned firms in the downstream industries and the productivity of Romanian firms in supplying industries and no significant association in the case of European affiliates. They explain this pattern of vertical spillovers by two effects: (i) the effect of distance on sourcing intermediates from the domestic market (American investors are more likely to source intermediates from the domestic market in comparison to European multinationals) and (ii) the effect of preferential trade agreements make the American multinationals more likely to source from the domestic market.

Domestic firms do not benefit equally from spillovers. Theoretical models suggest that the potential for productivity spillovers is positively related to the technology gap between domestic and foreign-owned firms (Findlay, 1978; Wang and Blomström, 1992). However, existing empirical evidence for this hypothesis is inconclusive (Kokko, 1994; Kokko et al, 1996; Sjöholm, 1999b). The reason for this may be the assumption that technology can be easily observed and imitated which may not be the case if foreign investors took measures to prevent knowledge diffusion (Meyer and Sinani, 2009). Furthermore, to benefit from technology spillovers domestic firms need to have the capacity to internalise external knowledge (Keller, 1996; Kokko et al, 1996; Girma, 2005). This absorptive capacity is closely related to firms' human capital and organisational structures that enable innovation and enhance the benefits from knowledge spillovers (Keller, 1996; Meyer and Sinani, 2009). Girma et al. (2008) show that productivity spillovers from foreign multinationals are different for domestic exporters and domestic non-exporters. They find negative horizontal spillovers from domestic-oriented multinationals on domestic firms in the high-tech sector in the UK, the effects being larger for non-exporters.

The ability of domestic firms to benefit from productivity spillovers from foreign-owned firms is also conditioned by country specific characteristics such as stage of development and institutional framework. Meyer and Sinani (2009) conduct a meta-analysis of 66 empirical studies to analyse the effects of host country characteristics in addition to study characteristics on the productivity spillovers from foreign direct investment. They find a U-shaped relationship between productivity spillovers and the level of development measured in terms of per capita income, institutional development and human capital. Trade openness had a positive effect on productivity spillovers. These results suggest that economic policies aiming to attract foreign direct investment and knowledge spillovers are more likely to succeed in countries with low and high levels of development whereas the potential for spillovers is lower at intermediate levels of development.

Evidence for Ireland

Multinational companies account for a large share of economic activity in Ireland. According to OECD (2010) in 2007 they represented in manufacturing 46.2 per cent of employment, 78.7 per cent of turnover and 78.8 per cent of value added. Their presence in services¹⁹ is smaller, with 26.7 per cent of employment, 46.2 per cent of turnover and 42.0 per cent of value added in 2006. In comparison to domestic firms, value added per employee in

¹⁹ Financial intermediation services are not included

multinational companies is much higher: in 2007 in manufacturing it was 287,000 US dollars compared with 66,000 US dollars for domestic firms; in services in 2006 it was 118,500 US dollars, compared with 75,000 US dollars in domestic firms.

In the case of Ireland, Görg and Strobl (2003) find that the presence of MNCs has a positive effect on the survival of domestic firms in the high-tech industries but not those in the low-tech industries. Barrios et al. (2004) find positive spillovers conditional on the absorptive capacity of domestic firms and the criteria used to classify firms as foreign affiliates. Ruane and Ugur (2005) argue that net positive spillovers are expected given the active policy to encourage linkages between MNCs and domestic firms and shared language and culture with the US - the major home country for foreign investment in Ireland. They use plant-level data over the period 1991-1998 and find weak evidence of productivity spillovers from FDI through forward and backward linkages in the Irish manufacturing industry. While they find no evidence of spillovers when measuring foreign presence as the share of MNEs employment in total employment, they find evidence of productivity spillovers when they measure foreign presence as the level of employment in foreign companies in the relevant sector. Barrios et al. (2010) find evidence for positive spillovers from backward linkages for Ireland when using measures for backward linkages to account for the fact that (i) multinationals do not use domestically produced inputs in the same proportion as imported inputs, (ii) multinationals do not have the same input sourcing behaviour as domestic firms, irrespective of their country of origin, and (iii) the demand for locally produced inputs by multinationals is not proportional to their share of locally produced output.

Haller (2011) examines horizontal productivity spillovers from foreign-owned firms in non-financial market services in Ireland over the period 2001-2007. She accounts for the fact that productivity spillovers are conditioned by the absorptive capacity of domestic firms which depends on the distance to the technological frontier and exposure to foreign markets through exports and imports and the ability of foreign-owned firms to generate spillovers which varies with the home country of foreign investors. She finds weak evidence of positive spillovers to domestic non-importers within the transport, storage and communication sector, while in the other two service sectors analysed namely, wholesale and retail trade and business services, the presence of foreign affiliates is linked to lower capital-labour ratios. Further, foreign competition via imports is associated with higher productivity of domestic firms in transport, storage and communications and business services.

4. The Irish labour market and globalisation

The Irish labour market has undergone significant change over the past quarter of a century and forms an integral part of the story on globalisation and the Irish economy. Developments in the labour market during this time played a pivotal role in supporting Irish economic growth. Significant enhancements in human capital accumulation by the indigenous workforce, increased female participation and relatively benign wage developments were important contributory factors in the genesis of the Celtic Tiger. Developments in the Irish labour market were also strongly influenced by significant migratory inflows into the country, which in turn impacted labour market flexibility, dampened wage pressures, increased potential output in the economy and provided labour input during the construction boom. Initially, these inflows, to a large extent, comprised previous Irish emigrants. As the economic boom in Ireland continued, however, inflows became increasingly dominated by non-Irish migrants. Post-2003, the majority were drawn from EU accession states. In more recent years as the economic situation in Ireland has deteriorated, net outward migration has resumed. This chapter charts these developments in more detail.

