

The logo for Enterprise Strategy Group, featuring a stylized 'E' composed of three horizontal bars of varying lengths, all pointing to the right. The logo is set against a background of concentric circles and a large, semi-transparent arrow pointing right.

Enterprise Strategy Group

A stylized globe showing the continents of North and South America, rendered in a light orange color. The globe is overlaid with a grid of latitude and longitude lines. The background of the entire page is a gradient of red and orange, with large, semi-transparent arrows pointing right.

Ahead of the Curve

A stylized map of Ireland, rendered in a light blue color, set against a dark blue background. The map is overlaid with a grid of latitude and longitude lines. A vertical yellow bar is visible on the left side of the page.

*Ireland's Place in the
Global Economy*

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The background of the cover features a large, stylized graphic of a globe with latitude and longitude lines. The globe is rendered in shades of purple and blue. In the upper left corner, there is a large, semi-transparent graphic of a stylized arrow or wing shape, also in shades of purple and blue. The overall design is modern and professional.

Enterprise Strategy Group

Ahead of the Curve

Ireland's Place in the Global Economy

July 2004



Enterprise Strategy Group

Ms Mary Harney, TD
Tánaiste and Minister for Enterprise, Trade and Employment

Dear Tánaiste,

On behalf of the Enterprise Strategy Group, I am pleased to submit our report '*Ahead of the Curve - Ireland's Place in the Global Economy*'. In preparing this report, we consulted widely across a diverse spectrum of enterprise. We are grateful to over 200 individuals who actively participated in a range of specially convened advisory groups and to those who prepared circa 100 written submissions. We examined enterprise development models from other economies and have taken inputs from policy specialists both in Ireland and overseas.

Ireland is currently enjoying the benefits of a decade of sustained economic expansion. Our past success, while providing a platform for future growth, does not guarantee that growth. Fundamental changes in the global business environment are emerging which present exciting new opportunities and some formidable competitive challenges. The ability to understand and respond swiftly to these changes will determine our future success.

We believe that enterprise in Ireland, while having highly developed manufacturing ability, lacks capability in two essential areas: international sales and marketing and the application of technology to develop high value products and services. Our report points to areas of activity in services and high value manufacturing which, when enabled by expertise in markets and technology, will significantly enhance the enterprise base.

Implementation of our recommendations will require a new commitment and energy from many groups; a focus on markets, technology and networks by enterprise; a focus on new skills and priorities within the development agencies; a focus by individuals, companies and education on developing the potential of all to participate fully in the knowledge economy; and a focus on the ongoing development of enterprise by government. Many of these recommendations can be delivered with no additional cost to the economy, others can be achieved through reallocation of funds from within the existing development agency budgets. To fully implement our recommendations on education and infrastructure, some incremental spend by Government departments is likely to be required.

We believe that a national consensus around enterprise priorities can offer Ireland significant advantage in moving swiftly to secure the next phase of enterprise development.

Finally, my colleagues and I wish to pay tribute to the energy, dedication, talent and professionalism of the secretariat to the group drawn from the staff of Forfás and ably led by Brian Cogan.



Eoin O'Driscoll
Chairman

July 2004



Mr Eoin O'Driscoll,
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Contents

	Executive Summary	ix
1	Background	1
1.1	Where We Are Now	3
1.2	Reasons for Past Success	4
1.3	Role of Public Policy	4
1.4	Profile and Assessment of Ireland's Enterprise Base	7
2	The Case for Change	13
2.1	Globalisation	16
2.2	The Global Shift to Services	20
2.3	Rising Costs	21
2.4	Demographic Changes	24
2.5	The Growing Importance of Knowledge	26
2.6	Changes in EU Policies	31
2.7	Environmental Issues	32
2.8	The Importance of Infrastructure	33
2.9	Access to Finance	34
2.10	Ireland in Transition	35
3	A New Strategic Direction	37
3.1	Specific Growth Opportunities	41
3.2	Changes Needed to Achieve Success	48
3.3	Business Networks	53
3.4	Building Competitive Advantage	55

4	Building Competitive Advantage	57
4.1	Market Expertise	59
4.2	Expertise in Technology - Product and Service Development	64
4.3	Business Networks	71
4.4	Skills, Education and Training	73
4.5	Taxation	80
4.6	Effective, Agile Government	85
5	Essential Conditions	89
5.1	Cost Competitiveness	91
5.2	Infrastructural Requirements	97
5.3	Innovation and Entrepreneurship	102
5.4	Management Capability	109
6	The Role of the Enterprise Development Agencies	113
6.1	Meeting Future Needs	115
6.2	Skills Required in the Enterprise Development Agencies	116
7	Implementation	119
	Appendices	123
A	Terms of Reference	124
B	Membership of the Enterprise Strategy Group	125
C	Membership of the Advisory Group	126
D	List of Submissions	136
E	Developing the Agri-food Sector	139
F	Glossary	141





Executive Summary

Executive Summary

Introduction

After a decade of sustained economic growth, Ireland in 2004 boasts higher numbers in employment than at any time since the birth of the State and enjoys living standards, as measured by gross domestic product (GDP) and gross national product (GNP) per capita, which exceed the European Union (EU) average. Government indebtedness has been reduced from the highs of the 1980s and now ranks second lowest in the euro-zone. The economy proved resilient through the global downturn in 2001-2003 and continued to grow, albeit more slowly than during the late 1990s. More recently, in its *Medium-Term Review 2003—2010*, the Economic and Social Research Institute (ESRI) projected an average annual GNP growth rate of 5.4% for the Irish economy in the second half of this decade. This projection is supported by the Department of Finance in its *Economic Review and Outlook 2003*.

Economic Performance Indicators	1993	2003
Unemployment %	15.7	4.7
Government Debt as % GNP	93	34
Corporation Tax %	10/40	12.5/25
Personal Tax % (lower and higher rate)	27/48	20/42
Irish GDP per capita as % of EU-15 GDP per capita	69	125
Irish GNP per capita as % of EU-15 GDP per capita	75	101

Department of Finance and AMECO, 2004

Ireland's economic progress over the past decade was the result both of good planning and of providence.

- » Membership of the European Union afforded Ireland significant regional aid, combined with ease of access to substantial markets
- » Consistent, long-term partnership and policies delivered a favourable corporate tax, fiscal and wage setting regime and a well-qualified workforce
- » Global trade expanded at an unprecedented pace. In particular, advanced sectors such as information and communications technology (ICT) and life sciences, with which Irish economic growth has been closely tied, boomed through the mid and late 1990s
- » Ireland's demographic profile facilitated the swift pace of economic growth.

As a result, Ireland achieved sharply higher living standards. However, to retain and further enhance them, we face a number of major challenges:

- » The exponential change in the scale of globalisation; India and China, for example, have a combined population in excess of two billion people. These countries offer low costs, an ample supply of skilled labour and are now part of the global competition for markets and mobile investment
- » The Irish cost base has increased substantially
- » Ireland's low rate of corporation tax is being emulated by competitors
- » Despite many excellent individual company performances, few of our indigenous industry sectors have achieved strong growth in exports over the past 10 years
- » Imminent changes in EU state aid limits will place new restrictions on state aid for enterprise after 2006.

In addition, the nature of global trade is changing, and future economic development will be strongly influenced by:

- » The shift toward services as a major driver of GDP growth
- » The increasing role of knowledge as a driver of economic development and an influencer of new products.

In the context of our current success, calls for a new and different enterprise strategy may appear alarmist. However, the current model of enterprise development in this small, open economy must adapt to face these challenges. There are significant areas of opportunity for Ireland to exploit its natural advantages and to develop new areas of competence in pursuit of sustainable enterprises. To position Ireland to exploit these and to grow robustly in the decade to come, there is an immediate requirement to redefine the strategy for enterprise policy and development in Ireland.

A New Strategic Direction: Opportunities

Opportunities in internationally-traded services across a range of sectors and activities will play a more significant role in Ireland's economy over the next decade, driven by increased international trade and enabled by advances in technology and Ireland's low corporation tax regime.¹ High value-added manufacturing will remain a fundamental component of Ireland's enterprise environment. Through the promotion of competition and innovation, locally-traded services will contribute effectively to the future growth of enterprise.

Enterprise in Ireland will succeed by focusing on and reinforcing niche areas of activity. These can evolve from a number of sources, including natural resources, research and clusters or groupings of companies with specific expertise.

¹ Ireland's corporation tax rate of 12.5%, introduced in January 2003, applies to all trading activities and presents significant potential to pursue new opportunities across a wide range of service activities (most of which were previously subject to a higher rate of corporation tax – progressively reduced from 40% in 1998).

This report details areas of activity in which Ireland already has or can most readily develop a position of competitive strength, differentiation and critical mass. Details of these, based on the conclusions of advisory groups operating under the auspices of the Enterprise Strategy Group, can be found on the CD-ROM accompanying this report. They include existing services areas, such as education, software development and tourism, and exciting new services, such as franchise management, intellectual property (IP) management and eClinical trials. In the manufacturing sectors, there are opportunities for example in cardiovascular and diagnostic products, bio-pharmaceuticals and prepared consumer foods.

A New Strategic Direction: Realising the Potential

To capitalise on these opportunities, firms in Ireland must complement their existing production and operational strengths with new capabilities:

- » Developing expertise in international markets, to promote sales growth
- » Building technological and applied research and development (R&D) capability, to support the development of high-value products and services.

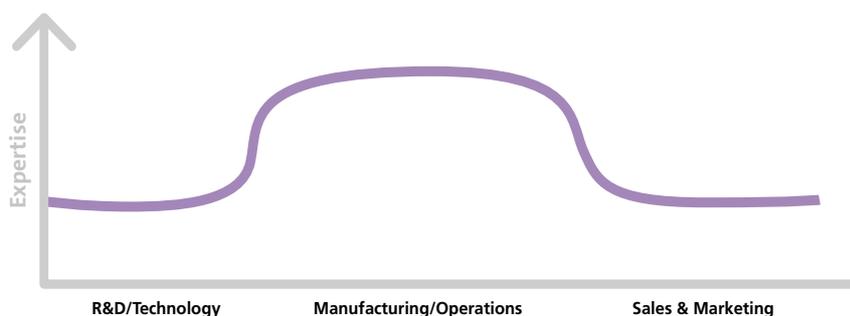
A focus on these two areas would represent a new orientation for Irish enterprise.

Until now, Ireland's principal enterprise strengths have been in the operational aspects of manufacturing and services, rather than in markets and product development. This is particularly true of the foreign-owned sector, which accounts for most of our exports and which, for the most part, produces goods that were designed elsewhere, to satisfy market requirements that were specified elsewhere, and sold by other people to customers with whom the Irish operation has little contact and over whom it has little influence. It is also substantially the case in the indigenous sector. Food, which accounts for over 55% of indigenous exports, has been primarily production rather than market led. Overall, indigenous exports have not grown significantly in real terms over the past decade.

For many firms, building in-house R&D capacity is a challenge. They lack resources, not only to conduct research and development, but even to absorb new developments coming from outside. Investment in R&D and innovation by enterprise in Ireland is relatively low. At 0.88% of GDP, Ireland's Business Expenditure on R&D (BERD) is only 73% of the EU average and 57% of the OECD average.

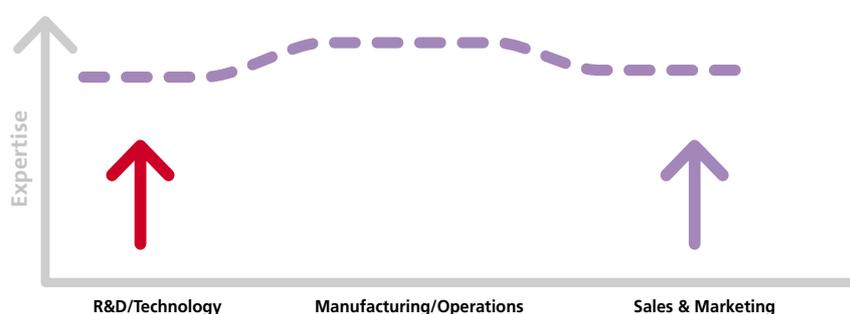
The current profile of enterprise expertise in Ireland looks broadly as follows, with significant expertise in manufacturing/operations and limited capability in R&D and sales and marketing:

Profile of Expertise in Enterprise in Ireland, 2004



Our over-arching strategy for Ireland is to develop strengths across the entire value chain. By implementing the recommendations contained in this report, Ireland will build new competences in the development and introduction of new products and services and in international sales and marketing, re-balancing its enterprise expertise as follows:

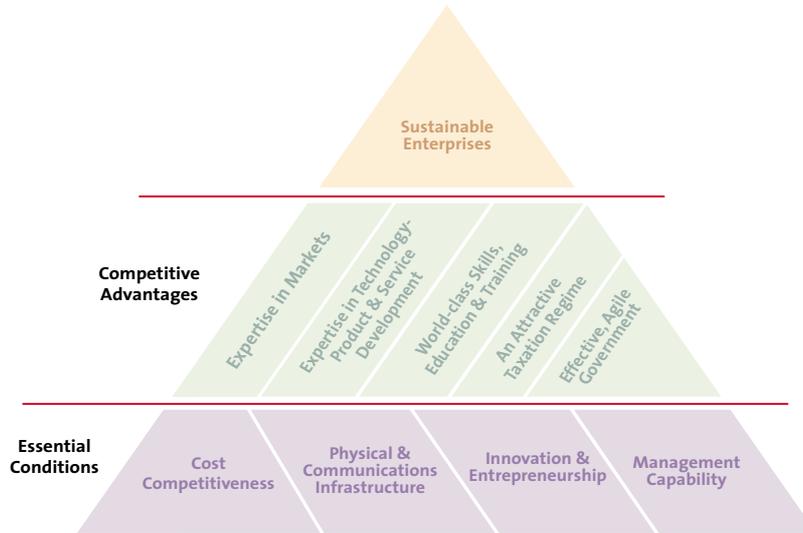
Required Profile of Expertise in Enterprise in Ireland, 2015



To enable this transition, we envisage a growing role for the private sector in driving initiatives through networks of companies with common interests. Strong enterprise-led networks are required that will establish the strategic agenda for their areas of activity. These networks will increasingly facilitate knowledge transfer, disseminate market knowledge, foster innovation, inform the research agenda and identify infrastructure needs specific to sectoral development. Increasing focus must be placed on supporting the emergence of such networks to inform the effective orientation and delivery of state supports.

This report identifies a series of actions to deliver future enterprise development in Ireland. The priority recommendations are set out in this Executive Summary. Further recommendations appear throughout Chapters 4, 5 and 6 of the main report.

Making It Happen



We have identified five sources of competitive advantage, which, taken together, can enable enterprise in Ireland to achieve this vision. Three of these build on areas of national competitive advantage in which Ireland has already, in the past, competed and excelled. These are our education and training systems, our stable and advantageous taxation regime and our reputation for effective and agile government, which have been responsive to the needs of enterprise. In these areas, it is now necessary to regain our leadership position. An additional two sources of competitive advantage, focusing on expertise in sales and marketing and on the application of R&D and technology to the creation of new products and services, now require comprehensive and intensive development and will mark the decisive new orientation of Irish enterprise policy.

