

Chapter

2

The Case for Change

2 The Case for Change

Ireland's success over the past decade can be attributed to a number of factors, many of which are now changing. Some, such as the reduction in surplus labour and the weakening of our cost competitiveness, are changing as a result of our economic performance; others, such as changes in exchange rates, are outside our control.

The pace of global change has accelerated in recent years, and the business environment is being transformed by structural changes at a global, European and national level. Ireland cannot depend on the past drivers of growth to sustain and promote further development – these drivers will have to be replaced, modified or reinvigorated. Irish business leaders and policy-makers must be alert to these developments and create rapid response mechanisms to defend against new threats and to exploit new opportunities.

This Chapter outlines the key changes in the business environment, and their implications for Ireland's enterprise base:

- » **Globalisation:** Markets are becoming much more open; competition is more international and intense; technology is enabling global trading and new business models; the value chain in enterprise is increasingly disaggregated, with activities distributed to their most economic or strategic location. As Ireland is one of the most open economies in the world, this presents enterprise here with a range of opportunities and threats. Companies need to identify the precise areas where they have, or can build, distinctive strengths that will enable them to compete effectively. Competition, particularly with the newer members of the European Union and with China and India, will intensify.
- » **Global shift to services:** Services are significant trading sectors in their own right and are also forming an increasingly important component of the manufacturing sector. Internationally-traded services will be a growing source of high-skilled, knowledge-intensive jobs and competitive advantage over the next decade.
- » **Rising costs:** The cost of doing business in Ireland has risen significantly in recent years. It is continuing to erode the relative competitiveness of our goods and services sectors, and to reduce our attractiveness for new foreign direct investment. Much of this can be attributed to the low intensity of competition in domestic markets, which can be influenced by domestic policy-makers.
- » **Demographic changes:** Economic growth in the 1990s was facilitated by a significant increase in employment, enhanced by a growing population of working age, increasing female participation rates, a large pool of unemployed people and net immigration. All but the last of these sources are diminishing.

- » **Growing importance of knowledge:** Companies increasingly face global competition and seek to find new ways of competing effectively. Unable to compete on the basis of low costs, companies in more developed economies strive to identify and build new sources of competitive advantage based on knowledge and expertise. Despite a widely held belief that the Irish educational system is world-class, considerable improvements are required if we are to sustain enterprise development in the coming decade. Equally, R&D investment levels, although increased in recent years, are still considerably below OECD levels.
- » **Changes in EU policies:** State aid for companies is likely to be significantly restricted after 2006 by changes in EU limits. State aid, particularly grants, was an important part of earlier enterprise strategies, and helped to attract foreign investors in key target areas and to develop indigenous enterprise. Also, changes in the Common Agriculture Policy will have a major impact on the agriculture and food sectors.
- » **Environmental issues:** Enterprise must comply with a growing range of environmental regulations. There are opportunities to develop products and services for a consumer and enterprise base that is more environmentally aware.
- » **The importance of infrastructure:** Enterprise will thrive only if the physical infrastructure and communications networks are efficient and adequate for international trade. In a global economy, people, goods and information must be able to move from place to place quickly, reliably and efficiently. A recent World Economic Forum survey²¹ found that Ireland's infrastructure is poorly developed and inefficient relative to most other developed countries.
- » **Access to finance:** While the financial environment for enterprise has improved considerably over the past decade, there are still market failures in the provision of services to SMEs and in the availability of risk capital for start-up companies.

These themes are examined in more detail in this Chapter, as follows:

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2.1 Globalisation

Markets are becoming much more open; competition is more international and intense; technology is enabling global trading and new business models; the value chain in enterprise is increasingly disaggregated with activities distributed to their most economic or strategic location. Companies need to identify the precise areas where they have, or can build, distinctive strengths that will enable them to compete effectively.

In the past, Ireland has benefited significantly from the international expansion of markets for trade, capital and labour. Today, with the rapid opening up of markets in Eastern Europe and Asia (especially China and India), globalisation presents both opportunities and threats.

2.1.1 Opportunities from Globalisation

Increasing access to markets, primarily in more developed economies, has been central to Ireland's progress over past decades. The opening up of Eastern Europe presents a range of further opportunities – the 10 new EU member states²² have a combined population of 76 million, with growing private consumption fuelled by decreasing unemployment, rising government expenditure, rising wages and greater access to credit. China, whose huge population includes a significant urban minority with growing disposable incomes, also represents an attractive market for some companies.

Availing of labour and the lower cost environments of less developed countries can help companies in Ireland to remain competitive. Although wages in some of the new EU member states are increasing, general manufacturing and business-related costs will continue to be much lower than in Ireland. With well-educated and skilled workforces, these countries offer promising opportunities for Irish enterprises seeking to maintain competitiveness by outsourcing or moving selected business processes offshore. Enterprise in Ireland can also benefit from the increased choice offered by suppliers in Eastern Europe and Asia, who may be able to offer cheaper raw materials, supplies or sub-assemblies.

From a foreign direct investment perspective, there are opportunities for Ireland to position itself as a European headquarters or sales management and marketing base for the growing number of multinational companies emerging from China and India.

2.1.2 Threats from Globalisation

Indigenous Companies

The performance of the agency assisted indigenous sector has been less satisfactory than might be expected, given that the past decade was the most successful in the State's economic history. The two biggest sectors (food, drink and tobacco, and all other manufacturing), which together accounted for 68% of indigenous agency-assisted activity, showed no sales growth (in real terms) over the past decade. If these fail to perform under favourable external conditions, they will need to undergo radical changes to succeed in the years ahead, when the external economic environment may be less favourable and competition may be more intense.

22 | *Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia and Slovenia.*

Indigenous companies trading internationally are increasingly competing against companies that can produce goods at a much lower cost, or against those that have sufficient scale to tackle, and often dominate, global markets. They are under increasing pressure to stay up to date with developments in technologies, standards, business models, markets and regulations. Ireland may face substantial job losses in labour-intensive areas due to the high cost of labour and other inputs.

Foreign-Owned Companies

With the increasing attractiveness of developing countries such as China and India, and the accession of Central and Eastern European countries to the EU, Ireland faces increased global competition for foreign direct investment. In making foreign direct investments, investors typically aim to gain access to new and growing markets, to reduce costs, or to source talent, technology or raw materials. Many emerging countries score highly on these factors.