4.1 Supporting growth: human capital

There has been a significant increase in the level of human capital of the Irish population over the past quarter of a century, as shown in Figure 4.1. This increase was driven to a large extent by rising levels of educational attainment which were promoted by the removal of education related fees in Ireland and increased participation in the education system.²⁰ Moreover, the deep and prolonged recession of the 1980s also ensured that the opportunity cost of staying on in education was relatively low. This investment in Irish human capital took place at a later stage than in most other northern European countries, as shown in Figure 4.2, where the ratio of the human capital index of the population aged 25-29 years to that of the population aged 55-59 years is plotted for a selection of European countries. A ratio close to unity implies that there has been little additional human capital enhancements over the past 30 years (as in Germany, for example), while a value in excess of unity indicates increasing human capital levels (as in Ireland). As such, Irish growth was buoyed by an expanding human capital base at a time when many other northern European countries had already exhausted the related benefits. There are a number of channels through which this increase in human capital supported growth in Ireland. Here we will mention three such channels: the productivity channel, the employment channel and the labour force participation channel.

Productivity: Human capital is widely regarded as an important factor in driving productivity growth (see Lucas, 1988, for example). Higher levels of education and training promote innovation and a better use of a firm's capital. Furthermore, enhanced training and education can 'spillover' to other members of the workforce, creating further opportunities for improvements in productivity. Bergin and Kearney (2007) find that the increase in human capital in Ireland was a vital factor in the expansion in output and productivity that occurred in the 1990s. They estimate that the level of GNP per capita would have been 20 percentage points lower than it actually was in the 1990s if the investment in human capital over the previous 20 years had not taken place.

²⁰ Free second level education was introduced in 1967 while fees for undergraduate third level courses were abolished in 1996.

Employment Opportunities: The enhancements that took place in terms of human capital accumulation over the past quarter of a century improved the flexibility of the labour force (so that workers were more mobile in the advent of labour market shocks) and had a positive impact on the group’s employment prospects (Bergin and Kearney, 2007). Furthermore, the increased levels of educational attainment were a pull factor for foreign direct investment which brought with it new job opportunities, many of which were high skilled. As high skilled employment increased, so too did the demand for services provided by those with lower levels of skills.

Figure 4.1: *Human Capital Developments, 1970 – 2010*

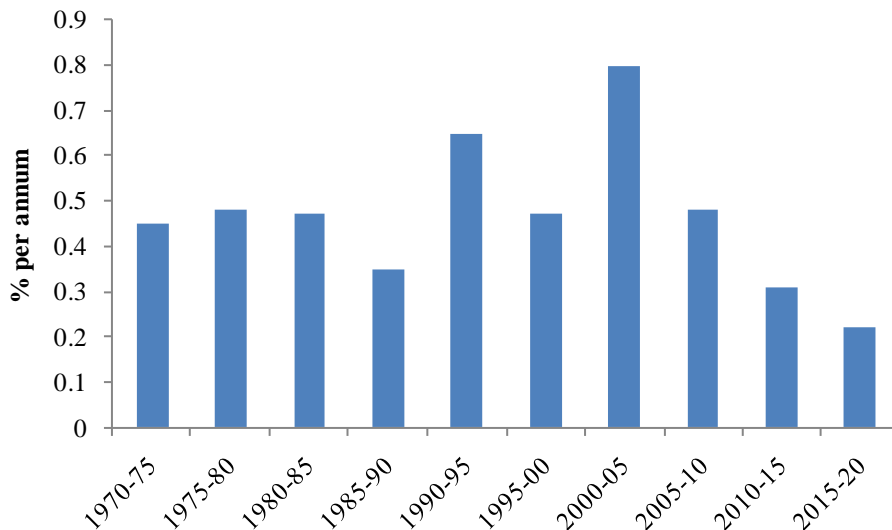
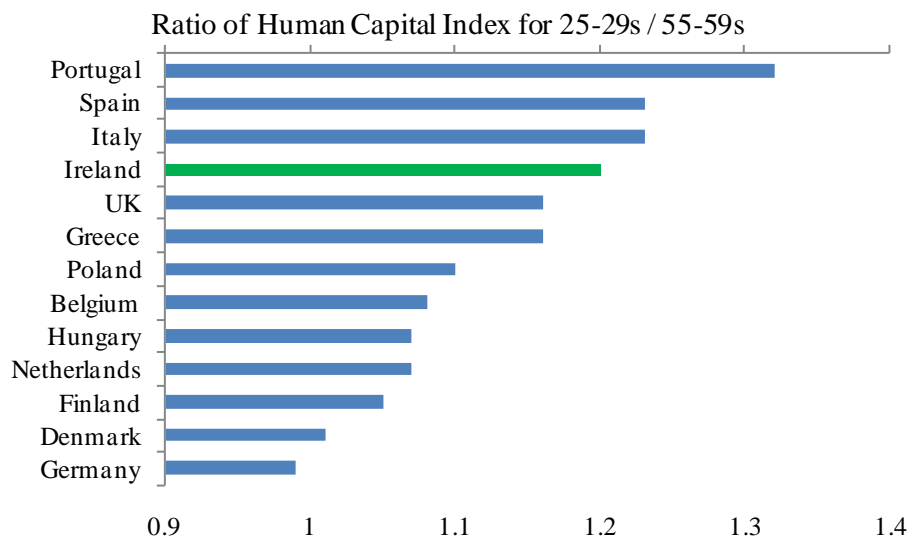