The characteristics of the five sources of competitive advantage include:

Competitive Advantage	Characteristics
Expertise in Markets	Development of international marketing and sales expertise to bring enterprise in Ireland closer to customer needs.
Expertise in Technology-Product and Service Development	Development of world-class capability in focused areas of technology and in innovative techniques, to drive the development of sophisticated, high-value products and services.
World-class Skills, Education and Training	Building on Ireland's historic commitment to education with a renewed focus on excellence and responsiveness to deliver skills appropriate to the needs of enterprise.
Attractive Taxation Regime	An ongoing commitment to our competitive tax regime, promoting enterprise and driving business growth.
Effective, Agile Government	A single-minded national consensus on the enterprise agenda, driven from the highest level and across all of Government, together with governance systems which enable swift decision-making and execution.

Expertise in Markets

To secure a strong position in the new global competitive environment, Irish businesses should focus on building a deeper understanding of customers, markets and the wider influences driving product and service life cycles. The Irish enterprise community must develop, and be supported in growing, its capabilities in market intelligence, international sales promotion, sales and strategic management. Of these, capability building in sales is considered to hold the greatest development potential for firms in Ireland and this area is a particular focus of our recommendations.

This expertise is necessary to inform the development of market-leading products and services, and will be delivered by linking customer demand with technology development and application and through innovative, creative work practices. At a national support level, Ireland needs a single point of focus for international market development activities, charged with facilitating access to international and global markets and with promoting Ireland's enterprise brand internationally.

Recommendation: A Market Intelligence and Export Promotion Structure

Establish, within Enterprise Ireland, a dedicated structure, 'Export Ireland', with its own budget and strong, experienced leadership, to develop a more focused approach to export market intelligence and promotional activities.

Recommendation: 1,000 Sales and Marketing Personnel

Establish a five-year programme, to place, on a cost-sharing basis, 1,000 graduates and internationally experienced professionals in Irish firms to augment the stock of national sales and marketing talent. This initiative should be complementary to existing programmes.

Recommendation: Target Sales and Marketing and European Headquarters Projects

IDA Ireland should target sales and marketing and European headquarters projects from both established multinationals and smaller companies at an early stage of internationalisation.

Further recommendations relating to expertise in markets can be found in Chapter 4 of this report.

Expertise in Technology – Product and Service Development

Policy-makers in Ireland have already taken major steps to build expertise in science and technology through Science Foundation Ireland (SFI) and the Programme for Research in Third Level Institutions (PRTLTI). This investment in basic research is essential to further scientific advancement through new discovery as well as to enhance the country's ability to absorb new technological developments from elsewhere. In particular, these investments will help to produce the skilled people necessary to build product development capacity in the enterprise base.

'Close-to-market' and applied research capabilities must also be promoted, to facilitate greater synergy between those who generate knowledge and those who transform it into saleable products and services.

As a small country, Ireland has limited resources and must therefore be selective and specific around the areas in which it chooses to focus and invest. Developing an appropriate focus can be assisted by the identification of strategic technology platforms – areas of technology (for example, biometrics) that draw on basic fields of knowledge (such as mathematics, physics and computing) for application to a range of products. Consultation and collaboration are essential in both the identification and exploitation of such platforms and in particular, close interaction between industry, academia and the State in this area must be fostered. European initiatives in this respect should also be monitored closely. The objective is to achieve a critical mass of leading edge expertise in particular areas or niches.

Not all product development and process advancement is technology-driven. Process improvements, design enhancement and changes in the composition and delivery of a product can be innovations. Non-technological innovation is of particular relevance in services, and achieving a competitive advantage in this area would enhance success in knowledge-based services in Ireland. Policy-makers should consider new ways of supporting innovation in these areas.

Recommendation: An R&D and Innovation Co-ordination Structure

Establish, within Enterprise Ireland, a dedicated structure, 'Technology Ireland', with its own budget and strong leadership, to develop a cohesive, strategic and focused approach to market-led applied research and technological development and to leverage increased enterprise investment.

Recommendation: Increase Applied R&D Funding

Public funding for applied research and in-firm R&D should be progressively increased to match that invested by the Department of Enterprise, Trade and Employment in basic research. This includes support for in-firm capability development, commercialisation, cluster-led academic research and innovation partnerships.

Further recommendations relating to expertise in technology – product and service development can be found in Chapter 4 of this report.

'Export Ireland' and 'Technology Ireland' will require a new focus and energy within Enterprise Ireland and a building of in-depth sectoral knowledge. Enterprise Ireland is currently involved in the process of developing a new strategy.

Business Networks

Historically state intervention has been undertaken primarily through the enterprise development agencies. To further facilitate expertise in markets and technology development and to respond swiftly and efficiently to the needs of business, a specific initiative is needed to support the emergence of strong enterprise-led networks. These will be responsible for the identification of common interests, a clear agenda, and action-oriented objectives. State supports should be rebalanced over time between interventions at the firm level and those responding to requirements articulated by networks.

Recommendation: Enterprise-led Networks

Allocate a budget of €20 million per annum for five years from existing enterprise development agency resources to support the creation of enterprise-led networks to foster collaboration in defined areas of activity. All-island business networks should be supported where complementary strengths are identified.

World-class Skills, Education and Training

Ireland has historically enjoyed a strong international reputation for the calibre of its educational system and the generally high standards of education within the workforce. The rapid pace of technological development and the increasing sophistication of business processes and systems now demand higher levels of academic achievement and greater links between the education sector and enterprise than ever before.

From an educational perspective, Ireland should recognise the necessity of both upskilling the general workforce and achieving distinction in the quality of graduates from higher education. Ambitious targets must be set to improve education and skills attainment across all levels. Governance of higher education must be reviewed to enable flexible responses to the increasing pace of change in the environment. In view of the aspiration to increase the application of knowledge in enterprise, it will be necessary to increase the number and quality of higher education graduates at all levels.

To realise these objectives, new approaches to the funding of higher education are needed. Priority must be given to defining the differentiated but complementary roles of the universities and the institutes of technology. The Higher Education Authority (HEA) board and governing bodies of the higher education institutions should include individuals from the enterprise sector.

Lifelong skills development will become progressively more important in the decade ahead, as the fast-changing nature of the workplace requires people to be more flexible and adaptable. To support ongoing skills improvement at all levels, a formalised programme of lifelong learning is recommended, to be administered through a national 'One Step Up' initiative. This initiative would encourage greater participation in ongoing learning, by facilitating and motivating employees to continually increase their skills by a further increment.

Recommendation: 'One Step Up' Initiative

Establish a national 'One Step Up' initiative, facilitated by the National Framework of Qualifications to encourage greater participation in ongoing learning.

Recommendation: Quantity and Quality of Graduates and Post-graduates

The proportion of graduates in Ireland should be in the top decile of OECD countries and the quality of awards from the Irish higher education sector should be benchmarked internationally.

Further recommendations relating to the delivery of world-class skills, education and training can be found in Chapter 4 of this report.

Attractive Taxation Regime

Ireland has maintained a stable and attractive taxation regime for business. In 2003, the 10% rate of corporation tax for manufacturing and a limited range of internationally-traded services was replaced by a single rate of 12.5% corporation tax on all trading income; this substantially expanded the range of activities qualifying for the low rate of corporation tax. As corporation tax rates are falling internationally, future stability and a commitment to the current rate are required to maintain Ireland's international competitiveness, particularly for mobile investment. Strong messages to this effect are required from Government.

Other taxation measures directly affecting business in Ireland (carbon taxes, VAT applicable to Business to Consumer (B2C) electronic transactions etc) must be closely monitored to ensure that Ireland is not disproportionately disadvantaged relative to competitor countries.

Recommendation: Commitment to 12.5% Corporation Tax Rate

The Government should reiterate its commitment to the current corporation tax rate of 12.5% on trading profits.

Further recommendations regarding an attractive taxation regime can be found in Chapter 4 of this report.

Effective, Agile Government

From a government perspective, the small size of the country represents a potential source of competitive advantage. By placing enterprise at the heart of Government and by implementing a co-ordinated approach to enterprise policy, Ireland has the opportunity to outpace competitor countries in the swiftness, efficiency and responsiveness with which it anticipates and meets the requirements of competitiveness.

In light of the increasing complexity of enterprise-related issues and to signal a commitment to maintaining Ireland as a competitive and high-achieving location for business, a Cabinet enterprise review process should be established to set priorities, and to catalyse and oversee implementation of enterprise policy responses commencing with the recommendations set out in this report.

Recommendation: Cabinet Enterprise Review Process

To create a shared vision at senior political level of the nature and importance of the enterprise agenda, institute a twice-yearly Cabinet meeting dedicated to enterprise, to debate and prioritise the cross-departmental responses required for enterprise development, commencing with the recommendations set out in this report.

These Cabinet meetings should be supported by an Expert Group on Enterprise, meeting at least quarterly and consisting of the Secretaries General from six departments² and approximately four senior figures from the enterprise sector.

² Enterprise, Trade and Employment; Education and Science; Finance; Communications, Marine and Natural Resources; Transport; Agriculture and Food.

Essential Conditions

In addition to the five sources of future competitive advantage already outlined, four essential framework conditions for business are also dealt with in this report. They are detailed here to the extent that deficiencies in each continue to hamper enterprise development. Recommendations relating to these issues are detailed in Chapter 5 of the report. Selected priorities include:

Essential Conditions	Recommendation
Cost Competitiveness	<p>Competition: Review and dismantle the many legislative shelters which serve to protect existing operators and restrict competition. In particular, quantitative restrictions of any kind that limit market entry and shelter incumbents should be removed.</p> <p>Regulation: The Regulatory Impact Analysis (RIA) process must be fully transparent. RIAs should be published (subject to freedom of information confidentiality rules).</p> <p>Rewarding Workplace Productivity: Enterprise should use employee financial participation schemes (not just at management level) to promote employee commitment to business goals, increased productivity and reduced costs.</p>
Infrastructure	Invest in infrastructure ahead of demand in key locations. Investment should be prioritised in National Spatial Strategy (NSS) designated gateways and hubs to enable them to achieve their regional potential.
Innovation and Entrepreneurship	<p>In the context of public service innovation, the Strategic Management Initiative/Delivering Better Government programme should be re-energised by prioritising policy goals, by giving managers the autonomy to deploy resources and by developing a more effective system of performance accountability.</p> <p>Entrepreneurial skills should be included in the syllabus for the senior cycle, and any necessary curricular changes made at primary and junior cycle level.</p>
Management Capability	Business networks should articulate the management development needs of their members. These networks could act as a focal point for the delivery of targeted training.

The Role of the Enterprise Development Agencies

The enterprise development agencies will need to collaborate effectively and to acquire new skills in order to deliver appropriate supports to enterprise. The focus of the enterprise development agencies in future should be on:

- » Facilitating access to overseas markets
- » Encouraging R&D and technology application
- » Attracting foreign direct investment
- » Fostering entrepreneurship
- » Training for the labour market.

To ensure coherence and to facilitate clarity of focus, the following recommendation is particularly emphasised:

Recommendation: Common Chairperson of Agency Boards

The Boards of Forfás, IDA Ireland and Enterprise Ireland should have a number of directors in common and in particular a common Chairperson.

Further recommendations relating to the role of the enterprise development agencies can be found in Chapter 6 of this report.

Delivering the Strategy

Policy and planning bodies in Ireland are replete with reports detailing challenges and opportunities facing enterprise. We believe that excellence in execution should be a distinguishing feature of enterprise policy in Ireland. To this end, the closing chapter of this report has been dedicated to identifying those that should be involved in the implementation of the recommendations outlined here. Implementation will require broad commitment and a renewed sense of national consensus around the task at hand. The strategy and recommendations in this report identify a routemap to sustainable employment and national prosperity for Ireland. Delivering these is a collective national responsibility.

In the face of significant challenges, Ireland has, over the past decade, exceeded expectations for growth and prosperity. Today, the pace and extent of global competition are intense, but we now boast the skills, capabilities and resources to build sustainable enterprise for the future. Ireland is home to a range of world-class companies, and operates in leading-edge sectors. Our people have the confidence and creativity to succeed and to cement Ireland's place among the leading global economies – progressive, future-focused, and Ahead of the Curve.



Chapter

1

Background

1 Background

This Chapter provides a brief outline of the economic background to the report. It is divided into four sections:

Section	Page
1.1: Where We Are Now	3
1.2: Reasons for Past Success	4
1.3: Role of Public Policy	4
1.4: Profile and Assessment of Ireland's Enterprise Base	7

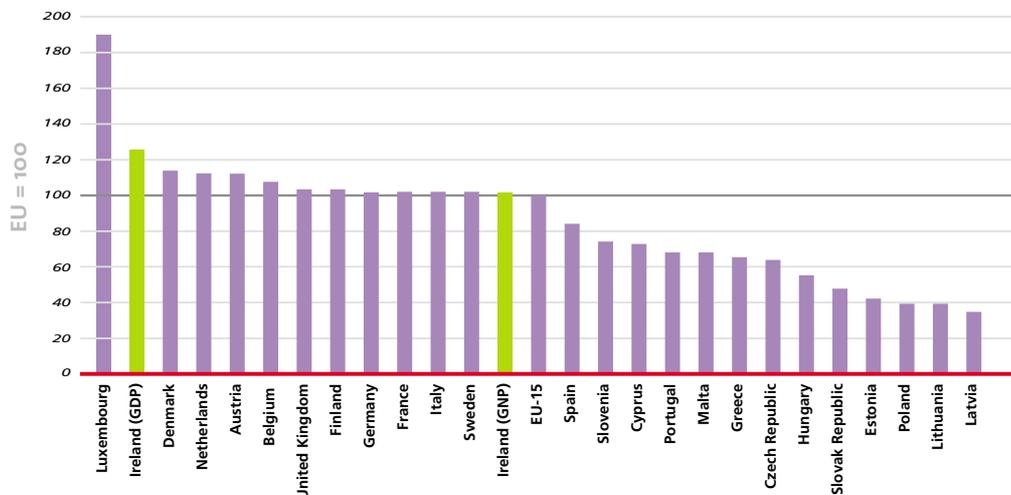
1.1 Where We Are Now

In recent years, the Irish economy has performed exceptionally well by historical standards and by international comparison. Between 1993 and 2003:

- » Employment increased from 1.2 million to approximately 1.8 million¹
- » Unemployment fell from over 15% of the workforce to less than 5%²
- » The value of exports increased from €28.5 billion to €109.3 billion³
- » The national debt fell from 93% of GNP to 34% of GNP⁴
- » GDP per capita⁵ rose from 69% to 125% of the EU-15 average in 2002; GNP per capita (a better measure of performance in Ireland's case) rose from 75% to 101% of the EU average⁶ as set out in Figure 1.1.