China has become the world's largest recipient of foreign direct investment. China has significant competitive advantages, particularly for the manufacture of labour-intensive goods, and increasingly for high-tech manufacturing and R&D projects. In 2002, when foreign direct investment to most developed nations fell sharply, it rose to a record US\$52.7 billion in China.²³ Despite poor global economic conditions, China achieved GDP growth of 9% in 2003, and growth is expected to remain high, at approximately 8.5% in 2004 and 8% in 2005.²⁴

Foreign direct investment flows into **India** increased from \$0.4 billion in 1990 to \$5.5 billion in 2002.²⁵ India is rapidly becoming a major location for back-office activities and, while most of the business process services in India are currently at the lower end of the market, it is also attracting higher value projects. For example, the IBM India Research Laboratory carries out research in eCommerce, supply chain management, media mining, web-services and other hosting services; GE has a number of investments in India, particularly in software development. The Indian economy grew at 7.4% in 2003, and is expected to grow at 6.8% in 2004 and 6% in 2005.²⁶

In Europe, an increasing share of foreign direct investment has gone to the new member states, and to the next wave of potential EU members.²⁷ In 2002, the number of investment projects in the EU-15 member states declined by 11%, whereas in the 10 new member states, investment projects increased by 14%, reaching a value of \$29 billion. The number of investment projects into the next wave of potential EU members rose by 21% between 2001 and 2002.²⁸ The economies of the new member states are estimated to have grown by 3.6% in 2003, and the European Commission forecasts growth of over 4% in 2004/2005.²⁹

There has been a heavy emphasis on manufacturing projects: about 70% of investment projects into the 10 accession countries in 2002 were for manufacturing activities, compared to 35% of projects in the EU-15. The following chart illustrates the significant shift of foreign direct investment in manufacturing, from the more developed European economies to the 2004 accession countries.

23 UNCTAD, *World Investment Report 2003*.

24 International Monetary Fund (IMF), *World Economic Outlook 2004*.

25 UNCTAD, *World Investment Report 2003*.

26 IMF, *World Economic Outlook 2004*.

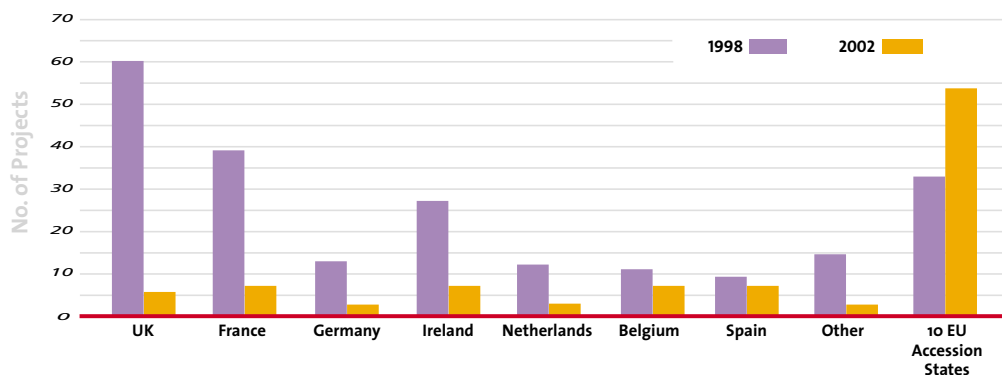
27 Bulgaria, Romania, Turkey, Former Yugoslav Republic of Macedonia and Croatia.

28 Ernst & Young, *European Investment Monitor, 2003*.

29 European Commission, *European Economy, No.2, 2004*.

Figure 2.1

Number of FDI Manufacturing Projects into Europe by Destination

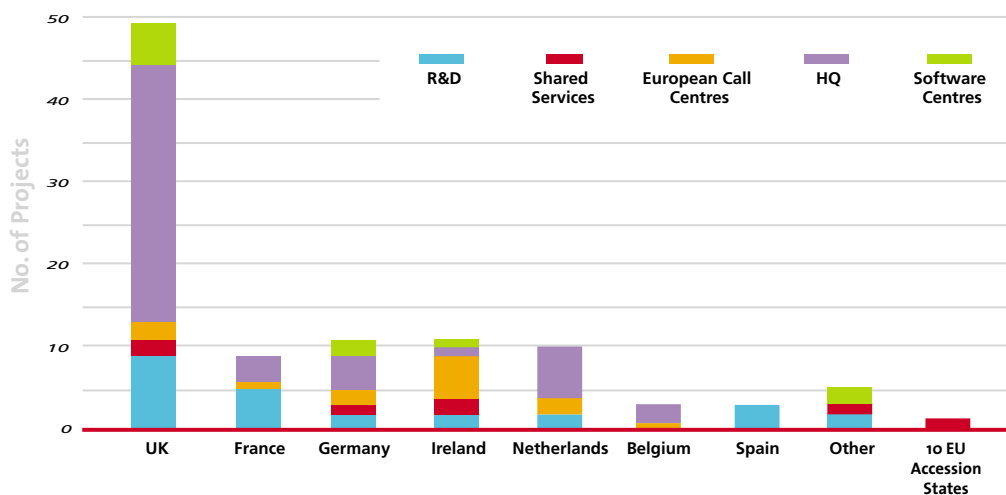


Source: Buck Consulting, 2003

While manufacturing projects have dominated foreign direct investment inflows to date, the new EU member states (see Figure 2.2) are starting to attract services projects, such as shared services centres, customer support centres and business process outsourcing, and there is little doubt that as these develop and the service culture becomes more pervasive, they will attract a wider range of projects.

Figure 2.2

Number of FDI Services Projects into Europe by Destination, 2002



Source: Buck Consulting, 2003

Impact on Enterprise in Ireland

The growing attractiveness of emerging economies as a location for the type of foreign direct investment Ireland has attracted in the past has implications, not only for the foreign-owned sector itself, but also for the indigenous base. We have already seen a net outflow of 15,000 jobs from the internationally trading foreign-owned base since 2001,³⁰ as some companies relocate to emerging and low-cost economies.

The downsizing of the foreign-owned manufacturing base in Ireland means reduced opportunities for sub-supply by the indigenous base. In addition, many indigenous companies need to address key weaknesses: lack of scale, management deficits, poor international marketing expertise and low rates of innovation.

2.1.3 Connection to the Customer

There has been a gradual shift in the way customers and suppliers relate to one another. In the past, the relationship was often driven by the supply side – the supplier made standard products available at a standard price. The relationship is now increasingly demand-driven – the customer defines the problem and the supplier delivers a solution.

In the supply-driven model, commercial success depended on efficient, standardised operational processes for producing and supplying uniform products at the lowest possible cost. The production process was isolated from the customer-related functions in which a deep understanding of customer requirements is developed and changes in demand can be anticipated. Ireland thrived as a cost-effective and efficient base for this type of production. However, it is precisely this kind of production that can and is increasingly being done more cost-effectively in the lower-cost developing economies.

While some foreign-owned production-oriented companies have embedded services activities within their current functions, most have limited direct contact with their end customers through sales and marketing activities.

In certain sectors, indigenous companies have already succeeded in establishing relationships with international customers, but in general, firms must become much closer to their customers, so that they can develop and deliver innovative products or services (or both) that meet customer needs.