Figure 4.2: *Investment in Human Capital, 2002*



Labour Force Participation: It is widely accepted that education is a key factor in the labour force participation decision. Since higher education boosts the wage an individual can command in the labour market, it increases the opportunity cost of nonparticipation and thus has a positive impact on labour force participation (Mincer 1974, Dankmeyer, 1996). The effect is generally found to be stronger for females (Chiswick and Miller, 1994). In the Irish case, increased labour force participation, especially by females, acted as a strong impetus to labour force growth (Fahey and Fitz Gerald, 1997), as shown in Table 4.1. Between 1995 and

2000, rising female labour force participation rates accounted for almost half of the total increase in the labour supply. Enhancements in human capital are expected to continue to contribute to labour force growth in coming years, though to a lesser extent than in the past (Fitz Gerald et al, 2008).

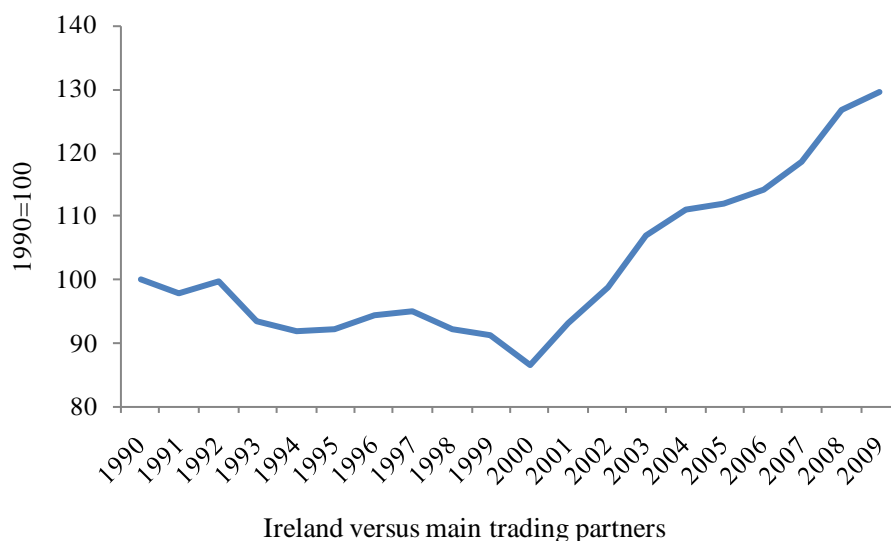
Table 4.1: *Components of Labour Supply Growth, 1990-2010*

	From	1990	1995	2000	2005
	To	1995	2000	2005	2010
<i>Labour Supply, Total</i>		1.8	3.4	3.0	1.7
Female Labour Force Participation		0.6	1.2	0.3	-0.2
Male Labour Force Participation		-0.6	0.0	-0.2	-0.2
Education		0.4	0.2	0.4	0.3
Migration		0.0	0.8	1.3	0.2
Natural Increase		1.4	1.2	1.3	1.6

4.2 Wage developments

Wage developments have important implications for international competitiveness, and thus also impact the ability of the Irish economy to benefit from global economic growth. From the mid-1980s until about 2000, wage developments in Ireland were favourable relative to many of Ireland's trading partners, so that the Irish competitiveness position was enhanced (Figure 4.3). Social partnership, immigration, the high initial level of unemployment and favourable exchange rate developments were important contributory factors to relative wage moderation during the period (Honohan and Walsh, 2002).

Figure 4.3: *Relative Hourly Earnings (Manufacturing)*



Post 2000, however, there was a sharp deterioration in wage competitiveness in Ireland. During the period, unemployment hit historically low levels while employment grew rapidly (Figure 4.4), and despite the surge in inward migration, labour demand outstripped supply, resulting in an increase in the equilibrium wage. The competitiveness position deteriorated further from 2004, when productivity growth in Ireland fell below the euro area average while Irish wage growth continued to outpace the euro area average (Table 2). This coincided with a period of rapid expansion of employment in the construction sector, which raised the sector's share of total employment to 13 per cent, well above both long-term and international norms (Figure 4.5).