Figure 1.1

EU GDP per capita in Purchasing Power Standards, 2002



Source: Eurostat, National Accounts, 2003

1 Central Statistics Office (CSO), Quarterly National Household Survey, Quarter 4, 2003.

2 Department of Finance, Budgetary and Economic Statistics, 2004.

3 CSO, National Income and Accounts, 2003.

4 Department of Finance, Budgetary and Economic Statistics, 2004.

5 GDP gives an inflated impression of Irish income, as it includes profits repatriated by the Irish operations of foreign-owned enterprises to their parent companies.

6 Eurostat, National Accounts, 2003.

1.2 Reasons for Past Success

Ireland's economic success over the past decade was driven largely by the performance of the internationally-traded goods and services sectors, and in particular by the growth of foreign direct investment. The reasons for Ireland's economic success are well documented. The Department of Enterprise, Trade and Employment's *Review of Industrial Performance and Policy 2003*⁷ summarised the key factors as follows:

- External Factors**
- » The positive effects of the growth in global trade and the expansion of the US economy
 - » The growth of foreign direct investment globally in the 1990s, and in Europe under the impetus provided by the single European market
 - » Broadly favourable exchange rate trends up to 2002.
- Domestic Factors**
- » The strategic policy decisions to improve human capital and encourage foreign investment from the 1960s
 - » The enhancement of the enterprise environment created by reform of the public finances, reductions in taxation and wage moderation under the national partnership agreements
 - » Demographic trends that ensured that labour supply did not limit growth potential.

1.3 Role of Public Policy

The public policy framework that led up to and was further developed during the 1990s helped to strengthen and to sustain Ireland's success. Key elements of those policies are described below.

1.3.1 Demographics and Human Capital

The availability and quality of the Irish labour force have been major factors in developing internationally trading goods and services sectors into areas of significant output and employment growth. The availability of labour was boosted in the 1990s by three factors: the population increases in the 1960s and 1970s, the increasing rate of female participation through the 1980s and 1990s, and the significant levels of net migration into Ireland. The fact that the labour supply was, in general, well educated made it particularly attractive to foreign direct investment (FDI). In effect, the consistent education policies of the preceding decades were bearing fruit: there was growing demand for educated human capital in all developed countries, and its ready availability in Ireland helped to attract foreign direct investment and to promote the development of indigenous companies.

1.3.2 Growth of Foreign Direct Investment

Flows of foreign direct investment into Ireland increased from an annual average of around \$140 million in the 1980s to \$2,700 million per annum in the second half of the 1990s. As a result, the total stock of foreign direct investment in Ireland in 2002 reached \$157 billion,⁸ the highest in the world in per capita terms after Hong Kong. Throughout this period, the foreign-owned sector was a major contributor to growth in output, exports and employment. Foreign-owned companies also exercised a significant multiplier effect, with positive effects on the indigenous sector in terms of employment creation, skills development and quality improvements.

The potential for foreign direct investment to support economic growth has been recognised since the opening up of the Irish economy in the 1950s. However, when the Telesis Consultancy Group⁹ carried out a major review of industrial policy in 1982, it concluded that foreign-owned firms in Ireland were generally manufacturing satellites employing relatively unskilled workers, with few sub-supply linkages into domestic firms. It recommended a more selective approach to the attraction of foreign industry, and the strengthening of indigenous companies and sub-supply activities. The resulting *White Paper on Industrial Policy (1984)* led to the reorganisation of the Industrial Development Authority to provide separate divisional responsibility for overseas and indigenous firms and the development of a national linkages programme.

1.3.3 Enhancement of the Enterprise Environment

The dramatic improvement in the enterprise environment in recent years has played a key role in growing and sustaining the enterprise base. The publication of *A Time for Change* ('the Culliton Report') by the Industrial Policy Review Group in 1992 created stronger awareness of the importance of a competitive business environment to the development of enterprise.

The report recommended development of an export-oriented enterprise sector, by introducing:

- » A systematic programme to lower the cost and improve the quality of infrastructure and public utilities – telecommunications, energy, roads and ports – through additional investment and greater competition
- » A fundamental reform of the tax system to promote employment.

The report had considerable influence on policy in a range of areas, including the increased investment in infrastructure and human capital under the national development plans 1994-1999 and 2000-2006. The current National Development Plan (NDP) is designed to build on the economic success of the 1990s and to increase the capacity of the economy to maintain strong and sustainable output and employment growth. It involves an investment of over €52 billion of public, private and EU funds (in 1999 prices) over the period 2000-2006. The plan involves significant investment in health services, social housing, education, roads, public transport, rural development, industry, water and waste services, childcare and local development.

⁸ United Nations Conference on Trade and Development (UNCTAD), *World Investment Report 2003*.

⁹ Telesis Consultancy Group, *A Review of Industrial Policy: A Report by Telesis Consultancy Group, 1982*.

1.3.4 Taxation

The Irish taxation regime has changed considerably over the past 15 years.

The tax burden on individuals has been reduced, as personal income tax rates have fallen from 35% (lower rate) and 60% (higher rate) in the mid-1980s to 20% and 42% respectively. The introduction of tax credits and the move to individualisation¹⁰ have made the personal tax system more equitable.

In 1980, tax relief on export sales was replaced by a corporation tax rate of 10%, which applied to manufacturing and a limited range of internationally-traded services. This was beneficial to industry in general, and was a major influence on the attraction and retention of manufacturing foreign direct investment.

Between 1998 and 2003, the 40% corporation tax rate that applied to other activities was progressively reduced to 25% for non-trading activities, and the 10% rate was increased to 12.5%. The 12.5% rate (which is low by international comparison) now applies to all traded activities in all sectors.

In 1998, the capital gains tax rate was halved from 40% to 20%, providing an incentive to release funds for investment in enterprise.

1.3.5 National Consensus

Social partnership has helped to enhance Ireland's competitiveness and economic success over the past decade. The national partnership agreements established an institutional framework and process in which key economic and social decisions are taken by Government and informed by a consensus amongst employer organisations, trade unions, farmers, and the community and voluntary sector. This ensured a high degree of support from all stakeholders in the economy.

1.3.6 EU Membership and the Internal Market

Ireland's commitment to the realisation of the EU internal market was a significant contributor to economic progress through the late 1980s and early 1990s. This was a major attraction for US and other overseas firms seeking to invest in Europe, and opened new markets in Europe for Irish firms. The Maastricht criteria for entry to European Monetary Union (EMU) set clear parameters for Irish fiscal policy through much of the 1990s. At the same time, the social partnership programmes facilitated a policy approach consistent with low inflation, competitiveness and economic growth. Significant aid from the EU structural and cohesion funds enabled investments in infrastructure and human resources, vital to supporting and maintaining the economy's growth momentum.

¹⁰ Each individual having their own standard rate tax band for income tax purposes.

1.4 Profile and Assessment of Ireland's Enterprise Base

The performance of the enterprise sector over the past decade has transformed the Irish economy. However, the openness of the Irish economy means that the country's performance is highly sensitive to global economic developments.

By 2003, some 298,000 Irish jobs were in companies supported by the enterprise development agencies – IDA Ireland, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta – an increase from 217,500 in 1993. Over the same period, employment in the entire economy increased from 1.2 million to approximately 1.8 million. Table 1.1 shows the contribution to the economy made by agency-supported companies.

Table 1.1

Agency-supported Firms in Manufacturing and Internationally-traded Services, 2003

	Total	Indigenous	Foreign-owned
Number of Firms	8,663	7,390	1,273
Number of Full-time Employees	297,549	147,895	149,654
Average Number of Employees per Firm	34	20	118
Sales (€m) (2002)	99,341	23,588	75,753
Direct Expenditure in the Economy (Payroll, Procurement of Irish Raw Materials and Services) (€m) (2002)	34,170	16,677	17,493
Exports (€m) (2002)	78,803	8,785	70,018

Source: Forfás Surveys, 2003

1.4.1 Key Features of the Internationally-traded Enterprise Base

Ireland's economic performance in recent years has been driven by a rapid expansion in the country's manufacturing base, which exports an estimated 85% of its output. Mainly because of foreign-owned companies, the proportion of high-technology products (such as Information and Communications Technologies (ICT) and chemicals/pharmaceuticals) in Ireland's exports, at 58%, is the highest in Europe (EU-15 average is 24%).

Despite the recent slowdown in the world economy, the internationally-traded services sector continues to grow. Employment in agency-assisted firms grew from around 11,000 in 1990 to 71,000 in 2002. Irish services exports (eg, financial, software, contact centres and shared services, etc) grew faster than any other of the top 30 exporters in the world in 2002,¹¹ propelling Ireland to the top of the global league table of services exporters in per capita terms, from third place in 2001. In absolute terms, Ireland became the 18th largest exporter of services in 2002 (up from 21st place in 2001), a global ranking that is now higher than its ranking for merchandise goods (19th).

11 | World Trade Organisation, World Trade Report, 2003.

Foreign-owned Companies

Foreign-owned companies play a particularly significant role in the Irish economy, exporting approximately 95% of their output.

Foreign-owned companies in Ireland are strongly production-oriented:

- » 73% of employment is in manufacturing and assembly activities;¹² the remaining 27% is in internationally-traded services
- » 75% of sales (€56.5 billion) are in manufacturing, and 25% (€19.3 billion) are in internationally-traded services.

Foreign-owned manufacturing industry in Ireland has become increasingly concentrated in two sectors:

- » The chemicals/pharmaceuticals sector accounted for almost one-third of the output of foreign-owned manufacturing companies in Ireland in 2002, a share that has been increasing steadily over the past decade
- » The computer/electronics sector accounted for a quarter of sales in 2002.

Outside these sectors, other manufacturing activities, such as textiles and general engineering, have decreased in importance.

Even though they are in high-value sectors, a significant proportion of the foreign-owned firms are, by global standards, still positioned at a relatively low point in the value chain. The R&D and marketing activities and those activities that require a direct relationship with the customer – in other words, the activities that underpin the competitive strength of the parent organisations – are not for the most part located in their Irish operations.

Indigenous Enterprise

In 2003, Ireland had the highest rate of new business start-ups¹³ in the European Union, at 4.7%, compared to the EU-15 average of 2.8%.¹⁴ Ireland also ranks fifth of the EU-15 member states for the proportion of the workforce that is self-employed.¹⁵

Over the period 1990-2002, exports by agency-assisted indigenous enterprise grew in nominal terms at 5.5% per annum (versus 15.9% for foreign-owned companies). When inflation is taken into account, the real growth in both sales and exports was negligible.

12 Increasingly, some of these firms' activities include service elements.

13 Rate of new business start-ups per total population (18-64 year olds).

14 Fitzsimons, O'Gorman, *The Global Entrepreneurship Monitor, 2003 – The Irish Report, How Entrepreneurial is Ireland? 2004.*

15 OECD, *OECD in Figures, 2003.*

Table 1.2

Exports and Export Growth in Irish-owned Companies, 1990-2002

	1990	1995	2000	2001	2002	Per Annum Change 1990-2002
	€m	€m	€m	€m	€m	%
Total - All Sectors	4,602	6,259	8,292	8,531	8,785	5.5
Manufacturing	4,366	5,960	6,848	6,831	7,087	4.1
Food/Drink/Tobacco	2,879	3,879	4,158	4,166	4,490	3.8
All Engineering Sectors	614	844	1,469	1,380	1,260	6.2
All Other Manufacturing ¹⁶	873	1,237	1,221	1,285	1,337	3.6
Internationally Traded Services	236	299	1,444	1,700	1,698	17.9
Software Development	55	70	776	1,098	980	27.2
All Other Services	181	229	668	602	718	12.2

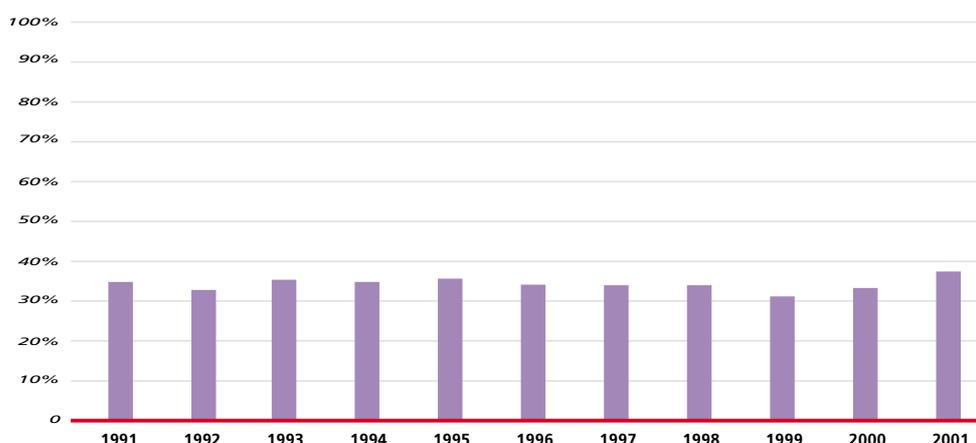
Source: Forfás Surveys, 2003

The Department of Enterprise Trade and Employment's *Review of Industrial Performance and Policy 2003* noted that a majority of indigenous SMEs does not export while many that do engage in exporting continue to focus heavily on the British market. Indigenous companies accounted for 11% of exports for the year 2002. Figure 1.2 highlights that export intensity (export as a proportion of sales) of agency assisted indigenous manufacturing firms has remained stagnant over the past decade.

16 | 'All Other Manufacturing' includes textiles, printing, wood products, chemicals, rubber and plastics and non-metallic minerals.

Figure 1.2

Export Intensity (All Indigenous Manufacturing), 1991-2001



Source: CSO, *Census of Industrial Production, 2001*

Despite the strong growth of indigenous internationally-traded services companies, in 2002, 81% of turnover was derived from manufacturing activities. The food and drink sector accounted for almost half of the output of indigenous industry and for 29% of employment.

Broad Economic Impact of Agency Assisted Firms

The total corporation tax yield from all sources was €5.2 billion in 2003,¹⁷ an increase of 7.5% on the previous year. Agency-supported companies paying tax at the 10% rate (including companies in the international financial services sector) accounted for €2.7 billion (52%) of this total. Foreign-owned companies assisted by the development agencies accounted for approximately €2.4 billion (47%) of all corporation tax in 2003.¹⁸

Overall, agency-supported companies spent €34.2 billion in the Irish economy in 2002,¹⁹ as follows:

- » €10.8 billion on payroll costs
- » €14.4 billion on raw materials produced in Ireland
- » €9.0 billion on Irish-supplied services (energy, telecommunications, etc).

Indigenous companies accounted for 49% (€16.7 billion) of this expenditure, equivalent to 71% of their sales. Foreign-owned companies accounted for the remaining 51% (€17.5 billion), equivalent to 23% of their sales.

The difference between the expenditure of the two sectors is accounted for by the fact that indigenous firms are more likely to source their raw materials within Ireland, and is also a reflection of the high sales of some foreign-owned companies in sectors such as chemicals and electronics.