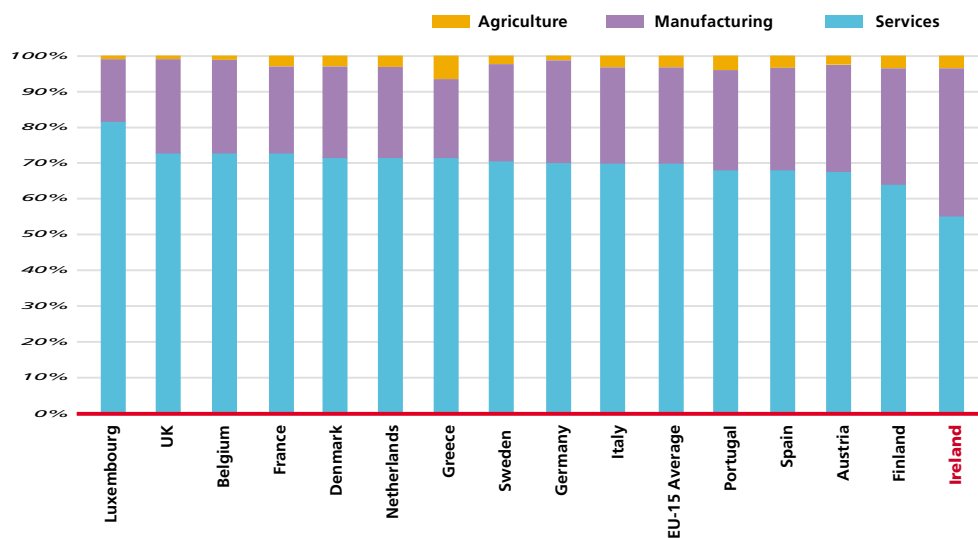
In this respect, much of our enterprise base is disadvantaged by its relative distance from the end customer – not only in geographical terms, but also, in the case of most foreign-owned enterprise, in terms of the business functions located here. Firms that are demand-led focus on market research, product design and innovation, and sales and marketing activities. Irish enterprise, both indigenous and foreign-owned, is particularly weak in these high-value areas.

2.2 The Global Shift to Services

Internationally-traded services are forming an increasingly important component of trade in the economies of the more developed countries, and will be a growing source of high-skilled, knowledge-intensive jobs and competitive advantage over the next decade.

In recent decades we have seen a fundamental shift toward services; in some of the more developed economies the contribution of services to GDP exceeds 70%³¹ (see Figure 2.3).

Figure 2.3
Economic Activity by Sector as a Percentage of GDP, 2000



Source: OECD, *OECD in Figures 2003*, September 2003

A number of trends have facilitated the growth of international trade in services, including advances in enabling communications technologies, changes in global business models and the reduction in barriers to cross-border trade and market entry.

Even in mature manufacturing industries, the distinction between products and services is becoming blurred. Products are often sold with consultancy services, installation and maintenance contracts, training services and financial services. The firm is redefined as a provider of solutions instead of a product manufacturer.³² At the extreme, some products are provided at or below cost, on the basis of extracting high value from subsequent services or servicing. The supplier must engage with customers' business problems and deliver integrated solutions, rather than simply selling products. This demands a much closer relationship between the seller and the buyer, with a significant build-up of market intelligence over time and, where possible, the adoption of the concept of 'mass customisation'.³³

³¹ OECD, *OECD in Figures 2003*, September 2003.

³² FuTMan, *The Future of Manufacturing in Europe 2015-2020: The Challenge for Sustainability*, 2003.

³³ Mass customisation is the customisation and personalisation of products and services for individual customers at a mass production price.

Although economic growth in developed economies is derived increasingly from services, many services activities are beginning to relocate to developing economies. Advanced communications make it possible to disaggregate and manage knowledge activities remotely, and this, combined with significant differences in wages between developing and developed economies, is facilitating the rapid migration of services activities to wherever makes most economic sense. Deloitte Consulting predicts that two million services jobs currently based in western economies will migrate to India by 2008. This means that high-cost countries face increasing competition, not only for production and lower-value activities, but also for those that are high-value and knowledge-intensive, including internationally-traded services.

2.3 Rising Costs

The cost of doing business in Ireland has risen significantly in recent years. It is eroding the relative competitiveness of our goods and services sectors, and reducing our attractiveness for new foreign direct investment.

In the recent past, costs in Ireland have risen substantially above those of our main competitors. For example, Ireland is ranked the third most expensive of nine countries for industrial electricity costs,³⁴ third most expensive out of 10 countries for landfill costs, and fourth most expensive of 16 countries for insurance premia. Labour cost pressures also continue to mount as wage growth continues to outstrip the EU average.³⁵

Insurance	Insurance costs rose by 53% between 2001 and 2002, and by a further 33% between 2002 and 2003. ³⁶
Energy	Electricity costs increased by 12% between 2001 and 2002, and by 10.6% between 2002 and 2003. ³⁷ Emissions trading and the proposed carbon energy tax will have further cost implications.
Broadband	Ireland ranks 11th in the EU-15 in terms of the monthly rental cost of ADSL, 30% above the EU average. ³⁸
Local Authority Charges	The average cost of landfill disposal in 1999 was €27/tonne; by 2002, it had risen to €100/tonne. ³⁹

Further cost escalation would put employment and growth at risk in many sectors of enterprise, and would undermine efforts to grow new enterprises.

House prices have also contributed to rising costs. Attracting high calibre scientists, researchers and other skilled employees from abroad to Ireland is made difficult by high living costs, and in particular by the cost of housing.

³⁴ Industrial electricity prices refer to the cost of 10 GWh, including taxes and VAT.

³⁵ Forfás, *Consumer Pricing Report, 2003*.

³⁶ IBEC, *National Survey of Business Costs, 2003*.

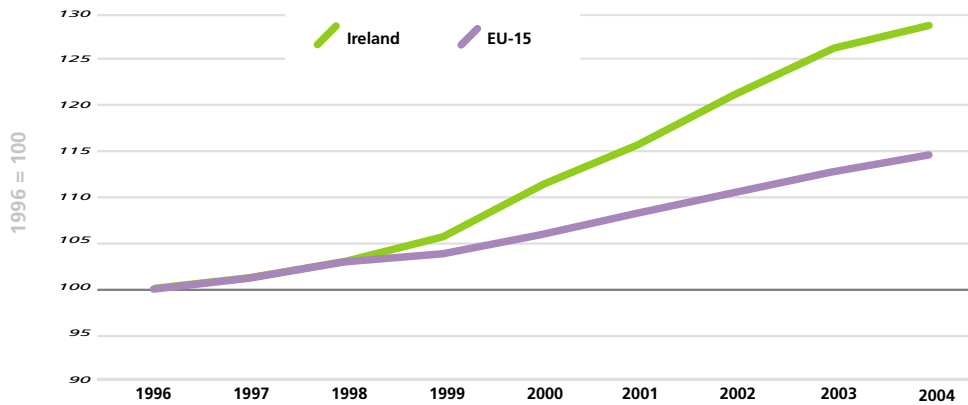
³⁷ *ibid.*

³⁸ ComReg, *Quarterly Market Report, March 2004*.

³⁹ Forfás, *Key Waste Management Issues in Ireland, Update Report, 2003*.