Figure 4.4: *Employment Growth and Unemployment Rate*

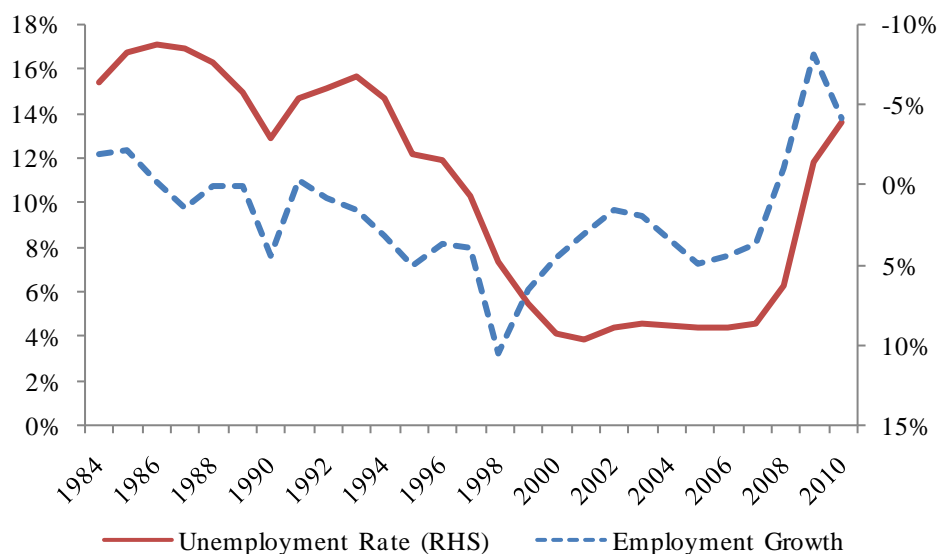
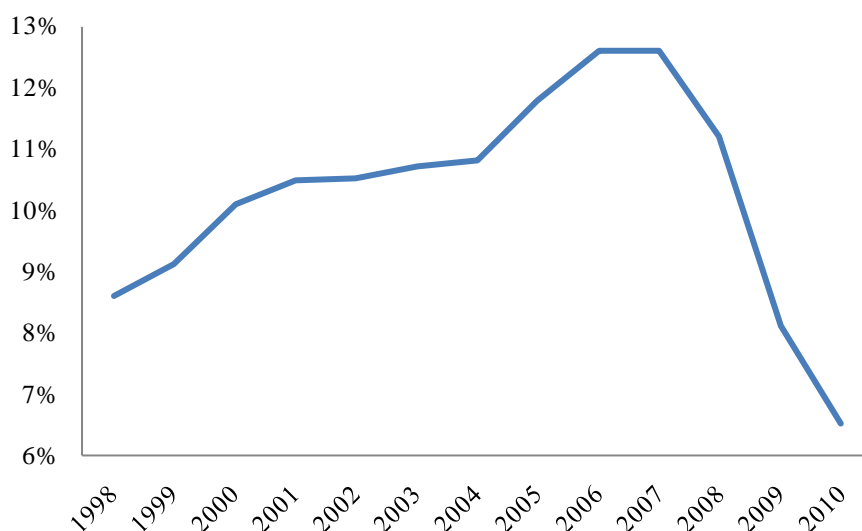


Table 4.2: *Compensation per Employee Increases and Value Added per Worker Growth: Differentials between Ireland and the Euro Area (Total Economy)*

Increases in:	1999-2003	2004-2008
Compensation per employee	3.8	2.5
Labour productivity	3.1	-0.1

Source: O'Brien (2010)

Figure 4.5: *Construction Sector Employment Share*



Since the onset of the current downturn, wage flexibility has played a role in facilitating the labour market adjustment as whole economy wages have fallen in both 2009 and 2010. The fact that this adjustment is on-going coupled with the volatile nature of the data precludes a

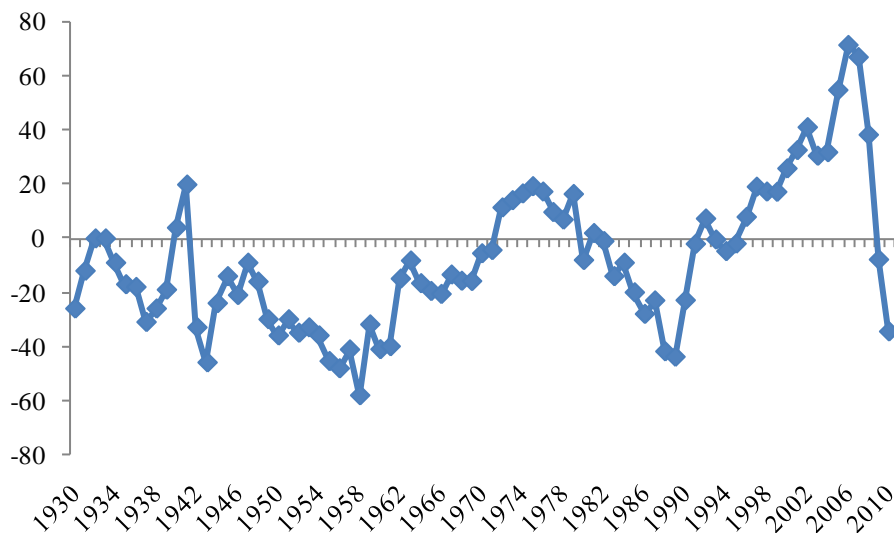
more detailed analysis of wage responsiveness at this stage. Nevertheless, the adjustments that are taking place should serve to restore some of the competitiveness losses of the previous decade.

4.3 Migration and the supply of labour

Labour mobility has been a key driver of recent developments in the Irish labour market. The most obvious manifestation of this has been in migratory flows which have altered the supply of labour in Ireland, acting as a catalyst for potential growth and enhancing the ability of the labour market to deal with shocks.

Ireland has a long and checkered history in terms of migration, as shown in Figure 4.6 where net migration flows since the 1930s are depicted. For much of the period up to the 1990s when Irish economic prospects were poor, net emigration prevailed, as the number of people leaving the country each year outweighed the numbers entering. Until that time, most of the labour movements involved Irish people emigrating to the UK, though the USA was also an important destination (Barrett, 1999). Migration flows were found to be strongly influenced by the relative unemployment and wage rates between Ireland and the UK, (Fitz Gerald et al, 2008; Honohan and Walsh, 2002). However, the migratory landscape changed dramatically in the mid-1990s when net migration turned positive, remaining that way until 2009. The change in flows coincided with a dramatic turnaround in Irish economic fortunes as unemployment fell to historical lows and the economy expanded rapidly.