17 Department of Finance, *Exchequer Returns for 2003, January 2004*.

18 Forfás, *Annual Business Survey of Economic Impact, 2003*.

19 *ibid.*

In 2002, average annual wage and salary payments in foreign-owned companies (€39,600) were almost 14% higher than in indigenous companies (€34,700). Foreign-owned companies also devoted marginally more resources to training and staff development. In 2002, foreign-owned manufacturing enterprises spent an average of €600 per employee on training, compared with an average of €540 per employee by agency assisted Irish firms.

Four in ten foreign-owned firms have some involvement in R&D in Ireland, with three in ten firms spending at least €127,000 a year on R&D. In 2001, indigenous firms accounted for 35% of business expenditure on R&D (BERD), and represented five of the top twenty R&D performers.

1.4.2 Domestically-trading Enterprises

As in all economies, the vast majority of businesses in Ireland are small and medium sized enterprises (SMEs).²⁰ These businesses make up at least 95% of all trading entities and employ over 80% of the workforce. Based on estimates from the Revenue Commissioners, there are approximately 250,000 businesses in Ireland. While there are no precise figures available, it is estimated that approximately 100,000 are single-person businesses or partnerships that are run solely by their proprietors and have no employees.

In terms of sectoral composition, the majority of businesses are engaged in service activities. These can broadly be divided into:

- » Producers of business services such as financial services that are supplied mainly to business customers
- » Distributive services such as transport and wholesale/retail distribution
- » Consumer services such as hotels, catering and entertainment, that are supplied mainly to personal consumers.

Many of these businesses operate in local markets in which both customers and competitors are drawn from a limited geographical area.

Significant parts of this sector operate in a relatively sheltered regulatory and competitive environment; as a result, their efficiency and innovativeness are dampened, impacting on the cost base of their customers.

20 | *Enterprises with fewer than 250 employees.*

1.4.3 Conclusions

The success of the Irish economy in the 1990s was unprecedented by both Irish and international standards. In a relatively short time, living standards in Ireland converged with those in leading countries.

Ireland's performance was driven primarily by a relatively small number of foreign-owned firms who chose Ireland as their base for serving European markets. The effect of these firms on the economy was such that it masked the generally poor performance of the indigenous sector, with the exception of a small number of high-performing firms.

Much of the business that Ireland developed in the past now faces significant competitive pressure. The purpose of the strategy detailed in this report is to position the enterprise sector in Ireland to build on its strengths and exploit new opportunities over the coming decade.

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:

Section	Page
2.1: Globalisation	16
2.2: The Global Shift to Services	20
2.3: Rising Costs	21
2.4: Demographic Changes	24
2.5: The Growing Importance of Knowledge	26
2.6: Changes in EU Policies	31
2.7: Environmental Issues	32
2.8: The Importance of Infrastructure	33
2.9: Access to Finance	34
2.10: Ireland in Transition	35

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*.

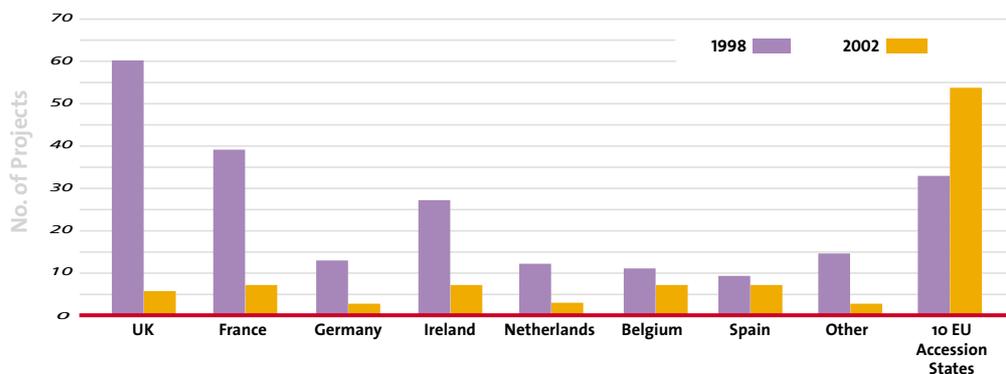
27 Bulgaria, Romania, Turkey, Former Yugoslav Republic of Macedonia and Croatia.

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

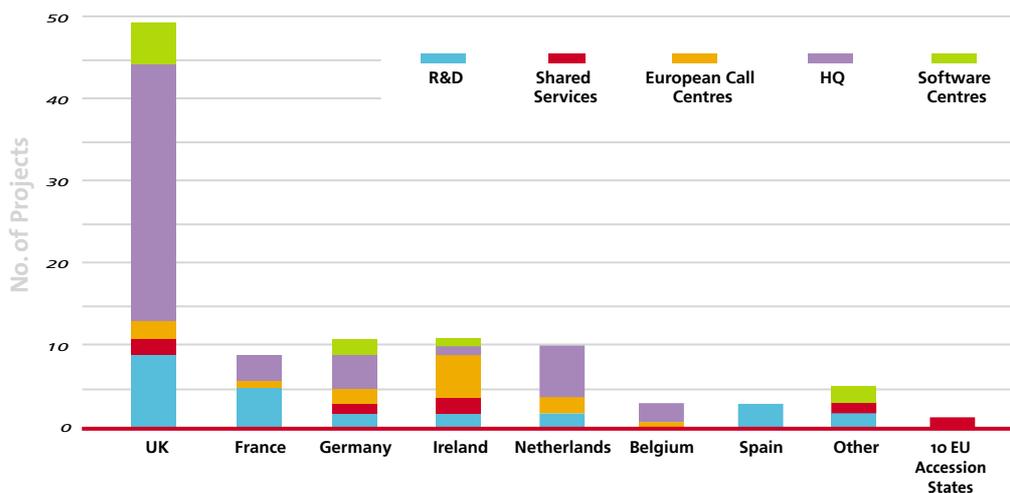


Source: Buck Consulting, 2003

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.

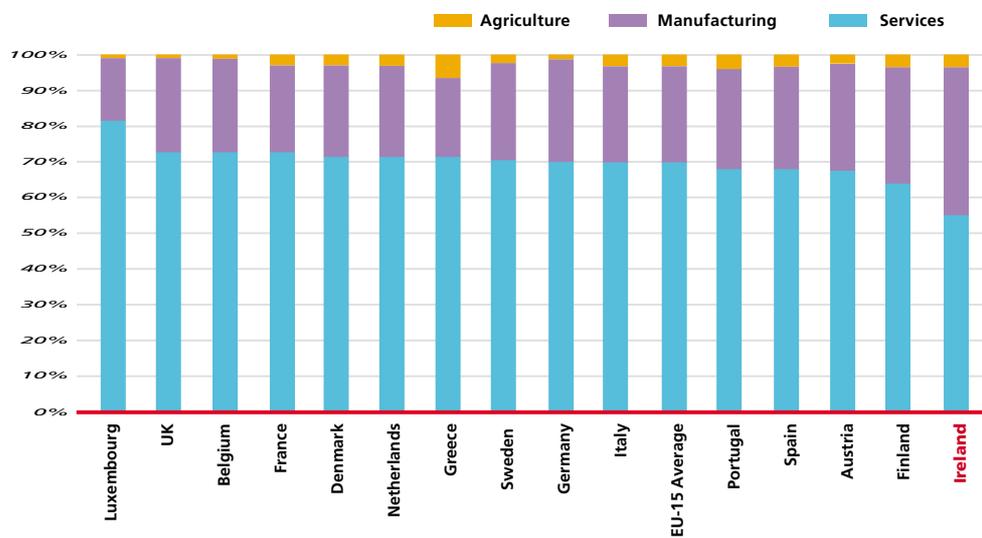
In this respect, much of our enterprise base is disadvantaged by its relative distance from the end customer – not only in geographical terms, but also, in the case of most foreign-owned enterprise, in terms of the business functions located here. Firms that are demand-led focus on market research, product 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*.

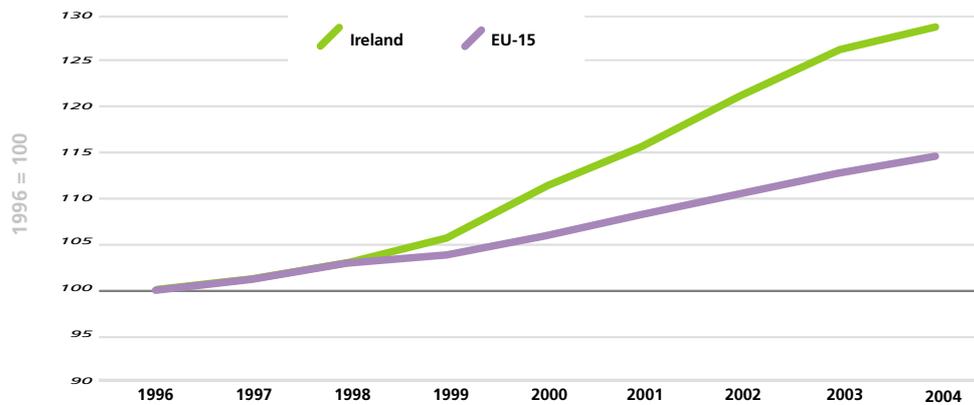
37 *ibid.*

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*.

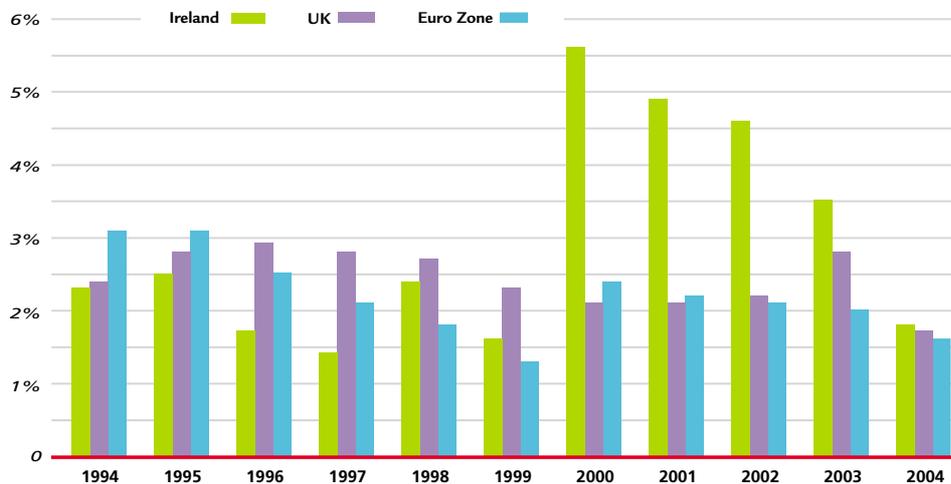
Conclusion

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.

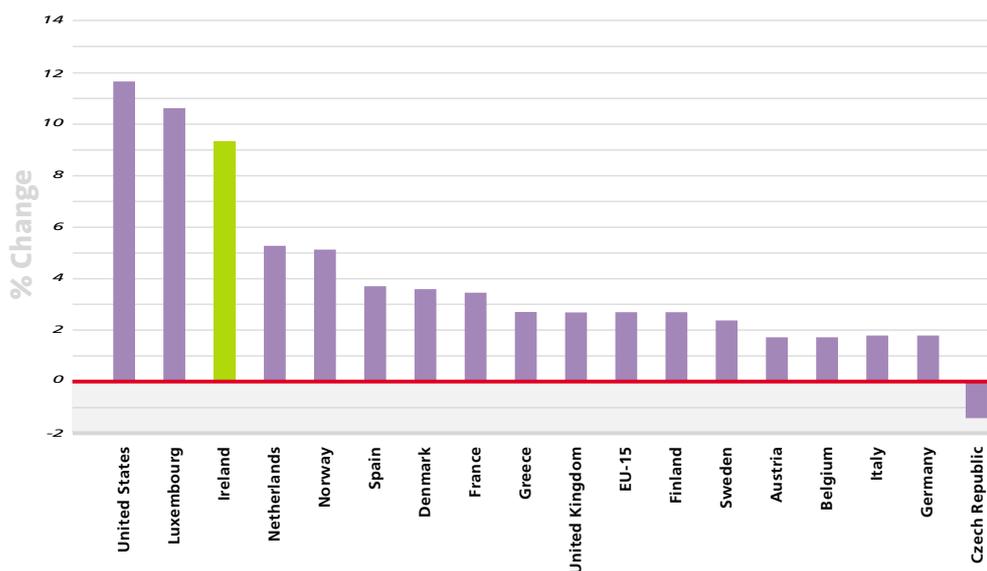
From 1993 to 2003, the number at work increased from 1.2 million to approximately 1.8 million. This expansion was made possible by:

- » 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

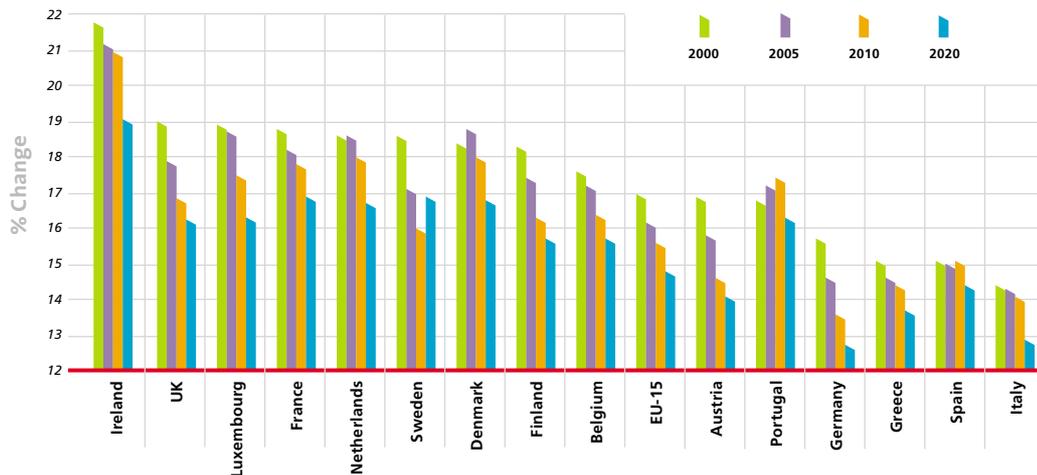
44 The increasing supply of labour accounted for one third of the growth in GNP per capita in the first half of the 1990s, and around half of the growth between 1995 and 2000. ESRI *Medium Term Review 2003-2010*.

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.