Figure 2.4

Irish Harmonised Consumer Price Index Relative to EU-15, 1996-2004



Source: European Commission, Annual Macro Economic Database, (AMECO), 2004

There is no single explanation for the widening cost gap between Ireland and our trading partners, as illustrated above in Figure 2.4. Factors include:⁴⁰

- » Faster Irish economic growth compared to our trading partners
- » Economic overheating in the 1999-2002 period, caused by a combination of tax cuts, falling interest rates, fast growth in public spending and the technology boom
- » The impact of the weak euro in 1999–2002 on the prices of imports from the UK and US
- » The impact of rapid house price inflation on wage growth
- » Increases in the cost of government-administered services and indirect taxes.⁴¹

There are also a number of deep-seated structural factors that, if left unchecked, pose a more fundamental threat to Irish national competitiveness and economic development. These include:

- » The absence of meaningful competition in key aspects of some sectors of the economy, for example, telecommunications, transport, and certain professional services
- » The high costs of essential services
- » Public sector inefficiencies
- » Underdeveloped physical infrastructure.

40 National Competitiveness Council, *Competitiveness Challenge 2003*.

41 In 2002, the price of services provided directly by the State to the consumer grew by 15%, compared with national inflation of 4.8%. Increases in excise duties, together with the rise in the lower rate of VAT, added around 0.9% to the headline rate of consumer price inflation. National Competitiveness Council, *Competitiveness Challenge 2003*.

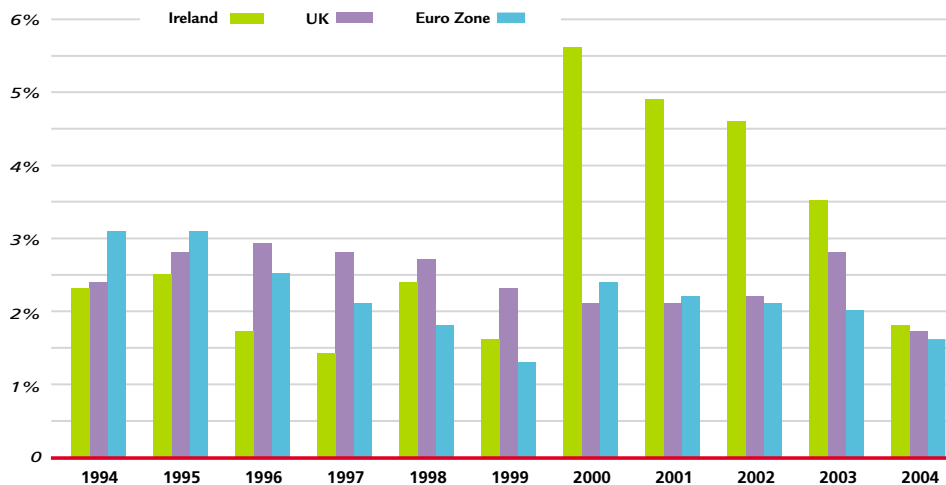
Conclusion

Domestic competition in Ireland is underdeveloped – Ireland ranks 13th out of 16 countries in intensity of domestic competition.⁴² This is an area in which policy-makers can have considerable influence, and there is no reason why Ireland cannot rank alongside Sweden, New Zealand and other small economies in the top half of this index. Action in this respect, particularly in the non-traded services sector,⁴³ would be of considerable benefit.

Over the past number of years, Irish inflation significantly exceeded the euro zone average (see Figure 2.5). Although the headline rate of inflation has fallen in recent years, it is absolutely vital that we avoid complacency: price levels in Ireland remain well above those of our main competitors. According to the Forfás *Consumer Pricing Report 2003*, Ireland and Finland are the most expensive countries in the euro zone.

Figure 2.5

Irish, United Kingdom And Euro Zone Inflation, 1994–2004



Source: European Commission, *European Economy*, No. 4, 2003 and No. 4, 2004

Exchange rates can also have a major influence on price levels in Ireland. Ireland differs from most of the other euro zone countries in two interrelated respects: the openness of the economy and the degree to which we trade outside the euro zone. These two factors leave Ireland exposed to exchange rate fluctuations, thus emphasising the need for cost competitiveness.

42 National Competitiveness Council, *Annual Competitiveness Report 2003*.

43 According to the Forfás *Consumer Pricing Report 2003*, roughly 73% of total Irish inflation originated in the services sector during the period 2000-02.

2.4 Demographic Changes

Ireland's economic growth in the 1990s was facilitated by a significant increase in employment.⁴⁴ This came from a number of sources, most of which are diminishing.

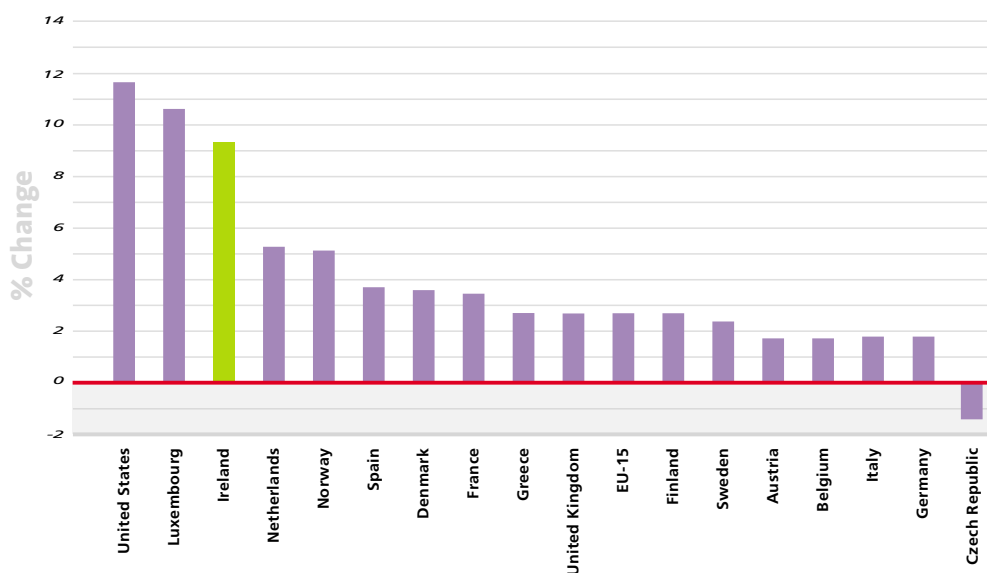
From 1993 to 2003, the number at work increased from 1.2 million to approximately 1.8 million. This expansion was made possible by:

- » First-time entry into the labour market by school-leavers and third-level graduates
- » A large pool of unemployed people available at the beginning of the period
- » Increased female participation
- » Net immigration (both non-nationals and returning expatriates).

All but the last of these sources are diminishing.

In 2002, the population of Ireland was 3.917 million⁴⁵ – an increase of 9.4% since 1993. During this period, the growth in population was one of the fastest in the developed world, as illustrated in Figure 2.6. Net immigration accounted for 53% of the increase. The number of births in Ireland peaked at 74,388 in 1980 and fell to a low of 48,255 in 1994, a decrease of 35%.⁴⁶ This decrease is now seen in the school-leaving cohort.