Figure 4.6: Net Migration, 1930-2010 (000s)



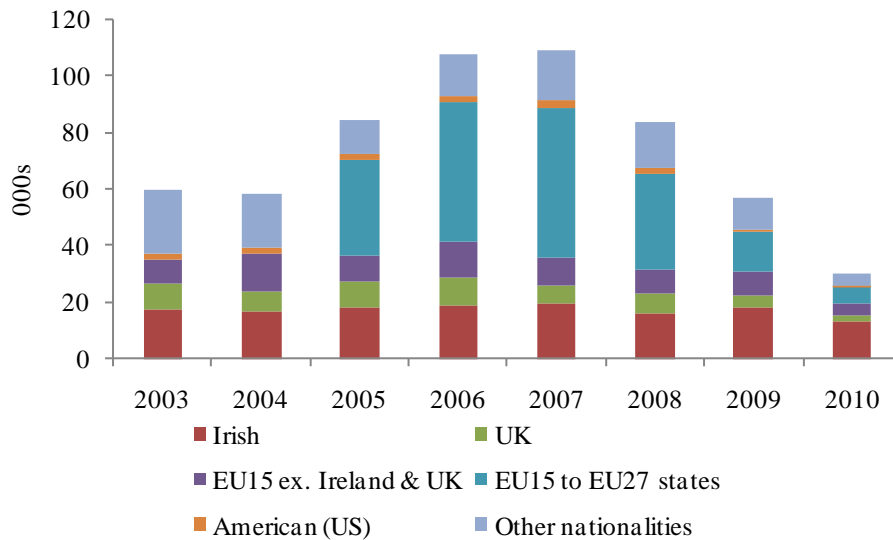
At first, the inflows comprised a sizeable number of returning Irish who had previously left the country during more difficult economic times. Barrett et al (2002) show that many of these benefitted when they subsequently gained employment in Ireland, as they earned a wage premium relative to their counterparts who had not worked abroad. However, the nature and speed of the inflows changed in subsequent years, particularly following EU enlargement which took place in 2004.²¹ Figure 4.7 shows the nationality breakdown of immigrants to Ireland since 2003. The number of immigrants almost doubled between 2004 and 2007 when

²¹ The Irish Government (along with Sweden and the UK) granted full access to its labour market to all citizens of the ten new Member States of the European Union in May 2004.

immigration reached a peak of 110,000. Much of the increase was accounted for by immigrants from the ten new EU Member States.

The sizeable migratory flows over the past quarter of a century had important implications for the Irish labour market. The outflows in the 1980s occurred at a time when employment prospects were poor and unemployment reached highs of 17 per cent. Without these outflows, the rate of unemployment would probably have been higher.

Figure 4.7: *Immigration by Nationality (000s)*



Turning to the period of sizable inward migration, and in particular to the years post EU enlargement, the inflows would only impact the labour market if the newly arrived were willing and able to participate in the labour force. Figure 4.8 reveals that this was indeed the case. The stock of non-Irish nationals had a higher labour force participation rate than Irish nationals, and this divergence was greatest among the recently arrived from the new Member States. Consequently, migration acted as a significant catalyst for labour force growth in recent years (see Table 4.1). This increase coincided with an expansion in the share of employment accounted for by immigrants, at a time when the unemployment rate fell to historical lows.²²

Figure 4.8: *Labour Force Participation Rates – Irish and Non-Irish*

²² The immigrant share of total employment increased from just over 1 per cent in 1999 to 10 per cent in 2007 (Barrett and Kelly, 2010). Over the same period, the unemployment rate fell from 6 per cent to 4.5 per cent.