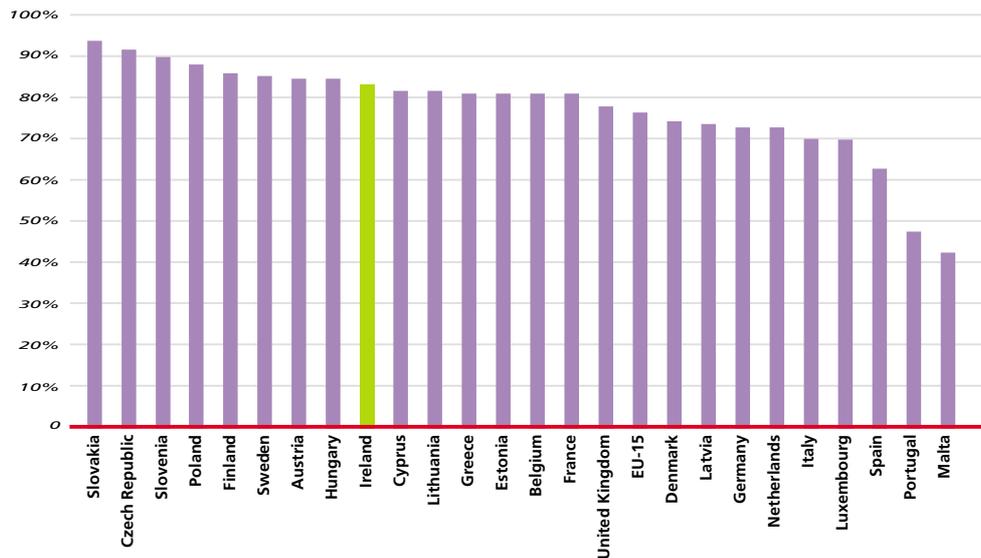
Upper Secondary level

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*.

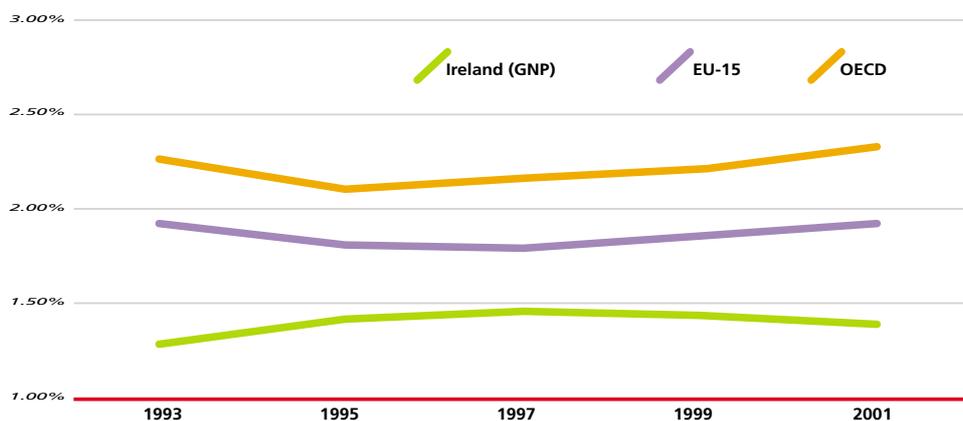
58 CSO, *Quarterly Household National Survey, Educational Attainment*, January 2004.

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.

Chapter

3

A New Strategic Direction

3 A New Strategic Direction

The challenge for Ireland in the next decade is to build distinct competitive advantages that will sustain high living standards in the face of intense global competition. The key to success lies in building knowledge and expertise to achieve leadership positions in our target markets.

This Chapter describes the types of companies that will thrive in the years immediately ahead, the types of new companies that will emerge, the key differences between successful companies today and those of tomorrow, and the new ways in which companies will collaborate for mutual advantage.

Ireland's Diverse Enterprise Base

Ireland's economic success of the past decade was sustained by an enterprise base with three distinct components:

- » Subsidiaries of foreign-owned companies trading internationally
- » Indigenous companies trading internationally
- » Companies trading locally.

The performance of each of these three components is dependent to some degree on the performance of the other two, and over the next decade that interdependence will increase. Each component has an important role to play in Ireland's economic development, and the 10 year strategy set out in this report seeks to maximise the contribution of each.

Opportunities

There are new areas of opportunity that are opening up, and that will play a significant role in Ireland's economy over the next decade. They fall into three broad categories:

- » **Internationally-traded services:** As international trade in services increases, there are emerging opportunities in a range of sectors and activities where Ireland has existing expertise. Ireland's corporation tax regime⁶⁹ is particularly favourable for the expansion of services activities
- » **High value-added manufacturing:** As our proven expertise in production and operations is integrated with knowledge-based activities such as R&D, marketing, customer relations management and sales, high value-added manufacturing will continue as a fundamental component of Ireland's enterprise base

69 Ireland's corporation tax rate of 12.5% applies to all traded activities, which presents significant potential to pursue new opportunities across a wide range of service activities (most of which were previously subject to a higher rate of corporation tax, which was progressively reduced from 40% beginning in 1998).

- » **Locally-trading businesses:** Locally-trading businesses will thrive over the next decade in a more competitive environment, as they apply innovation and best practice to their businesses. Efficiency in this sector will help to reduce the cost base of the internationally-trading sector.

A number of areas of specific opportunity for Ireland are explored in more detail on the CD-ROM accompanying this report. They include:

- » Realising the relatively underdeveloped international opportunities of service sectors such as education, healthcare, creative services and maritime services, and maximising the potential of services delivered electronically
- » Capitalising on the emergence of new global business models, such as supply chain management, exploitation of intellectual property, outsourced business processes, regional headquarters and centralised corporate support services
- » Developing our existing strengths and expertise in biopharmaceuticals, ICT, medical technologies, engineering and consumer products, and building on the success of natural resource-based sectors, such as food and tourism.

Ireland is a small country, and cannot be first or best in every field of activity: we have to focus. Enterprise in Ireland will succeed by focusing on and reinforcing those niche areas of activity where it has, or can build, sustainable competitive advantage. These areas can evolve from a number of sources, including natural resources, research excellence, market knowledge and groupings of companies with specific expertise.

Realising the Potential

Identifying and exploiting opportunities will require enterprise to develop further strengths in two particular areas:

- » **In-depth knowledge of markets and customer needs**
- » **The ability to develop high-value products and services to satisfy those needs.**

While Ireland can boast pockets of excellence in these areas, and some exceptional international enterprise successes, a significant proportion of Ireland's capability is in production and operations which is not balanced by expertise in markets and technology.

To develop the required knowledge of markets and customer needs, companies need a well-developed system of market intelligence that encompasses knowledge of sectoral developments, competitor positioning, technological advances, and regulatory changes. They also need to build strong relationships with individual customers, in which they develop a comprehensive understanding of the customers' businesses and their problems, so that they can sell them solutions that meet or exceed their expectations.

In the years ahead, growth will come from goods and services that incorporate original knowledge about customers and their businesses, and about new technology, techniques, materials, processes and delivery methods. While the recent increased investment in basic research capability is welcome, we now need a similar emphasis on applied research by companies, so that they can develop innovative products and services that satisfy customer needs.

The role of **enterprise-led networks** will become progressively more important as a mechanism to drive the development agenda and provide services to companies. Over time, a higher proportion of state support is likely to be delivered to networks focusing on developing sectoral expertise and enabling Ireland to become a global centre of excellence in niche areas.

This Chapter is divided into four sections:

Section	Page
3.1: Specific Growth Opportunities	41
3.2: Changes Needed to Achieve Success	48
3.3: Business Networks	53
3.4: Building Competitive Advantage	55

3.1 Specific Growth Opportunities

There are a number of areas where Ireland has considerable potential for future growth, building on existing expertise and capitalising on new opportunities arising from a global business environment. These include opportunities in internationally-traded services, high-value manufacturing in a number of sectors and locally-trading businesses. (Locally-trading businesses are discussed to the extent to which they contribute to and support internationally-trading activities).

The highlighting of such opportunities should not be interpreted as an attempt to pick winners. Rather, this strategy aims to ensure the state quickly and pragmatically responds to what is working well and to reinforce it. This approach of industry self-selection rests on the ability to secure early and good intelligence from the marketplace.

3.1.1 The Increasing Importance of Services

Over the period to 2015, internationally-traded service activities will become increasingly important for indigenous and foreign-owned operations in Ireland. Growth in the sector will be driven by reduced barriers to trade, advances in communications technology, and Ireland's corporation tax regime.

The contribution of services to GDP and employment has increased substantially in all developed economies; the services sector is now the fastest growing sector in these economies.⁷⁰ Developments within the WTO and EU have resulted in a reduction in barriers and enhanced opportunity for international trade in services. The Internet facilitates the remote provision of services and reduces the need for face-to-face delivery.

Ireland has a strong track record in capturing foreign direct investment in service activities, including financial services, customer contact centres, shared services, and more recently, data centres and eBusiness related activities. There are also some indigenous services firms trading internationally, for example in health, education, construction, tourism and software.⁷¹

However, the recent extension of the 12.5% corporation tax rate to all traded activities presents Ireland with a new opportunity to target foreign direct investment in a much wider range of service sectors and activities. Ireland also has the advantages of being native English-speaking with some foreign language capability, and has competitively priced international broadband connectivity.

In the development of this report a wide range of service activities was reviewed in terms of their potential for internationalisation. More than 80 industry participants subsequently considered a short-list, assessing specific opportunities, global trends, the potential for growth (either through employment or wealth creation) and Ireland's existing strengths and capabilities. They outlined specific initiatives they feel are required to address issues and realise optimum potential. PwC Consultants were also commissioned to assess services opportunities arising specifically from the introduction of the 12.5% corporation tax rate to all traded activities.

⁷⁰ OECD, *OECD in Figures, 2003*.

⁷¹ *Software development has been included in the ICT Report, included on the CD-ROM.*

The following sectors and activities were considered to offer opportunities for exploitation by indigenous enterprises and for increased inward investment:

Service Sectors

Education Services

Financial Services

Healthcare Services

Tourism

Creative Services

Maritime Services

Aviation Services

Construction, Engineering and Environmental Services

Professional and Consultancy Services

Agricultural and Bloodstock Services

Service Activities

European Headquarters

Franchising

Intellectual Property

Sales and Marketing

Shared and Outsourced Business Processes

Services Delivered Electronically:

- eRetailing of Consumer Goods
- eServices
- Data Management

Supply Chain Management

The potential for Ireland in these sectors and activities is described further on the CD-ROM accompanying this report and the education services sector is profiled as an example. The inputs on the CD-ROM informed the work of the Enterprise Strategy Group and helped shape its analysis and recommendations.

Internationally-traded Services: An example

Developing the Internationally-traded Education Services Sector

Worldwide, there are about 1.6 million students enrolled in higher education outside their home country. These account for the largest share of the US\$30 billion market in international education services. Although the UK, US, Germany, France and Australia dominate the market – catering for 70% of the overseas student total – there is still significant opportunity for Ireland to capture a share of this high growth sector. Future growth in the sector is likely to be driven by a number of factors, including the emergence of new markets (including China, Russia and Eastern Europe), increased student demand and the evolution of eLearning.

Ireland already has some experience in this area. In 2001, Ireland's higher level educational establishments earned y161 million catering for 9,300 students, and approximately 100 private companies generated revenues of y340 million, mainly by providing courses in English as a foreign language. Ireland's strengths include:

- » Native English-speaking
- » Perception as a desirable place to work, learn and live
- » International academic reputation in higher education
- » Technology expertise in development and delivery of eLearning solutions.

In countries that have been most successful in developing the sector, overseas students represent about 15% of the total student population; in Ireland, they represent about 7%. The more successful countries have also been proactive in developing the sector, focusing on quality, regulation and co-ordination, whereas Ireland's sector has grown in a less structured way to date.

In order to realise the potential of new markets and increased demand, a number of actions will have to be taken by the education providers and the state agencies. These include managing quality assurance and regulation, marketing the sector, developing an efficient visa system and raising awareness of cultural differences. (These are dealt with in more detail on the CD-ROM accompanying this report.)

The Department of Education and Science is currently in the process of developing and agreeing a national policy, strategy and framework to cover both private and public sector providers and this initiative is welcomed.

In addition to the direct economic benefits of the industry, the propagation of Ireland's reputation as an educational centre and the creation of an international body of alumni would support the marketing of Ireland and its businesses abroad.

3.1.2 High-value Manufacturing

The manufacture of high-value products will continue to be a key component of Ireland's enterprise base. Building on our existing production strengths, manufacturing companies should become increasingly involved in applied research, in new product introduction, and in managing outsource partnerships.

Many companies in Ireland have built world-class high value-added manufacturing capabilities, particularly in food, information and communications technology, pharmaceuticals and medical technologies. Continuing improvements and technological changes, such as nanotechnology and high-speed communications, will lead to new products, new processes and higher value-added manufacturing. In certain sectors, Ireland has built expertise in process design and improvement, automation, quality assurance, supplier selection and management, and logistics management. Ireland's existing expertise provides a base for continued wealth creation over the next decade and we envisage that Ireland's manufacturing base will continue to operate at the forefront of manufacturing technologies and processes.

Companies should continuously innovate to improve productivity and increasingly engage in applied research for both products and processes. They should increasingly engage in early stage manufacture of products and implementation of manufacturing processes and in a range of activities that facilitate closer involvement with the customer, such as technical support, order management, and product management. Where it makes commercial sense, companies should embrace opportunities for outsourcing and manage the transition of low value production to lower-cost countries.

For foreign-owned companies in particular, existing capabilities and experience can be leveraged. These can be combined with knowledge of multinational structures and practices, our attractive tax regime and our geographical location between American and Asian time zones, to position Ireland as an international or regional headquarters for managing the supply chain.

The strategy set out in this report should assist companies by providing a business environment that specifically reinforces the competitiveness of successful firms and sectors, through applied research programmes, focused marketing support and collaboration within and across industries.

As part of the development of this strategy, a number of industry advisory groups were established to assess the opportunities for Ireland in high-value manufacturing and related activities. The following sectors were reviewed:

High-Value Manufacturing Sector	Sub-sectors/Activities ⁷² that offer opportunity for further development
Pharmaceutical/ Biotechnology	Process development Ethical pharmaceuticals Bio-pharmaceuticals
Food	Prepared consumer foods Functional foods Food ingredients Specialty foods
Information and Communications Technology	Supply chain management- hardware & systems Software development ⁷³ Infocomms – eLearning, wireless, digital media Integrated circuit design Customer technical support
Medical Technologies	Cardiovascular – cardio-rhythm management Diagnostics
Engineering	Proprietary products in niche areas, such as automotive and telematics
Consumer Goods	High-margin goods, enhanced by strategic use of design

The potential for Ireland in the above sectors is described further on the CD-ROM accompanying this report.

A vision of the medical technologies sector is provided overleaf as an example of how we might develop high-value manufacturing. The vision for 2015 is based on the assumption that appropriate policy initiatives are undertaken to realise the opportunities and capitalise on the benefits of clustering and networking.

Ireland also has a significant opportunity to build on industries which add value to its natural resources, including food and tourism. For example, the agriculture, food and drink sectors are of greater importance to Ireland than to any EU member state. With annual output of €16.8 billion and total exports of €6.7 billion, the sector accounts for over 55% of exports by indigenous companies and 20% of industrial employment. A vision of the agri-food sector is also provided in Appendix E to demonstrate how a focused cohesive strategy can help to further drive the development of the sector as it faces increased challenges over the next decade.