Figure 2.6
Percentage Change in Population, 1993-2002



Source: OECD, *Quarterly Labour Force Statistics*, No 1, 2004

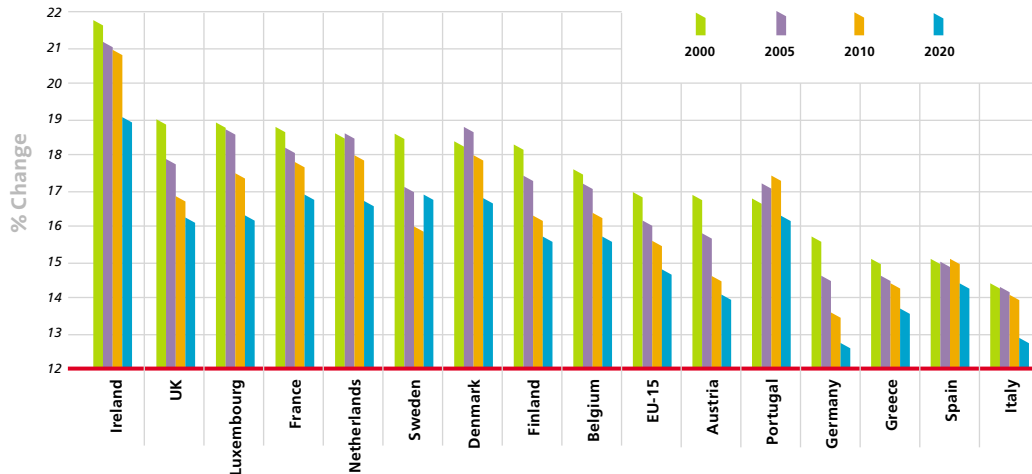
44 The increasing supply of labour accounted for one third of the growth in GNP per capita in the first half of the 1990s, and around half of the growth between 1995 and 2000. ESRI Medium Term Review 2003-2010.

45 CSO, *Census of Population*, 2002.

46 The Expert Group on Future Skills Needs, *Impact of Demographics on the Future Supply of Labour*, (unpublished) 2003.

However, as Figure 2.7 indicates, Ireland will continue to have the youngest population in the EU-15 to 2020. Combined with a smaller proportion of dependents, this provides Ireland with the opportunity to prepare for growing pensions requirements post 2020.

Figure 2.7
Proportion of Population Aged 0-14 (2000 - 2020)



Source: Eurostat (2002) *European Social Statistics*

The reduction of unemployment has been a central policy goal of Government for many decades. The unemployment rate in Ireland fell from over 15% in 1993 to under 5% in 2004. Over the same time period, the average rate of unemployment in the EU fell from 10% to 7%.⁴⁷

Female participation rates rose by around one-third during the 1990s. Figures for 2002 show the female participation rate nearing the EU average, particularly for younger women. As Ireland reaches European female participation rates, there will be less scope for further increases in the labour force from this source.

The period 1996 to 2002 was the first in which net immigration had a greater impact on population growth than natural increase – the level of net immigration was 154,000, while natural increase was 137,000.⁴⁸

Projected potential growth rates of the Irish economy to 2010 imply that the labour force will have to expand by an average of 2% a year,⁴⁹ equating to an absolute expansion in the labour force of 315,000. In addition there will be a replacement demand of 106,000 due to retirements, leading to demand for over 420,000 new workers over the period 2001-2010. FÁS and ESRI have estimated that 300,000 of these workers will require higher-level qualifications.⁵⁰

As the available indigenous sources of labour supply are reducing, there will be an on-going requirement for significant immigration of workers – and particularly those with higher-level qualifications – to support enterprise development.

⁴⁷ OECD, *Standardised Unemployment Rates, 2004*.

⁴⁸ CSO, *Census 2002 Usual Residence, Migration, Birthplace and Nationalities, October 2003*.

⁴⁹ ESRI, *Medium-Term Review 2003-2010, 2003*.

⁵⁰ Fás/ESRI, *Manpower Forecasting Studies, Occupational Employment Forecasts by Region for 2010, 2004*.

2.5 The Growing Importance of Knowledge

Knowledge creation and diffusion are at the core of economic activity. Knowledge is embodied in people, and it is the quality of the human resources that will determine the success or otherwise of firms and economies in the years ahead. It is people who create new knowledge, and it is people who disseminate, adapt and use data, insights, intuition and experience to create distinctive value.

Although the pace differs from country to country, most countries are becoming more knowledge intensive. The challenge for Ireland lies in ensuring that we are at the forefront of this transition. While Ireland's education system has served the country well for many years, in the knowledge economy it faces increasing challenges.

Countries and firms now face competition on a global basis, and seek to find new ways of competing effectively. Companies are increasingly trying to distinguish themselves by developing products and services based on a unique combination of knowledge and expertise. And therein lies the challenge for Ireland: we need to ensure that our knowledge system is world-class and that we continuously build expertise.

Education, continual learning, R&D and innovation are essential for the creation of a competitive knowledge-based economy. Despite a widely held belief that the Irish educational system is world-class, a comparison of Ireland's performance relative to competitor countries shows that there is considerable room for improvement. Equally R&D investment levels, although substantially increased in recent years, are still well below OECD levels.

2.5.1 Education

Education has been an integral part of Ireland's cultural, social and economic identity since the foundation of the State. The participation rate for the 5-15 years age group is one of the highest in the OECD, and Ireland is ranked 5th in terms of the reading literacy skills of 15-year olds.⁵¹ More than 50% of school-leavers go on to higher education. The high regard for the quality of the Irish labour force was instrumental in attracting foreign direct investment to Ireland. Notwithstanding this success, there are a number of weaknesses in the Irish education system. For example, in mathematical and scientific literacy, both of which will be crucial in the future, Ireland is ranked 9th and 16th respectively in the OECD. Participation in adult education is also poor.

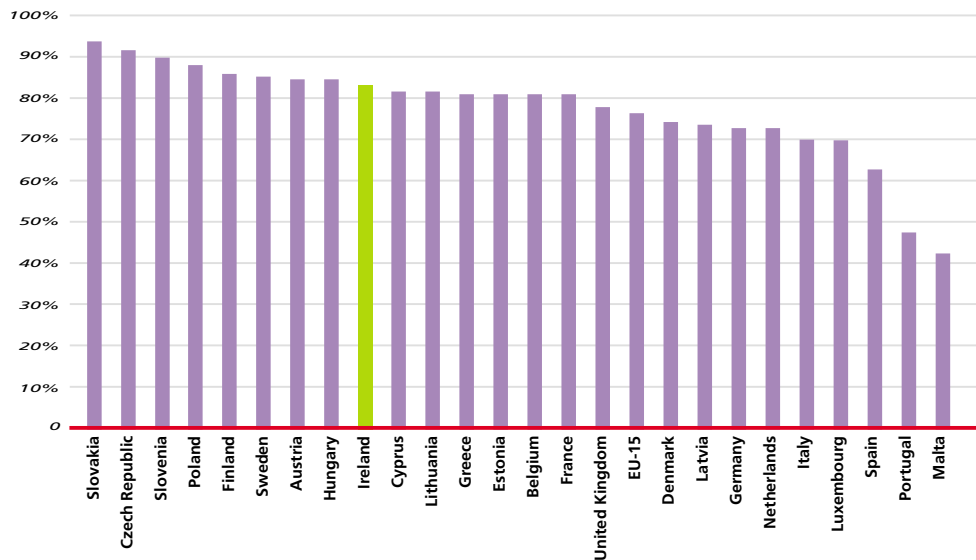
Upper Secondary level

Upper secondary education is a practical necessity for access to most forms of third-level and further education, and without upper secondary education, employability in an increasingly high-skill economy is seriously impaired.