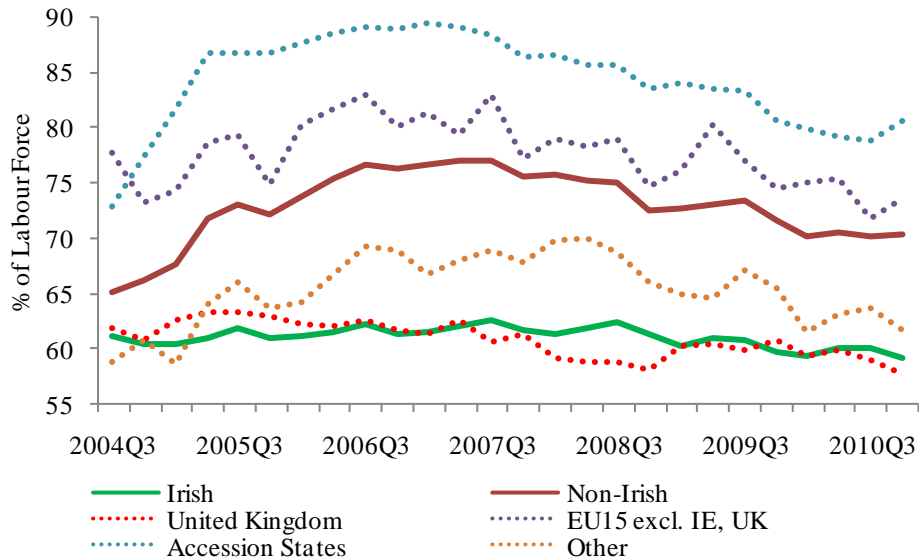
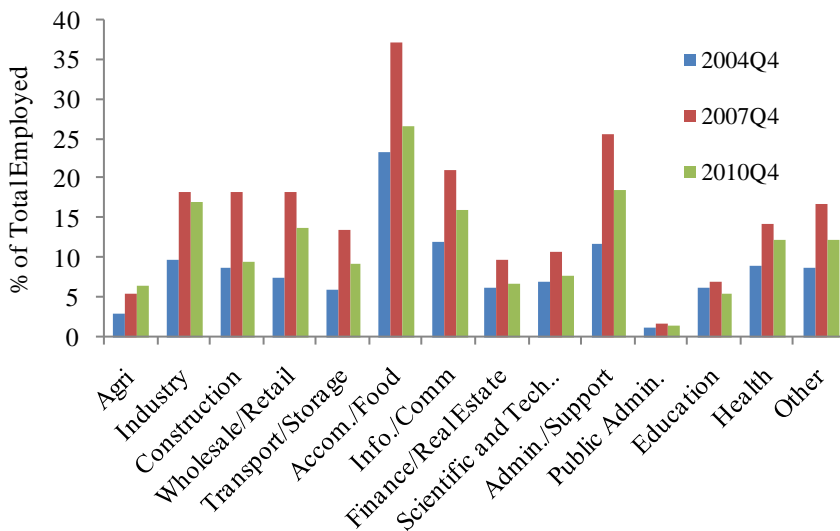


Figure 4.9 presents an overview of the sectors in which the non-Irish gained employment. Between 2004 and 2007, immigrants increased their share of total employment in all sectors of the economy. In 2007 the three sectors where they held the largest shares of total employment were ‘Accommodation and Food Services’, ‘Administration and Support Services’ and ‘Information and Communications’. Immigrants accounted for 18 per cent of employment in ‘Construction’ which was the largest sectoral employer in Ireland at the time.

Figure 4.9: *Non-Irish Share of Total Employment by Sector*



While the labour force expanded as a result of net inward migration throughout the latter half of the 1990s and for most of the 2000s, the overall impact on labour market conditions depends on the composition of the immigrants. Barrett et al (2006) show that immigrants in Ireland have higher levels of education than the Irish population. Using data from the Quarterly National Household Survey in the second quarter of 2003, they find that roughly 50 per cent of non-nationals had third level qualifications as compared to just over a quarter of the national population. (is this true once accession states came in do we have any number on how many went into the construction and service industries such as retail and hotel and

catering) These findings were in line with previous work by Barrett and Trace (1998) which looked at educational attainment of immigrants in the mid-1990s. Furthermore, aggregate measures of human capital show a marked increase over the period when net inward migration was growing rapidly – see Table 4.1. On this basis, immigration in recent years has acted as a positive force for human capital growth.

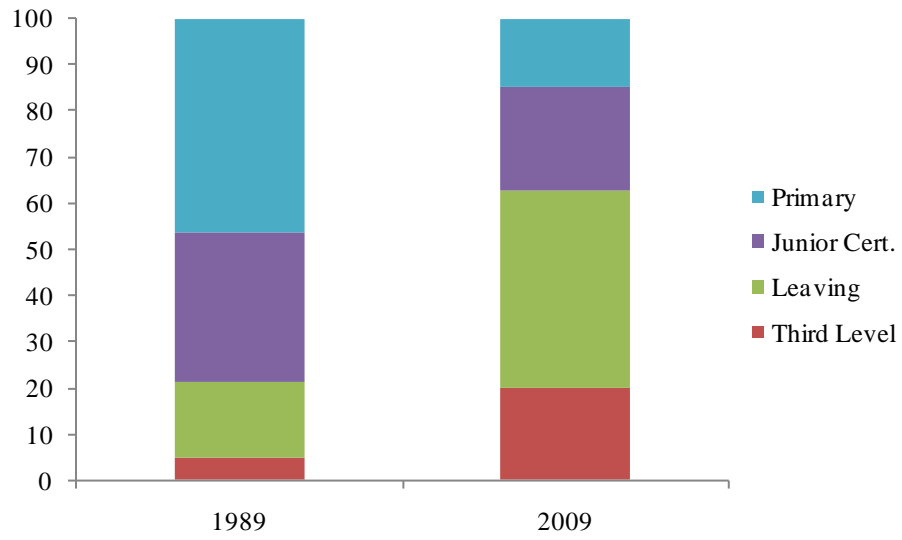
There is also evidence to suggest that inward migration had a dampening effect on wage growth in Ireland. Work by Barrett et al (2002, 2006) suggests that immigration reduced average wages in the economy (by 4.5 percentage points for the high-skilled in the late 1990s and by 3 percent in 2003 on average for all workers). Thus immigration eased wage pressures at a time when wage developments posed a threat to competitiveness. However, it is also likely that greater immigration had second round effects in terms of increasing the demand for housing and public infrastructure. This may have impacted negatively on inflation.