⁷² Indicative only and not intended to be an exhaustive listing of potential opportunities.

⁷³ A number of the advisory groups identified the development of specialised, sector-specific software as a particular opportunity.

Developing High-Value Manufacturing: An example

Medical Technologies

The Starting Point (2004)

Approximately 20,000 people are employed in the medical technologies sector in Ireland, and 13 of the world's top 25 medical technologies companies have operations here. Several indigenous companies are sub-suppliers to the foreign-owned companies, and increasing numbers now develop and commercialise proprietary technologies in niche areas.

A Vision of the Medical Technologies Sector in 2015

If appropriate policy initiatives are taken, by 2015 Ireland will be recognised globally for excellence in medical technologies, in particular cardiovascular and diagnostic technologies, having built on the capabilities of the cluster formed in the 1990s in the West of Ireland. Ireland will be the location of choice for research and development, manufacture and marketing of innovative high-value products and solutions.

Ireland will have considerable strength in applied research, particularly in the areas of cardiovascular and diagnostic technologies. Enterprise and research institutions will collaborate effectively, and an intellectual property regime will support commercialisation and access to research. Longer-term research in the areas of biotechnology and nanotechnology will support the industry's further development.

Ireland's manufacturing capabilities will be world-class, particularly in the manufacture of complex and high value-added products. The sector will have developed excellent capabilities in leading-edge supply chain management, resulting in significantly reduced time to market, increased efficiencies and a customer-focused demand-led operations model.

Business networks will foster collaboration within the sector (both internationally and nationally), for example through applied research programmes funded jointly by enterprise and Government, and through joint market intelligence-gathering and dissemination. They will also enable industry players to meet with and discuss cross-sectoral opportunities with firms in ICT, pharmaceuticals and biotechnology.

A number of foreign-owned firms based in Ireland will have global or regional responsibility for product management, leveraging off their success in R&D and new product introduction. Others will have extended their mandate to include European sales management.

Some early-stage growth companies will have established in Ireland, attracted by the intellectual property regime, the low rate of corporation tax, and the 'cluster effect' – the country's proven in-depth industry and market knowledge, and pool of talent and expertise in their area of business. The development agencies will provide support for market entry, by providing intelligence on European markets, assisting in the identification of optimum channels to market, clarification of standards and regulatory issues, and identification of potential outsourcing partners.

Ireland's indigenous base will have continued to grow, addressing niches with high value products, with the support of specialised venture capital funds.

Ireland will host a medical technologies conference annually, focusing on areas where Ireland has built world-class capability.

3.1.3 Developing Locally-trading Businesses

Future success will require that businesses trading locally, including public services, are world-class in terms of efficiency, effectiveness and innovation.

Between 1993 and 2003, employment in Ireland increased from 1.2 million to approximately 1.8 million, while employment in agency-supported companies increased from 217,500 to 298,000. As the agency-supported companies trade internationally, the bulk of the employment growth over the decade was in businesses trading locally (ie, providing goods and services within Ireland, including retailing, transportation, and healthcare). These locally-trading businesses will continue to play an important role in the economy in the years ahead.

Standards of living in a country depend on labour productivity and the proportion of the population in work. In Ireland, with a low rate of unemployment and a high rate of workforce participation, the best way to improve living standards is to increase productivity. As the locally-trading sector is the major source of employment, increased productivity in this sector would have a significant positive effect on the whole economy. At a broad sectoral level, productivity growth during the 1990s in the labour-intensive market services sector⁷⁴ (average annual growth rate of 1.9%) and the construction sector (average annual decline of -1.0%) was significantly lower than in the more capital-intensive manufacturing sectors (average growth rate of 8.9%).⁷⁵ There is also a relatively low adoption of eBusiness technologies,⁷⁶ and relatively low rates of innovation.

Many locally-trading sectors are, by their nature, sheltered from international competition, and some, by regulation, from effective domestic competition. Examples include quantitative restrictions on entry, and special case exemptions. Prices have risen significantly over the past number of years, with consequent damage to the competitiveness of Ireland's internationally-trading industries.⁷⁷ It is essential that steps be taken where possible to remove domestically imposed barriers to entry.

The Government has a role to play in ensuring a supportive business environment for locally-trading businesses, especially through price stability, well-managed public finances and regulations that promote competition and entrepreneurship. Competition is likely to increase in the years immediately ahead, as Government increasingly recognises the importance of putting consumer interests ahead of producer interests and implements corrective measures, and as cross-border trade intensifies throughout the EU and globally. Increased competition provides strong impetus for innovation, responsiveness and higher standards, and ultimately benefits efficient companies and drives success.

⁷⁴ Market services exclude education, health, public administration and defence, because of the difficulties associated with measuring the output of the public sector.

⁷⁵ Productivity measured as output per worker: Central Bank of Ireland, *Quarterly Bulletin*, Spring 2004.

⁷⁶ Ireland was ranked joint seventh of nine case study countries, including Germany, Denmark, Australia, Netherlands, Sweden, Singapore, the UK and the US. Forfás, *eBusiness Monitor Report*, 2003.

⁷⁷ National Competitiveness Council, *Annual Competitiveness Report* 2003.

The companies that will succeed in the years to 2015 are those that:

- » Benchmark their performance against sectors already facing significant national and international competition, and adopt best practice from them (for example, logistics management, customer services, investment in training and R&D)
- » Focus on meeting customer needs and delivering high-quality services cost-effectively. In particular, companies delivering legal, financial, insurance, educational, communications, logistics and transportation services must do so to best international standards of quality and cost
- » Use appropriate levels of technology to meet customer requirements, to deliver solutions and to reduce costs
- » Innovate by continually developing their product and service offerings in response to, or in anticipation of, market demands.

3.2 Changes Needed to Achieve Success

Achieving success in the areas of opportunity outlined above will require developing:

- » **In-depth knowledge of markets and customer needs**
- » **The ability to develop high-value products and services to satisfy those needs.**

The development of these characteristics will be facilitated by a sectoral focus and by business networks.

This presents a considerable challenge for businesses in Ireland. Indigenous companies, in general, have further scope to penetrate international markets and to increase their utilisation of technologies. They are hindered from maximising potential to some extent by small scale, relatively weak international sales management capability and limited resources. Few of the foreign-owned companies based in Ireland sell directly to customers or have any direct customer relationship. R&D performance by firms in Ireland is also weak by international comparison, which limits the ability of firms to develop new products and services.

The evolution of the enterprise base required for long-term success is illustrated in Figures 3.1 and 3.2. These show a progressive rebalancing of our base of expertise, in which our current strength in manufacturing and operations is complemented by increased strengths in R&D and the application of technology, and sales and marketing.

Figure 3.1

Profile of Expertise in Enterprise in Ireland, 2004⁷⁸

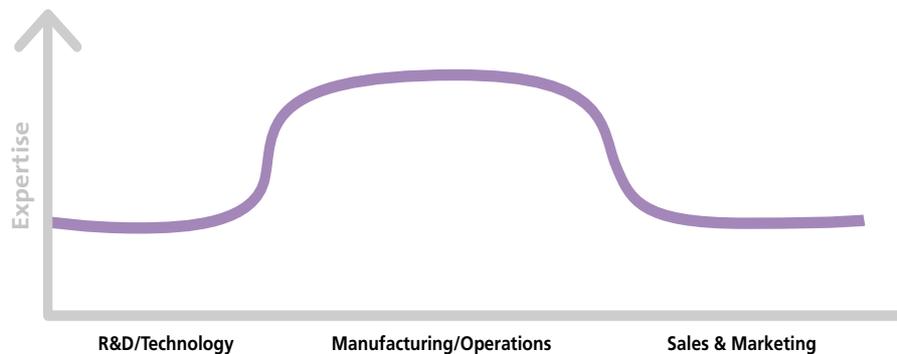
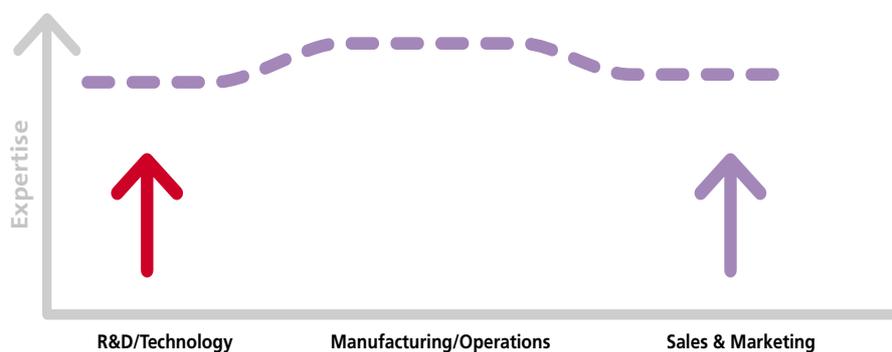


Figure 3.2

Required Profile of Expertise in Enterprise in Ireland, 2015



3.2.1 Knowledge of Customers and Markets

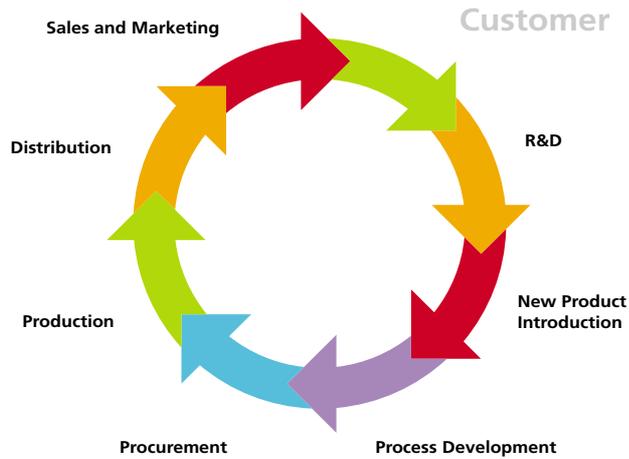
Over the next decade, enterprises based in Ireland will have built an in-depth knowledge of customers and markets and achieved competitive advantage by delivering customised and innovative solutions that meet or exceed customer expectations.

In the past, suppliers typically produced standard products and made them available at a standard price. More often today, it is the customer who defines specific needs and the supplier delivers a tailored solution, (Figure 3.3). Therefore to succeed today, businesses must be closer to their customers, building an in-depth understanding of their needs so that they can develop and deliver customised and innovative products and services.

78 | Illustrations adapted from; Edmond Molloy PhD and Edward Delaney D.B.A, *Strategic Leadership of Multi-National Subsidiaries: From Superior Performance to a Vital Part of Corporate Value Chain*, 1998.

Figure 3.3

The Value Chain Driven by the Customer



Companies also need to understand competitor offerings and strategies, be aware of early indicators of market trends and identify and react to new and emerging market opportunities. Time to market and the ability to be proactive is critical. This necessitates a regular presence in existing and potential markets and continuous tracking of market trends, competitors, technologies, standards, regulations and products. While this is easier for larger companies to achieve, smaller companies are constrained by management capacity - and in some cases management capability - and financial resources.

A number of progressive Irish companies are highly successful in capitalising on international market opportunities, including some that are world leaders in their areas of activity. However, they are in the minority and this 10-year strategy seeks to maximise the potential of a greater proportion of Irish firms to access new markets. A support framework should be established that enhances access to the most relevant market knowledge and develops sales, marketing and management capability, taking account of the particular challenges facing smaller companies.

Although foreign-owned companies in Ireland in general have limited direct contact with their customer base (with the exception of customer support centres), there are opportunities to engage with the customer through activities such as product management, order management and fulfillment, sales lead generation and market research. Such potential should be exploited.

There is also an opportunity to encourage early stage growth companies to make Ireland their Gateway to Europe, by establishing headquarters functions here, including control and management of sales and marketing strategies. Although Ireland has had limited success in this area to date, recent changes to the corporation tax regime now give us a particular advantage.

3.2.2 Developing High-value Products and Services

In 2015, enterprises based in Ireland will consistently achieve high added-value by applying research, technology and innovation to achieve excellence in product and service development.

We have outlined the importance of in-depth market knowledge to inform innovation in product and service development. While some innovation will come from business process engineering, brand management and product/service design, much of it will depend on the development and application of technology. For technological innovation, firms must have either the in-house capacity for research and development or the capacity to identify, evaluate and apply the results of R&D carried out elsewhere.

Ireland has already increased investment in R&D to improve the national capability and capacity for innovation. By 2015 we will need to have developed a knowledge and skill base that is extremely attractive to and valued by indigenous and foreign-owned firms.

The research talent fostered by PRTL⁷⁹, SFI,⁸⁰ IRCSET⁸¹ and others will be a national competitive strength. It is important, however, that the knowledge and skills arising from these programmes be both exploitable and optimally exploited in Ireland. This will require focusing the research activities, developing capacity and capability within enterprise to commercialise the intellectual property arising from research and employing people with research skills.

In Europe, research initiatives tend to be supply-driven. While they successfully develop knowledge and technology, these initiatives are less successful than their US counterparts at creating value propositions that can be commercialised.

We need to ensure that research in Ireland is led and informed by market needs (demand-driven), so that we obtain economic value from the research investment. Initiatives to improve enterprise access to research in higher education institutions, to foster collaboration between academia and enterprise, to increase mobility of people between academia and enterprise and to drive investment in a number of key areas where Ireland's enterprise base can benefit are essential to achieving this aim.

Foreign-owned subsidiaries in Ireland that identify market needs and work with the Irish research base to satisfy them will become strategically important to their parent organisations and embedded in the Irish economy. Indigenous companies can potentially become world leaders in specific niche areas.

To build strategic value based on research, technology and innovation, companies in Ireland will:

- » Build links to customers and continuously assess changing needs and trends
- » Build on activities funded by PRTL, SFI, and IRCSET, and especially on those niches where Ireland has leading research capacity
- » Participate actively in technology foresight, strategic technology platforms, market watch and other intelligence-gathering activities
- » Participate in international standards activity

⁷⁹ Programme of Research in Third-level Institutions.

⁸⁰ Science Foundation Ireland.

⁸¹ Irish Research Council for Science, Engineering and Technology.

- » Establish linkages and other business relationships with innovative companies
- » Create a focused demand for publicly funded applied research.

The following example outlines how a multinational manufacturing company repositioned itself as a software development entity with global responsibility and has developed key relationships with its customers.

Knowledge of Customers, Markets and Technologies: An example

A multinational corporation established a subsidiary in the West of Ireland in the 1970s to manufacture electronic equipment. During the early 1990s, the Irish management team succeeded in extending the subsidiary's mandate by undertaking specific software development projects that were allocated by the parent company and significantly growing the R&D capability and global reach of the subsidiary.

During the recent economic downturn, the parent company was severely impacted, and outsourced manufacturing operations. It shed over half of its 90,000 employees worldwide in an attempt to contain costs and re-balance the strategic focus to core competencies in sales and R&D.