In 2003, Ireland was ranked 9th among the EU-25 for the proportion of 20-24 year-olds with at least upper second-level qualifications (83.5%).

51 | OECD, *Programme for International Student Assessment (PISA), 2000.*

Figure 2.8
Percentage of Persons Aged 20-24 with at least Upper Second-level Education, 2003



Source: CSO, *Quarterly National Household Survey Educational Attainment, January 2004*

The failure of approximately 17% of young people to complete the Leaving Certificate is a problem both for the individuals concerned and for the economy as a whole. The consequences for the overall economy will be amplified by the decline in the size of the school-leaving cohort in the years ahead.

Higher Level

Compared with other OECD states in 2001,⁵² Ireland ranked:

- » 15th out of 30 for the number of the 25-64 age cohort holding degree-level qualifications (14%)
- » 12th out of 30 for the number of the 25-34 age cohort holding degree-level qualifications (20%)
- » 2nd out of 15 for certificates and diplomas awarded in 2001
- » 11th out of 17 for primary degrees awarded in 2001
- » 14th out of 27 for research degrees awarded in 2001.⁵³

The increasing demand for a highly skilled workforce makes it imperative to improve upon these educational attainment levels.

⁵² OECD, *Education at a Glance, 2003*.

⁵³ In relation to research degrees, Ireland is expected to improve its position considerably in the next two to three years because of initiatives such as the PRTL and the activities of SFI. Between 2001 and 2002 (the most recent figures available), the total number of PhDs awarded in Ireland rose from 520 to 579.

2.5.2 Continual Learning

It is estimated that 80% of the global workforce of 2015 is already in the labour force,⁵⁴ but that changes in technology and business processes will have rendered many of their skills obsolete by that time. This implies a need for continual learning.

In order to satisfy the requirements for high-level skills, and to ensure that individuals with low levels of educational attainment can continue to participate in the work force, lifelong learning must become an integral component of the mainstream education and training systems.

However, progress has been slow and much remains to be done as:

- » Approximately 30% of the current Irish workforce (over 570,000 individuals) have not obtained a Leaving Certificate qualification,⁵⁵ and are likely to have difficulty in accessing further education
- » The participation of adults in higher education is low, and Ireland is unlikely to achieve the Government's target of 25% of adult learners by 2015.⁵⁶ (Estimated currently at approximately 6%)⁵⁷
- » Ireland is ranked 7th out of the EU-25 for participation in lifelong learning. However, the Irish participation rate of 9.7% is well below the 34.2% achieved in the top ranked state, Sweden.⁵⁸

2.5.3 R&D and Innovation

The ability of firms to develop products and services that address real market needs and can be sold at a profit depends increasingly on innovation. Innovation can take many forms, and can be applied to any part of the business. It may involve the development and application of technology (technological innovation), or it may involve other kinds of knowledge and expertise, such as design, business process re-engineering, brand management, and marketing (non-technological innovation).

Technological innovation depends on R&D, and on scientific and technological know-how. From a low starting point, Ireland has taken a number of significant steps to recognise the importance of R&D, including:

- » Allocating €2.5 billion in the National Development Plan (2000-2006) to R&D and innovation
- » Establishing Science Foundation Ireland (SFI) and the Programme for Research in Third Level Institutions (PRTLII)
- » Plans to introduce an R&D tax credit scheme for companies in 2004.

However, despite these steps, much remains to be done to raise Ireland's R&D performance to a level comparable with other developed economies.

54 International Labour Organisation, cited in *Towards a Strategic Plan*, Berglind Ásgeirsdóttir, Deputy Secretary General, OECD, 2003.

55 CSO, *Census 2002, Education and Qualifications*, 2004.

56 Commission on the Points System, *The Report of the Commission on the Points System*, 1999.

57 Central Applications Office, *CAO Board of Directors' Reports 2000 to 2003*.

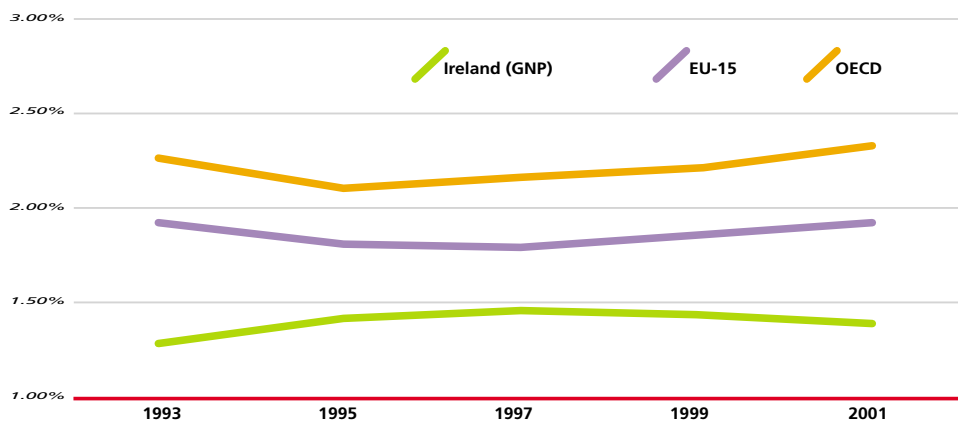
58 CSO, *Quarterly Household National Survey, Educational Attainment*, January 2004.

Gross Expenditure on R&D

In Ireland, gross expenditure on R&D (GERD), at 1.39% of GNP,⁵⁹ remains lower than the EU average of 1.93% of GDP and significantly below that of the US (2.7%), Sweden (4.3%) and Finland (3.4%). In 2002, the European Council agreed a target for research intensity of 3% of GDP to be achieved by 2010, two-thirds of which should come from the private sector; Ireland is not yet making significant progress towards this target.

Figure 2.9

Gross Expenditure on R&D as a Percentage of GDP - Ireland (GNP), EU-15, and OECD



Source: Forfás, *R&D in Ireland at a Glance, 2004*⁶⁰

Ireland's Science Base: International Comparison

The Irish research system carries a legacy from years of under-resourcing, which has resulted in high levels of fragmentation, low levels of collaboration and lack of critical mass.⁶¹ The performance of Ireland's science base can be judged by reference to three of the more commonly used measures: scientific publications, patents, and number of researchers per thousand employees. The following Table 2.1 shows that Ireland falls significantly below international standards on each of these measures. The contrast with smaller European countries that, like Ireland, aspire to being knowledge-based, is particularly stark.

59 Based on GNP in Ireland, for reasons already discussed on page 3.

60 Derived from Survey of R&D in the Business Sector, 2001 (Forfás); Survey of R&D in the Higher Education Sector, 2000 (Forfás); Main Science and Technology Indicators, 1999 - 2003 (OECD).