Since 2009, net outward migration has resumed in line with the pervasive deterioration in economic and labour market conditions. Data from the Central Statistics Office show that the majority of the net outflow in 2009 was accounted for by migrants from the ten new EU Member States. In 2010, however, net outward migration of Irish nationals also played a large part, accounting for roughly 40 per cent of the total net migration figure. Barrett and Kelly (2010) show that Ireland's immigrants have suffered disproportionately in the current downturn. The rate of unemployment among immigrants has increased more rapidly than for Irish nationals, while there has also been a disproportionate deterioration in employment prospects for immigrants.

4.4 Conclusion

The labour market has been an important factor influencing the reaction of the Irish economy to global developments. In a global environment where Ireland competes for a share of world demand and for foreign direct investment, enhancements in human capital and wage developments (up until the late 1990s) provided a stimulus to growth. Globalisation has also affected the flexibility of the supply of labour in Ireland. In times of tight labour market conditions, migration offered a pool of high skilled potential labour which helped to ease wage growth (in the 1990s and early 2000s). On the other hand, migration helped to alleviate some of the pressure on the labour market during more difficult economic times (the 1980s and the second half of the 2000s). In coming years, the labour market, and in particular the high rate of unemployment, will represent a key challenge for policymakers. However, the unemployed of the current era are much more highly skilled than their counterparts in the 1980s (about 20 per cent of the unemployed had a third level education in 2010 relative to about 5 per cent in 1988 – see Figure 4.10) which should afford them greater employment opportunities in an upturn. Global growth and FDI which enhance economic development in Ireland should play a positive role in this regard.

Figure 4.10: *Unemployment by Education 1989, 2009*



Note: The chart shows the percentage of the unemployed at 1989 and 2009 with different levels of educational attainment.

5. Politics

As with many developing countries and emerging economies, receipt of large blocks of external assistance (in Ireland's case notably the EU Structural Funds) represents an important part of the globalization story.

The contrast between the apparent success of Structural Fund spending in Ireland (unlike that in some other peripheral European countries) and the boom and bust story presents a puzzle for the analysis of the quality of policymaking in Ireland in the period under review. Clearly large macro and fiscal policy mistakes were made in the direction of expansion in the 1970s and 2000s. On the other hand, the success of many elements of microeconomic policy, as praised in numerous reports of such external bodies as the OECD, IMF and European Commission in their regular appraisals of such matters as the management of the EU structural funds and various procedural reforms in the design of taxation, regulation and social expenditure, might suggest a sea-change in the revealed quality of economic and fiscal policymaking in the in the late 1980s and 1990s.

An extensive programme of interviews with the leading participants in the process of managing the structural funds does not, however, reveal any mechanism put in place to ensure good spending of these structural funds that is understood to have been effective in achieving the favourable outcomes that were experienced.

Certainly, new bodies were set up to involve a wider group of stakeholders in discussions about the spending of the structural funds. The participant interviews cast doubt, though, on the proposition that these consultative structures, which represented the social partners, had any material influence over the allocation of the Structural Funds. Uniformly, respondents asserted that the same centralized approach to public spending that had long characterized the Irish scene continued to operate – at least if the centre is understood in an enlarged sense to include the official representatives of the EU Commission -- with almost no practical input from the consultative structures.

Interestingly, though, research carried out in this project suggests that the pattern of public spending of EU structural funds became more responsive to regional concerns in Ireland than was the case in the UK. The evidence for this is based on a textual analysis of the relevant policy documents (Herzog and Mihaylov, 2010). The Irish Government's decisions in regard to how to spend EU Structural Funds in the context of the National Development Plan as of 2007 displayed a careful balancing of the interests of the regions (by taking the centre of the distribution of regional preferences). At the same time, the discretion of the government over the policy emphasis of its policy allowed the State to pursue its social inclusion policy by closely reflecting the preferences of the two largest social charities in the country (CPA and SVP). (In contrast, in the UK central government exercised high discretion pursuing its preferred policies with regard to regional distribution of funds.)

Of course the comparison is not trouble-free. The data in the two countries comes from different parts of the electoral cycle, for example. And there is no suggestion that the UK did materially worse than Ireland in terms of value for money of the Structural Fund spending. Nevertheless, the analysis suggests that something in the Irish political system made for a more responsive allocation of public spending to regional and sectoral interests.

Now it needs to be stated clearly that the conventional perception of the success of the Irish spending of Structural Funds is along another dimension, namely allocative efficiency. It is not immediately clear that responsiveness to sectoral or regional interests is guaranteed to give good results on this dimension. Some element of administrative discipline ensuring a degree of technical and economic efficiency must have worked alongside the political responsiveness.

If macro and structural policies need to be adopted with regard to the system as a whole, perhaps this evidence on the spending of the Structural Funds suggests that the spending of aid money can benefit from a degree of regional and sectoral political involvement in the decisionmaking.

Certainly it shows the continued importance of national decisionmaking structures even where external providers of funds hold considerable leverage. Leaving the task of spending such funds well to the external donors would not have been a good idea. That there never was a temptation to hollow out policy structures to that extent in Ireland may help explain the success that was achieved.

6. Concluding Remarks

Ireland's increasing globalization in the 1980s and 1990s both helped lift the economy from decades of under-performance and demonstrated its new ability to generate full employment and compete effectively at the production frontier. The intimate engagement with the European Union since membership in 1973 had helped enrich administrative and political capacity as well as resulting in a vital flow of development funding through the structural funds especially from the late-1980s to the end of the millennium. By then the wider forces of globalization had begun to act as a kind of turbo-charger for the economy, amplifying the competitive, export-led growth period and the subsequent residential construction and property price boom. This helped achieve rapid living standards convergence through the attainment of full employment, but also fuelled an overshoot which could not be managed down given the debt vulnerabilities which had accumulated and which proved unsustainable through the global crisis.