During this period, the Irish entity lost its manufacturing mandate as the corporation consolidated its global operations. However, the Irish management team was confident that it had built key expertise within its R&D division, and acquired sole global responsibility for contact centre software development in addition to other R&D functions, while expanding customer facing sales engineering services. The company also established a Customer Partnership Centre in Ireland that currently hosts over 700 customers annually for one-to-three day detailed product strategy reviews and sales engagements. Not only are the products demonstrated to potential customers, but the engineering team also meets directly with customers to understand fully their current and future needs. This direct interaction with its customers is an invaluable source of innovation for the corporation.

Today, the company employs approximately 350 high skilled people in a range of high-value activities of strategic importance to the parent company, including software development, product management, sales engineering services, treasury management and financial shared services. Additionally some high value R&D services are outsourced in Ireland.

3.3 Business Networks

Knowledge and expertise in our target markets and in product and service development will be best developed by reinforcing activities or sectors where firms or groups of firms have or can develop a strong leadership position.

While Government will always have a role in the development of enterprise, it is the firms themselves, together with educational and research institutes, that must work together and co-operate to drive the development of the sector, inform the research agenda, and drive the provision of sector-specific infrastructure, capital and skills.

In the coming decade, well-developed business networks will become increasingly important mechanisms for driving success. These business networks will include educational and research institutions that will respond to enterprise needs for knowledge, skills and facilities. Similarly, the networks will include financial partners, who will be sufficiently well-informed to be able to support individual firms with capital at critical stages of development.

From the State's perspective, strong, coherent business networks can provide a clear articulation of enterprise priorities. In addition, as companies find it easier to access private sector finance, the State should increasingly deliver its support for enterprise through networks, where their effect will have wider economic impact, rather than directly to individual firms.

Such initiatives should help smaller companies to overcome the problem of small scale. Firms that participate in networks benefit in a number of ways:

Shared Costs and Risks: Firms can share the costs and risks of major innovations – costs and risks that could not be justified by any individual firm, such as specialised equipment, research, consultancy, or overseas market development activities.

Enhanced Learning: Co-operation between partners in a network provides an excellent mechanism for transferring tacit knowledge. Participants can share information on best management practices, technologies, organisational and operational models and markets.

Development of Market Focus: Firms can work together to enter new markets. They can engage in joint marketing and promotional activities, or they can share the costs of overseas offices and personnel. Firms within a network can build together either critical mass or a complementary set of resources, to create product, service or integrated solutions that could not be provided by any individual firm acting alone.

Platforms for Industry, Academic and Public Sector Co-operation: By participating in networks, firms can develop a shared understanding of and response to opportunities and challenges, and can present educational and research institutions with agreed requirements for syllabi, skills, and technological research and development. They can also articulate their needs to the state agencies.

Business Networks: An example

Developing the Wireless Communications Software Sector

The Starting Point (2004)

Today the wireless communications software sector consists of a number of indigenous and foreign-owned firms, employing approximately 4,500 people. It has built up particular competences in system software, billing, security and middleware. This concentration of complementary capabilities presents Ireland with a strong base on which to develop the industry and expand into new areas.

The Wireless Sector in 2015

With appropriate policies and the active participation of the industry, supported by the education and research systems, the financial community and the development agencies, Ireland can become a world centre for wireless communications. By 2015, we envisage that Ireland will be internationally recognised as an attractive location for wireless communications software with many leading companies involved in complementary activities, including mobile software applications, hosting, test and certification activities, security and billing systems.

The sector will be actively supported by its business network, which gathers and disseminates information on market developments, international projects, technology roadmaps, etc and actively participates in the development of industry standards. The network will be funded jointly by enterprise and the State.

Enterprise will actively collaborate with the research community on market-led applied research projects. The rights and responsibilities relating to the exploitation of intellectual property arising from these projects will be well understood and agreed by all parties and the efficiency and effectiveness of the intellectual property regime will be renowned internationally. The tax and legal environment will be particularly competitive for continuing to exploit intellectual property from Ireland.

The trial and deployment of new wireless technologies will be stimulated and promoted by a more liberalised spectrum management regime. An ultra wideband test bed will have been established, and Ireland will have taken the lead in ultra wideband licensing. This will enable researchers and developers to test new products, applications and services.

Ireland will host a major international wireless event annually, focusing on mobile applications. This event will attract the leading international players, including operators, applications developers and product and handset developers.

The educational system will produce graduates that satisfy the needs of enterprise, including technology graduates with a firm understanding of the value of intellectual property and how to exploit it, and an understanding of business development strategies and international sales and marketing.

Critically, the sector will have developed and grown into a mature, self-sustaining cluster, with the following characteristics:

- »» *A sizeable enterprise base, with companies that understand the needs of their customers, and how to differentiate themselves from their competitors. They will have the ability both to develop technology and to apply acquired technologies*
- »» *Leading global players continuing to invest in Ireland and locating high value and development activities here*
- »» *Active support from Enterprise Ireland's overseas network, through marketing programmes, identification of international partnerships and assisting companies to gain their first 'reference' customer*
- »» *Companies linked closely with the academic research base and with R&D funding focused on supporting the development of the cluster*
- »» *A strong networking culture where companies, research institutes and development agencies work together to develop the sector.*

3.4 Building Competitive Advantage

To summarise, if Ireland is to build the kind of enterprise base outlined in this Chapter, and make the transition to a market-led economy, knowledge-based businesses will need to develop strengths in two areas:

- »» In-depth knowledge of markets and customer needs
- »» The ability to develop high-value products and services to satisfy those needs.

However, these strengths within the firms can be built only in a highly evolved and supportive business environment that includes the following elements:

- »» A world-class education and training system that is responsive and flexible, and that supplies the skills required by the changing needs of enterprise
- »» A competitive taxation regime
- »» A state system that is proactive and responsive, with the enterprise agenda at the centre of national policy development.

No one of these elements alone will provide competitive advantage. It is the unique combination of these five elements that will distinguish Ireland from other countries, and the strategy in this report depends on the successful, parallel realisation of all five.

These five elements are discussed in detail in Chapter 4, along with the actions recommended for achieving them.

While the combination of the elements outlined above will establish Ireland's unique competitive advantage, they must be underpinned by essential conditions that are the basic requirements for doing business:

- » Cost competitiveness
- » A physical and communications infrastructure
- » Innovation and entrepreneurship
- » Management capability.

These are not positive differentiators – they will not confer competitive advantage on enterprise in Ireland. They are, however, potentially negative differentiators – any deficiency in these areas would seriously undermine Ireland's competitiveness and negate any advantage created by other strengths. These essential conditions are discussed in Chapter 5.

Chapter

4

Building Competitive Advantage

4 Building Competitive Advantage

Enterprise in Ireland over the next decade will operate in a global competitive environment that will be considerably more challenging than in the past. The strengths and experience that we have built up will continue to contribute to the success of enterprise, but companies in Ireland will have to differentiate themselves from their competitors in new ways in order to create sustainable competitive advantage.

In the past, Ireland has set a standard for change and growth that is admired around the world and we can continue to do so. The biggest barrier to this is complacency: there is a real danger that enterprise in Ireland will be overtaken by more agile competitors in other countries. Overcoming this complacency and taking decisive action requires a renewed sense of national cohesion, with a commitment to execution throughout the entire enterprise community and the support systems.

As outlined in Chapter 3, in the years ahead, our ability to build sustainable enterprise in Ireland will depend critically on a unique combination of:

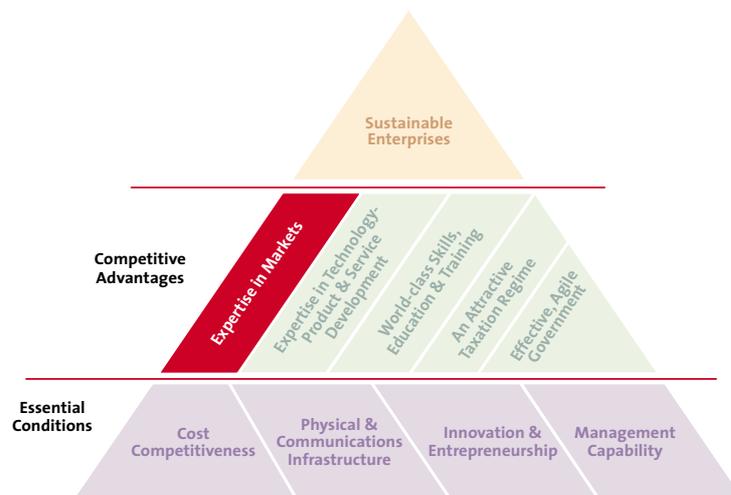
- » Knowledge of customers and market needs
- » The ability to develop new products and services to satisfy those needs
- » A world-class education and training system that is responsive and flexible and that supplies the skills required by the changing needs of enterprise
- » A competitive taxation regime
- » An effective, agile government system.

The first two of these present the greatest challenge for Ireland: our track record in these areas is weak. The last three, on the other hand, have contributed significantly to the economic success of the past decade. However, in the current competitive climate, they take on a new importance and need renewed emphasis.

This Chapter is divided into the following sections:

Section	Page
4.1: Market Expertise	59
4.2: Expertise in Technology - Product and Service Development	64
4.3: Business Networks	71
4.4: Skills, Education and Training	73
4.5: Taxation	80
4.6: Effective, Agile Government	85

4.1 Market Expertise



In recent years, enterprise policy has stressed the need for companies to engage more in research and development. This must continue as a major objective of enterprise policy in the years ahead, but it must be complemented by a new emphasis on market understanding and expertise.

In an increasingly global marketplace, enterprises based in Ireland will succeed only if they develop an in-depth understanding of their customers and their needs. They must be able to anticipate changing requirements and to identify competitive challenges in order to differentiate their product and service offerings and sustain their market position. This will require a much deeper level of engagement with the customer than the majority of companies in Ireland currently have.

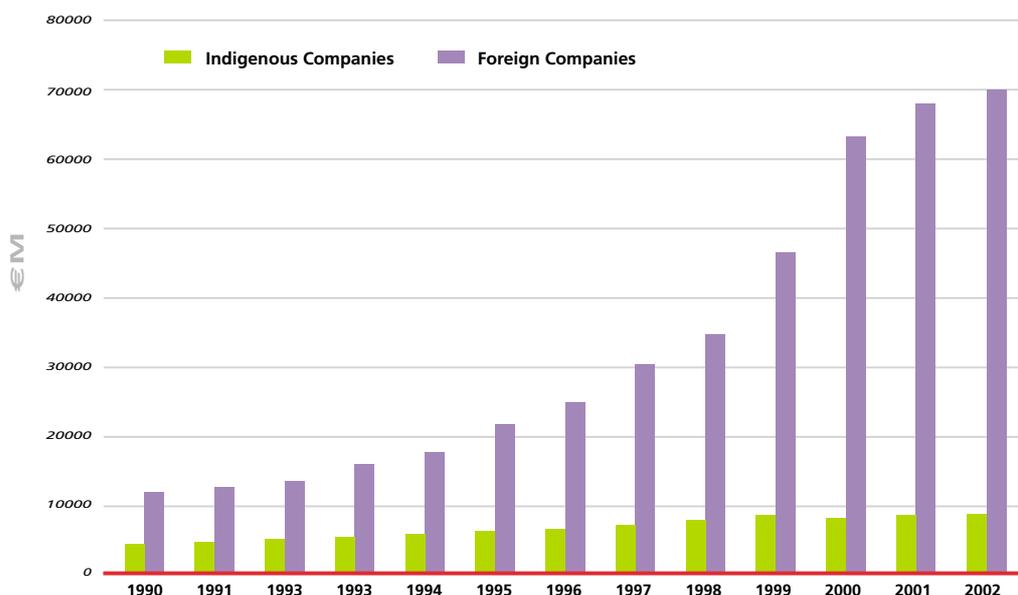
The Challenge

Over the past decade, the overall value of exports from Ireland has grown very substantially. The figures, however, tend to mask two important facts:

- »» Export growth in most indigenous sectors has been negligible
- »» Exports from foreign-owned companies have been largely directed and managed from outside Ireland.

Figure 4.1

Irish Exports (Agency Assisted Companies) 1990-2002



Source: Forfás, Business Information System, (unpublished)

In the **indigenous** sector, exports grew from €4.6 billion to €8.7 billion between 1990 and 2002. This average annual growth rate of 5.5% is in nominal terms, and when inflation is taken into account, the real growth for indigenous companies has been negligible. The poor performance of the majority of companies is partly hidden by the exceptional performance of some individual companies that demonstrate world-class capability.

Two major sectors of the indigenous enterprise base – ‘Food, drink and tobacco’ and ‘All other manufacturing’ – which together account for 68% of sales by indigenous companies,⁸² recorded little or no sales growth in real terms over the past decade. Given that economic conditions were particularly favourable, this lack of sales growth highlights a serious weakness.

Indigenous companies – again with a few exceptions – have also failed to diversify in foreign markets, and continue to rely heavily on the UK for exports, with 51.3% of exports in 2001 being to UK markets. This results in greater risk through exposure to currency fluctuations.

Exports from **foreign-owned** companies, on the other hand, have grown significantly over the past decade, and by 2002 accounted for 89% of all agency-assisted Irish exports.⁸³ However, the majority of these companies do not conduct their sales and marketing activities from Ireland. These activities are usually managed and executed elsewhere within the corporate family. The resulting lack of direct customer interaction limits their ability to innovate and to influence their future development in Ireland.

A number of challenges must be overcome if we are to address our current underperformance in marketing and customer engagement.⁸⁴

82 Forfás, Annual Business Survey of Economic Impact, 2003. These two sectors account for 68% of the €23.6 billion sales generated in 2002 by indigenous manufacturing and internationally-traded services companies supported by the development agencies.

83 Forfás, Business Information System, 2004.

84 Quaestus and MDR Consulting, Marketing, Sales and Innovation Capabilities of Irish SMEs, 2004.

- » There is a scarcity of sales personnel with the right mix of industry background, experience and technical knowledge
- » Irish marketing graduates are perceived by industry to lack practical business skills
- » Only 25% of sales personnel in Irish SMEs have a formal qualification in marketing or sales, compared with 41% in such firms overseas.

The vision for enterprise in Ireland in 2015 set out in Chapter 3 describes Ireland exploiting in-depth knowledge of markets to drive international sales and to develop new, innovative products and services. If we are to realise this vision, we need to significantly enhance our export promotion and market intelligence gathering and dissemination capabilities.

4.1.1 Export Promotion and Market Intelligence

To address the need of firms – and particularly the need of SMEs – for up-to-date, relevant information about developments in geographical, sectoral and customer-specific markets, Ireland’s overseas market watch function will have to be considerably strengthened. Smaller firms in particular are faced with specific challenges when entering new markets, including lack of market intelligence, distance from markets and lack of resources or skills.