61 Romanainen, Jari; *Analysis of the Irish Innovation System 2004*, unpublished.

Table 2.1

Measures of Performance of the Science Base

	Ireland	EU-15	Sweden	Denmark	Finland	US
Scientific Publications per million population (2002)	647	673	1,598	1,332	1,309	774
European Patents applications per million population (2000)	61.6	128.4	248.2	151.3	258.6	103.6
US Patents granted per million population (2002)	32.1	71.2	187	83.7	158.4	300.5
Researchers per thousand employees (2001)	5.0	5.7	10.1	6.9	13.8	8.1

Source: European Commission, Key Figures 2003-2004

Business Expenditure on R&D

Business expenditure on R&D (BERD) is concentrated in large firms and foreign-owned firms. In 2001, overseas firms accounted for 65% of BERD, and the top twenty R&D performers (15 of which are foreign-owned) accounted for 42% of total investment. Only 111 companies (indigenous and foreign-owned) spend in excess of €1.3 million annually on R&D. Finally, Ireland has low R&D intensity in sectors that are of particular importance to the Irish economy, as shown below:

Table 2.2

BERD as a Percentage of the Output of each Sector, 2001

	Ireland	OECD average
Electrical and Electronic Equipment	1.4	5.6
Pharmaceuticals	1.3	11.5
Instruments⁶²	1.3	7.0

Source: Forfás, Research and Development in Ireland 2001, December 2003

The Role of Non-Technological Innovation

To deal with the changing global environment and more intense competition, the need for innovation is even greater than ever before. Enterprises need to innovate to continually improve their products, processes and services: in the way they manage their supply chains, in their marketing and customer relations, in their attitude to co-operation and competition, in their financial and business models, in their management, recruitment practices and human relations policies – in short, in every aspect of their business. Constant active monitoring of their markets, questioning of their business processes, and experimentation and assessment are key to survival and growth.

62 | 'Instruments' refers to the production of medical, precision and optical instruments.

The systematic use of design is a particularly powerful way for companies to improve their performance. Design can help companies to differentiate their products and thereby command a premium for them; it can also play a key role in delivering efficiencies and cost savings. A recent study of UK quoted companies showed that the businesses that were characterised by their effective use of design outperformed the key FTSE indices over the period 1994-2003 by 200%.⁶³

To date, Ireland has focused its R&D funding on science and technology for products or manufacturing processes. Non-technological innovation has not been adequately recognised. This is a clear deficit if we aim to develop as a services economy and further develop indigenous companies in terms of productivity and efficiency.

2.6 Changes in EU Policies

State intervention at the level of the firm is likely to be significantly restricted after 2006 by changes in EU limits on state aid. Such intervention, particularly in the form of grant aid, was an important part of earlier enterprise strategy, and helped attract foreign investors in key target areas and to develop indigenous companies. Changes in the Common Agriculture Policy will have a major impact on the agriculture and food sectors.

2.6.1 EU State Aids

The EU can prohibit or set limits on state aid to enterprise, where it considers that such state aid may distort competition within the EU. However, under certain conditions, there are a number of areas where state aid is allowed, including:

- » Regional aid to support investment and job creation in less prosperous EU regions. Under current regulations (until 2006), the State may support the establishment of greenfield investment and expansion activities. Aid is limited to a percentage of total investment, and weighted in favour of the Border Midlands and West region (Objective 1),⁶⁴ and small firms.
- » Horizontal aid to support building capability through training, R&D and SME programmes. Grant aid is capped at a percentage of company investment depending on location (for example, 35% in the BMW region and 30% in the South and East Objective 1 in transition region).

The recent enlargement of the EU will have considerable impact on enterprise policy. The EU-15 states are now richer relative to the average in the enlarged EU. The grant aid limits for the EU-15 states will be significantly tighter after 2006, while those for the newer member states will be relatively high. The implications for state aid in Ireland after 2006 include:

- » Regional aid is likely to be significantly impacted: Ireland's ability to provide grant assistance to attract foreign investment could be virtually eliminated in much of the country (particularly the South and East region).

⁶³ Design UK, *Impact of Design on Stock Market Performance, 2004*.

⁶⁴ EU regions are classified for financial support depending on their economic difficulties:

- Objective 1 regions, such as the BMW region, receive the highest levels of support to help them to catch up.
- Objective 1 in transition regions, such as the South and East Region, still qualify for EU support, but on a sliding scale.

- » Horizontal aid: As the European Commission generally favours these forms of aid over regional aid, they may not change substantially. However, if Ireland loses its Objective 1 / Objective 1 in transition status maximum grant rates would be reduced by five to ten percentage points from current rates.

2.6.2 Common Agricultural Policy

The reforms agreed to in the Common Agricultural Policy (CAP) in 2003 mean that primary agricultural products will in future be market-led rather than subsidy-driven – direct payments will no longer be linked to production. Greater efficiencies and economies of scale will be required if Ireland is to remain competitive in a European context.

2.7 Environmental Issues

Enterprise must comply with a range of environmental regulations and costs, but also has the opportunity to develop products and services for a consumer/enterprise base that is more environmentally aware.

Environmental issues have come increasingly to the fore in economic, political and social debate over the past decade. They are now a key influence on consumer choice, form a major plank in EU and Irish policies, and present a range of opportunities and threats to enterprise:

- » For consumers, concern for the environment covers the physical surroundings of where they live, the food they eat, the products they use, etc
- » For government, the development of environment-friendly infrastructure (public transport, energy, etc) may require increased investment, and therefore greater costs to users
- » For enterprise, the cost of compliance is weighed against the opportunities for gains in competitiveness – from improved energy efficiency, better use of by-products, reduced waste, and the enhancement of the quality and image of the company's goods and services. The proposed introduction of a carbon tax in Ireland and the emissions trading regime, required to meet Ireland's target under the Kyoto⁶⁵ agreement, will impose additional costs on enterprise.

Internationally, Ireland has a positive 'green' image. This is of considerable economic benefit and potential opportunity, particularly in the areas of food and tourism. Higher environmental standards also provide opportunities for companies based in Ireland to develop products and services. As the environment comes under increasing pressure from a growing population, increased consumption and infrastructural developments, it is essential that high environmental standards be maintained, not only to protect the country's international image, but also because the natural environment is a competitive advantage and a key factor in enhancing quality of life.

Development in Ireland must be sustainable. The tension between enterprise development and environmental protection has become apparent in a number of areas in recent years, imposing additional costs and reporting requirements on

65 | *The Kyoto Protocol is aimed at cutting emissions of the main greenhouse gases believed to contribute to global warming.*

enterprise, and causing delays and increased costs in building the physical infrastructure needed for economic and social development (for example, the M50 motorway, regional motorways, electricity transmission infrastructure and waste management facilities).

2.8 The Importance of Infrastructure

In a global economy, people, goods and information must be able to move from place to place quickly, reliably and efficiently. Enterprise will thrive only if the physical infrastructure and communications networks are efficient and adequate for international trade.

A World Economic Forum survey⁶⁶ found that Irish infrastructure was poorly developed and inefficient relative to most other developed countries, and ranked Ireland 15th out of 16 countries. Similarly, the *IMD World Competitiveness Yearbook 2003* ranked the efficiency of the Irish distribution infrastructure (road, rail, air, sea) 14th of 16 countries.