International convergence of economic and regulatory policies towards liberalization and light-touch, unfortunately embraced also by Ireland (Honohan et al., 2010), and ridiculously easy availability of credit (eventually helped by the removal of exchange rate risk across the euro area) were key factors in the international environment that masked the vulnerabilities associated with the emergence of evident imbalances in the trend towards a construction monoculture: extreme house price inflation, a skewed revenue base for the Government accounts and a seemingly inexorable erosion of wage competitiveness.

A score-card on the role of globalization in the downturn shows a more mixed picture. Despite the fact that international trade was badly hit worldwide in the macro-shock of late 2008, Irish exports held up well and provided a stabilizing force in the evolution of aggregate demand both in that downturn and in the subsequent couple of years. The severe contraction in the numbers at work was somewhat mitigated by the continued availability of jobs abroad, both for recent immigrants who wished to return to their place of origin and others who sadly resumed the historical pattern of seeking employment opportunities abroad when few were available at home.

The eurosystem has also picked up the pieces on the downside: stepping-in to fund the liquidity deficit as the excessive bank borrowings from the global financial system drained out when markets lost confidence in the Irish Government's capacity to both bring its regular deficit under control and pay for the mounting losses of the banking system.

Globalization is a powerful transmitter of economic conditions and know-how, facilitating convergence of living standards. It can also act as a buffer against specific national shocks. But, amplified by globalization, the danger of the anonymous market overshooting is considerable. National governments can be powerless against consequences of such overshooting. Greater explicit mechanisms of external discipline and co-insurance at the supranational level are needed to cope with these risks. For Ireland, the European Union already plays a role of this type, but one that needs considerable strengthening.

The key lessons which the research carried out in this project has for other countries, especially those which had been observing Ireland closely as a potential role model during the good years, are three in number.

First, macroeconomic policy in the globalized economy needs to be even more alert to the dangers of an unsustainable turbocharged boom. However enjoyable it is while it is in process, the bust – potentially also turbocharged – is even more painful. Naive optimism that the financial markets would provide a finely modulated braking system and thereby prevent overshooting is belied by experience. The global financial markets can ignore – or even get caught up in – the bubble psychology that can drive such booms well beyond sustainability. Then follows the sudden stop. In order to forestall such events – and to avoid the turbocharged slump which can follow – national macroeconomic policy must be constantly alert to indicators of overheating and act promptly to stabilize the situation. The globalized economy needs more macroeconomic management, not less.

Second, beware the hollowing out of economic structure – the tendency towards a form of monoculture in production – that can come from globalization. The over-emphasis on construction is only the most obvious example in Ireland’s economic history. Reliance on tax-driven inward FDI would be another example. The huge benefits of this to Ireland – albeit (as our research has shown) with more limited productivity spillovers than sometimes believed – are tempered by the evident vulnerability. Overconcentration makes the country prone to the risk of isolated errors or shocks. To be sure, it is crucial that economic structure should evolve in such a way as to exploit comparative advantage. But, in an uncertain world with adjustment costs, this needs to be tempered by a portfolio management approach. Using the fruits of exploiting comparative advantage to help build on nascent complementary advantages has been the key to national economic success worldwide throughout the history of globalization; whereas shunning the potential of the global economy has been a recipe for stagnation (cf. Frieden, 2006).

Third, beware too of the hollowing out of economic policymaking capacity. Even the adoption of a common currency does not absolve national policy makers from paying attention to national aggregates. Joining responsibility for managing a regional or global economy must not be the excuse for neglecting the national policymaking arena. As long as law and taxation are largely national matters, it is crucial that the scope of policy analysis and action should also reflect the national dimension. Even in the case of spending aid money (as with the EU structural funds in the 1990s, which have rightly been seen as a success story in Ireland), a robust domestic political and administrative environment is key. Extensive interviews with participants in the process of spending the structural funds in Ireland uncovered little or no support for the proposition that institutional arrangements brought into play by the donors could be credited with improving the quality of the spend.

Indeed, membership of a regional union can impose even tighter requirements on good national management. Take the important case of banking for example. From the national perspective, the scale of the losses of the worst affected Irish banks certainly warranted extensive loss-sharing with uninsured bank creditors. And indeed subordinated debt holders in the Irish banks have²³ taken heavy losses. But the idea of extending losses to uninsured creditors of failed Irish banks, including holders of those banks’ corporate paper, has (despite the moral hazard involved) been strongly resisted by partner countries in the euro area on the ground that the saving to the Irish taxpayer might be outweighed by the likely increased funding costs to other euro area banks. The point is that these other banks have been benefitting from an *implicit* euro-area-wide guarantee that would be undermined by Irish

²³ Along with the pre-existing 2008 shareholders, who have lost almost all of their investment.

action. Accordingly the taxpayer cost of the banking crisis risks being even higher than necessary because of the need to take account of the spillover costs on other countries.

Globalization is a powerful force requiring careful handling. Riding it enthusiastically brought Ireland to full employment and to the productivity frontier by 2000. An inward-looking economic policy strategy could not have achieved this. Neglecting the risks has generated a deep recession from which the economy is now recovering but which will have lasting effects. A globalized Ireland will return to a more prosperous state; this time it will need to be managed more carefully.

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