The development of infrastructure in Ireland has not kept pace with the changing requirements over the past 10 years, as:

- » The population grew by nearly 400,000 to over 3.9 million⁶⁷
- » The number at work grew by almost 600,000 to 1.8 million
- » The value of annual exports grew from €28.5 billion to €109.3 billion
- » The number of new vehicles increased from 76,000 per year to over 188,000 per year.⁶⁸

Infrastructural inadequacies undermine international competitiveness in several ways:

- » Ireland's attractiveness for inward investment is diminished, as companies prefer locations with transport and communications links that allow for the efficient and cost-effective movement of goods, people and information
- » Poor quality public transport and a congested road network hamper labour mobility, impede labour market flexibility and have a negative impact on quality of life
- » Inadequate infrastructure leads to increased costs and lower productivity across the enterprise sector
- » Firms have difficulty in getting raw materials and delivering finished goods. This affects their ability to respond rapidly to market demands
- » Opportunities for regional development cannot be fully exploited
- » The lack of a nationwide low-cost broadband network constrains the development of knowledge-based enterprise.

66 World Economic Forum, *The Global Competitiveness Report 2003-2004*.

67 CSO, *Population and Migration Estimates, 1999 and 2003*. The population is expected to increase by at least a further half million over the next 20 years.

68 CSO, *Vehicles Licensed for the First Time, 1998 to 2004*.

Transport infrastructure is a fundamental competitive requirement. As companies seek to employ skilled people, the need for labour mobility and labour market flexibility increases. As companies invest in subsidiaries and work with international outsourcing partners, the ease of travel in and between different countries is essential. Companies require world-class distribution networks and services to ensure cost-effective supply chains and reduced time-to-market for products.

Communications networks (eInfrastructure) are essential for companies that trade internationally. Developments in technology have enabled new global business models, where certain activities are centralised, where the Internet provides a new channel to market and a new sales vehicle, and where services such as software solutions and diagnostics can be delivered remotely. In this context, communications need to be reliable, secure, fast and cost-competitive.

Other infrastructure constraints to growth must also be addressed, including waste management, energy, water and waste water.

Comparing the quality of infrastructure in different countries has never been easier. Potential customers and investors visiting Ireland expect to see a developed, technologically advanced country; the infrastructural deficits that become apparent damage this perception, just as they impact on how companies carry out their business.

2.9 Access to Finance

While the financial environment for enterprise has improved considerably over the past decade, there are still market failures in the provision of services to SMEs and in the availability of risk capital for start-up companies.

Since the 1980s, the Irish financial sector has, in general, been characterised by liberalisation, innovation and increasing sophistication. A number of factors have been crucial in this regard:

- » The liberalisation of capital movements and the abolition of exchange controls since the early 1980s
- » The creation of a single banking market in Europe from 1992, which has promoted cross-border banking within the EU
- » The financial services provisions of the General Agreement on Trade in Services agreed by the WTO in 1995, which facilitate greater international competition in financial services
- » Advances in computing and communications technology, which greatly facilitate collecting, storing, processing and transmitting the information necessary for banking and finance.

The overall result has been to increase competition in financial services in Ireland, involving a significant expansion in activity since the 1980s. By 2002, 86 credit institutions were operating with a physical presence in Ireland, compared with just 46 a decade earlier. Funds raised by industry in Ireland from the capital markets (mainly through issues of equity and corporate bonds on the Irish Stock Exchange)

have increased significantly. The 1990s also witnessed the emergence of a risk capital industry in Ireland. With the support of funding from Enterprise Ireland and the European Investment Bank, the burgeoning venture capital industry in Ireland provided risk capital of over €705 million to 600 indigenous Irish firms between 1997 and 2001, a large proportion of them in high technology sectors.

However, finance is still an issue for Irish enterprise. The segmentation of banking markets has led to individual institutions concentrating on the most profitable categories of customer and the decline of cross-subsidisation between profitable and non-profitable banking customers. There remain concerns about the degree of concentration, and consequent lack of price competition, in the provision of banking services to SMEs in Ireland – this matter is the subject of a study by the Competition Authority. There are also market failures in the provision of risk capital to start-ups. In these situations, the potential wider economic and social benefit of investment is not fully captured by private investors, and there is a need for some state intervention.

The increasing openness of financial markets worldwide will continue to drive the development of the financial industry in Ireland, resulting in the provision of more innovative, competitive and tailor-made products and services to entrepreneurs and industry. Key issues in this regard will be prudent regulation, consumer protection, removal of barriers to entry, and the provision of the legal infrastructure necessary for financial markets to work effectively.

2.10 Ireland in Transition

The changing dynamics of the global economy, enterprise development, and Ireland's particular circumstances, as outlined in this Chapter, bring us to one conclusion: the enterprise model that worked for us in the past, and that delivered unprecedented growth, will have to be modified considerably if we are to continue to grow and develop our economy over the coming decade.

2.10.1 The Past was Investment-driven and Production-based

The engine of Ireland's growth in the 1990s was foreign direct investment. While foreign-owned companies in Ireland are relatively few in number, their impact on output, exports and tax revenue has been substantial.

These companies were attracted to Ireland by a particular mix of global circumstances and local policies. In Ireland, they found a very competitive base from which to carry out production activities – typically the manufacture of products that were conceived and designed in the parent company, produced according to their specifications, and shipped to markets that were controlled by the parent company.

Under this enterprise model, Ireland built up considerable expertise in production and process development.

2.10.2 The Future will be Market-led and Knowledge-based

The challenge is now to embrace the full spectrum of business capabilities within the enterprise model. While we have strengths in production, this alone will not confer competitive advantage. In fact, unless our production strengths are complemented by knowledge and expertise in other areas, we are likely to lose significant parts of our existing enterprise base to lower-cost economies.

The new enterprise model has two facets:

- » It will be *market-led*: Enterprises in Ireland must develop strong relationships with customers and deep knowledge of the markets in which they operate, so that they can anticipate their needs and deliver solutions
- » It will be *knowledge-based*: Whereas in the past, products manufactured in Ireland were designed elsewhere, in the future, more of the ideas, the designs and the technology must originate here. Companies in Ireland will have to innovate and gain leadership positions in their target markets.

2.10.3 No Room for Complacency

Ireland faces this challenge against a backdrop of uncertain international growth, higher domestic costs and unprecedented international competition. The ability to identify emerging opportunities and to develop an effective and timely response to them – a response that involves enterprise, the education and training system and the state agencies – will be a key determinant of success.

Indigenous companies face particular challenges in this new economy. Their lack of scale is a key issue, as is their need for broader and deeper management, their need to develop international marketing and sales capabilities, their need to exploit state-of-the-art technology and business processes, and their need to forge strategic alliances and partnerships.

Foreign-owned companies operating from Ireland will need to develop a more balanced range of business processes. Building direct relationships with customers is vital: they need to develop in Ireland an understanding of market dynamics and customer needs, so that they can influence the production cycle and the development of new products.

The sensitivity of the economy to international developments, the reliance on foreign-owned production activities, and the rise of major competitors for mobile investment should caution us against complacency. Change is inevitable, and its effect could be particularly damaging if we do not anticipate it and prepare appropriately.