Because of Ireland’s small domestic market the indigenous company base finds it necessary to internationalise before it has adequately tested the market, gained a key reference customer, or built management capability across a range of functions.

The Culliton Report recommended that, in relation to the development of indigenous companies, the relevant operations of IDA,⁸⁵ An Bord Tráchtála and Eolas should be brought together.⁸⁶ This has merit in providing a single source of information and support for Irish companies - Enterprise Ireland. However, we believe that the specialist focus and marketing and technological expertise in Enterprise Ireland has been eroded over time and now needs to be re-energised.

Enterprise Ireland will require a new focus and energy and a development of existing resources to:

- » Build greater sectoral expertise
- » Focus on niche areas of greatest interest to Irish companies
- » Strengthen the mechanisms for disseminating the most relevant market intelligence adapted to the needs of individual firms
- » Enhance support mechanisms through the use of consultants and mentors with sector-specific expertise operating in the target market.

A review should be undertaken to ensure that the overseas offices are located in those markets that present most potential. Performance measurement mechanisms should also be devised that evaluate success against the key objectives of increased exports and diversification of export markets.

⁸⁵ Industrial Development Authority.

⁸⁶ The Agency with primary responsibility for the development of indigenous companies is now Enterprise Ireland.

Recommendation

Establish, within Enterprise Ireland, a dedicated structure, 'Export Ireland', with its own budget and strong, experienced leadership, to develop a more focused approach to export market intelligence and promotional activities. (Department of Enterprise, Trade and Employment)⁸⁷

4.1.2 The Sales and Marketing Skills Base

Higher education is not adequately meeting the needs of Irish companies in relation to sales and marketing skills. At higher level, there are 134 courses (full and part-time) with marketing and sales components. Of these, 38 have marketing and sales as a major element, while for 96 it is a minor element. These courses provided an output of 7,163 graduates at degree or post-graduate level in 2003. While this is adequate in terms of numbers, the graduates are considered to lack practical business skills. The ability to negotiate, transact business and develop customer relationships in languages other than English is also a basic requirement that must be addressed.

Recommendation

Incorporate work placements and modules that focus on the practical capabilities required by firms into marketing and sales curricula. These should also be available to students of technical disciplines. (Higher Education Institutions)

This report places a new focus on the importance of sales and marketing skills in rebalancing the capability profile of businesses in Ireland. For many firms, difficulties in sourcing suitably qualified and experienced sales and marketing staff can be an impediment to growth. Growing the national pool of sales and marketing specialists is therefore a key priority. This should be done at all levels, spanning recently qualified sales and marketing personnel, as well as drawing in from abroad professionals who are experienced in international sales and marketing.

Recommendation

Establish a five-year programme, to place, on a cost-sharing basis, 1,000 graduates and internationally experienced professionals in Irish firms to augment the stock of national sales and marketing talent. This programme should be complementary to existing programmes, such as the Export Orientation Programme.⁸⁸ (Enterprise Ireland, IDA Ireland)

Notwithstanding the considerable level of call centre activity in Ireland, which involves some customer contact, foreign-owned companies in Ireland generally lack the business functions that engage with customers on a more active basis and build deep relationships with them. By encouraging these companies to carry out activities that involve closer interaction with the customer such as market research, Internet sales, lead generation, target marketing, and product/order and sales management, Ireland's market expertise will be developed over time to match our production expertise.

⁸⁷ The actor responsible for implementing each recommendation is shown in parentheses.

⁸⁸ IBEC's Export Orientation Programme offers recent graduates a one-year placement abroad with an Irish company. The cost of each placement is shared equally between the individual companies and the relevant development agency. The programme normally consists of a three-month familiarisation period in Ireland with the sponsoring company, three months formal language training abroad and six months work experience abroad with the company.

To facilitate this transition, IDA Ireland should attract the sales and marketing functions and European headquarters of both established multinationals and smaller companies at an early stage of internationalisation. This would involve targeting companies from countries where Ireland has already been successful, in particular the US, and also seeking to capitalise on potential arising from emerging non-European markets, for example, China and India. Newly internationalising foreign-owned companies seeking to penetrate European markets can either develop markets on a country-by-country basis or seek a single location that can act as a key access point – a gateway. The UK and France are well-established gateways for many larger non-European companies.⁸⁹ Although it will be a challenge to compete with such traditionally successful European locations, Ireland's recently introduced 12.5% corporation tax rate for all trading activities gives us a particular advantage when a company is choosing its first European base.

The primary concern of companies addressing the European market for the first time is to grow sales. To do this, they must ensure that their products and services are suited to European markets and that they reach their customers in an efficient and effective manner. They need to identify optimum channels to market and manage logistics and distribution (whether directly, or through outsource partners). They also need to understand the taxation and regulatory regime in each country and deal with accreditation, invoicing and customer support activities.

If we are to be successful in targeting these early-stage growth companies, IDA Ireland's offering will need to be adapted to meet the specific needs of these investing companies.

Resources within the development agencies (including their overseas networks) and expertise within Ireland's company base could be effectively leveraged to develop a compelling support product for these target companies. A small number of indigenous companies already offer comprehensive 'gateway' services to non-European corporations.

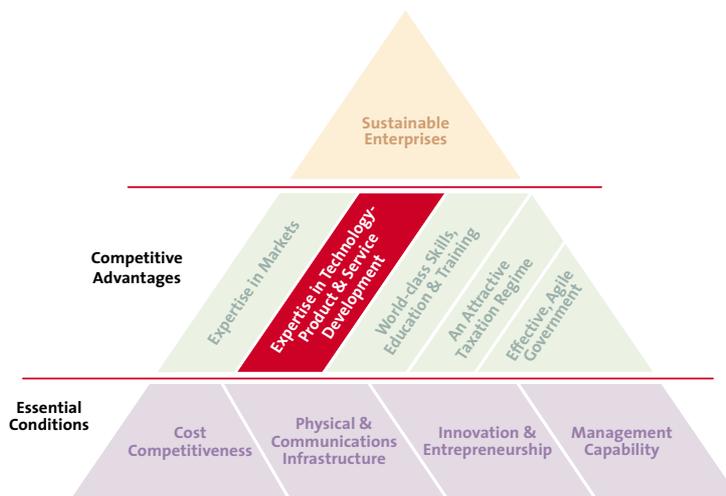
While such initiatives are unlikely to deliver high employment in the initial stages, they would provide a base from which to build a wide range of high-value activities over time.

Recommendation

Target sales and marketing and European headquarters projects from both established multinationals and smaller companies at the early stage of internationalisation. (IDA Ireland)

89 | Based on number of projects, the UK held 49% market share for FDI into Europe in headquarter activities and 35% for sales and marketing activities in 2002; France held 9% market share for headquarter activities and 15% for sales and marketing activities in the same year. Ernst and Young International Location Advisory Services.

4.2 Expertise in Technology - Product and Service Development



The expertise in markets outlined previously, together with the application of advanced technologies and business processes, will inform the development of high-value products and services. Enabling technologies may be acquired from abroad, or they may emerge from our own research base. As a small country, our ability to transfer and apply technologies and knowledge created elsewhere to the development of new products, services and processes is just as important as our ability to carry out world-class scientific research.

The Challenge

As outlined in Chapter 2, Ireland's total R&D investment, public and private, at 1.27% of GDP (1.39% of GNP), is considerably below the EU average of 1.93% and it will be difficult to achieve the 3% target of GDP by 2010 agreed by the EU Heads of State.

The recent increase in state investment in basic research should continue and it should be complemented by a similar programme of market-led applied research in order to fully realise its economic benefit. Both basic and applied research programmes need to be focused so that they are relevant to national needs and so that they achieve critical mass and coherence. It is also vitally important that capability and capacity is built up at firm level.

To develop the required expertise in product and service development we must:

- » Build our own knowledge base by investing in research
- » Build enterprise capability to develop products and services, by:
 - » Ensuring the research and enterprise agendas are aligned and facilitating this by developing strategic technology platforms and encouraging increased collaboration between academia and enterprise, and
 - » Applying non-technological innovation, which will become increasingly important as the economic contribution from services and the creative sectors increases
- » Ensure policy coherence for research and innovation.

4.2.1 Building Our Own Knowledge Base

Under the National Development Plan (NDP) 2000-2006, substantial investment is being made in basic research through SFI and the HEA's PRTLTI.

A small country must focus its investment, as it cannot develop world-class knowledge and skills in all disciplines and technologies. The strategic decision to focus the SFI research programme on the areas of information and communications technology and biotechnology was based on an informed view that these were the most significant areas to underpin the long term development of the Irish economy.⁹⁰

The primary benefit of investment in excellent basic research is the supply of people at PhD level. These advanced skills are of particular importance not only for the creation of new knowledge in Ireland, but also to ensure the scientific capacity to absorb new knowledge developed elsewhere. The focus of these programmes should be kept under review to ensure that they address changing needs.

Recommendation

Continue funding for the SFI and HEA research programmes on a multi-annual basis beyond the current NDP. (Department of Enterprise, Trade and Employment, Department of Education and Science)

In order to fully realise the economic benefit of this investment in basic research, it must be complemented by focused, market-led applied research that addresses the specific needs of enterprise.

4.2.2 Building Enterprise Capability

For many firms, building in-house R&D capacity is a challenge. They lack resources, not only to conduct R&D, but even to absorb new developments coming from outside.

Investment in R&D and innovation by enterprise in Ireland is relatively low. At 0.88% of GDP, Ireland's Business Expenditure on R&D (BERD) is only 73% of the EU average and 57% of the OECD average. There is a need to increase business investment in research and development. It is estimated that BERD will need to increase from €917 million in 2001 to an estimated €2,540 million in 2010⁹¹ to meet the EU 3% R&D target.

The state can play a role in assisting access to publicly funded research and in facilitating firms to build R&D capacity and capability. State intervention is justified on the basis that companies undertaking R&D are not the only ones to reap the benefits. Benefits can be realised through the enhanced capability of R&D employees whereby their experience to innovate and to imitate becomes a social benefit; technological progress made by one firm can be at least partly transmitted to other firms and be of value in improving efficiency and productivity; and when foreign firms undertake R&D in Ireland, the firm becomes more embedded in Ireland as it comes to rely on skilled R&D employees.⁹² Because of the positive spill-over effects associated with R&D, nearly all OECD governments use fiscal incentives to encourage business R&D.

90 A Technology Foresight exercise was conducted in 1998/99 with the active participation of academia, enterprise, development agencies and other stakeholders.

91 Interdepartmental committee on Science and Technology, *Building Ireland's Knowledge Economy; An Action Plan for Investment in R&D to 2010*, (forthcoming).

92 Murphy, Walsh, Barry, UCD; *The Economic Appraisal System for projects seeking support from the Industrial Development Agencies*, 2001.

Although there is a wide range of existing supports available today, their value is not being fully realised because of a low level of cohesion or strategic focus.⁹³ A lack of co-ordination between the agencies inhibits the strategic use of funding and resources and this also needs to be addressed.

Supports should be designed to build the capacity of enterprise to absorb the results of publicly-funded research and to employ the highly skilled people it produces and apply them to the development of new products and services. The collaborative process of identifying and elaborating strategic technology platforms (as outlined below) will help to develop the capability of participant firms at the same time as building the knowledge base.

Mechanisms need to be developed to ensure that Irish enterprises – and particularly smaller firms – have timely access to relevant knowledge wherever it may reside. Companies need to access knowledge of emerging technologies, available expertise and facilities, competing products, changing customer requirements and developments in standards and regulations.

Recommendation

Establish, within Enterprise Ireland, a dedicated structure, ‘Technology Ireland’, with its own budget and strong leadership, to develop a cohesive, strategic and focused approach to market-led applied research and technological development and to leverage increased enterprise investment. (Department of Enterprise, Trade and Employment)

This will require a new focus and energy within Enterprise Ireland and a building of in-depth sectoral knowledge. Currently Enterprise Ireland is reviewing its strategies.

‘Technology Ireland’ should facilitate the building of in-firm capability and capacity for technological and non-technological innovation by encouraging consistency and cohesion in the applied research agenda and by stimulating collaboration between enterprise and academia. Each of these areas is discussed in more detail below.

Technological Innovation

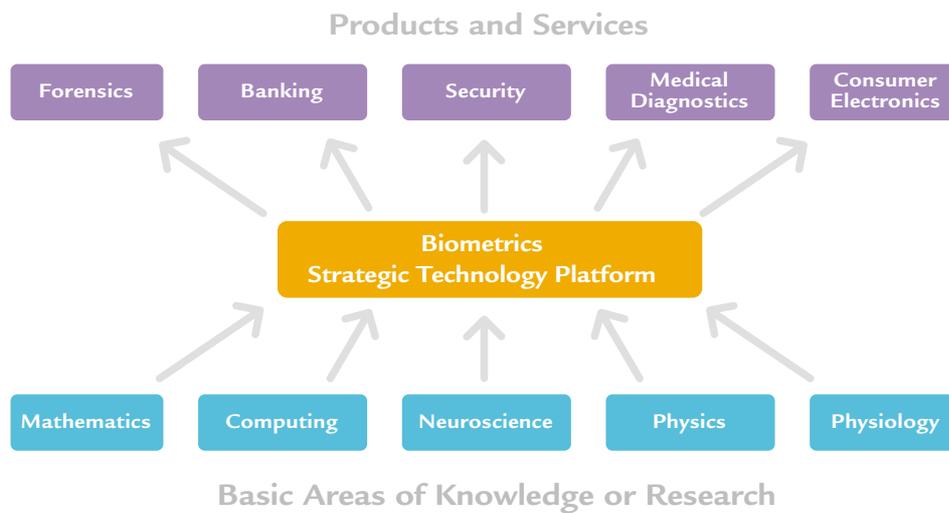
Technological innovations typically arise from scientific and technological research. To ensure a steady flow of ideas, mechanisms that foster linkages and collaboration between academia and enterprise are critical, as are mechanisms for improving enterprise’s capacity to absorb and exploit technologies.

Strategic Technology Platforms

Strategic technology platforms are potentially valuable mechanisms for building consistency between the research agenda and enterprise activities. A strategic technology platform is a field of technology that draws on more basic areas of knowledge (such as mathematics, physics or computing) and which can in turn be applied to the development of a wide range of products and services. Figure 4.2 provides an example.

⁹³ Romanainen, Jari; *Analysis of the Irish Innovation System 2004*, unpublished.

Figure 4.2

Strategic Technology Platforms: An Example

Strategic technology platforms are identified by a process of analysis and consultation that involves enterprise, educational and research communities, state agencies and finance providers. They offer many benefits, including generating knowledge and trained personnel for which there is absorptive capacity in enterprise and meeting the real research needs of enterprise.

Strategic technology platforms can be a basis for robust competitive advantage and can contribute substantially to ensuring the continuing relevance of research investment by:

- » Articulating enterprise needs to the research and education communities
- » Connecting different businesses together in networks or clusters of common interest
- » Defining specific applied research projects
- » Prioritising longer-term research needs.

The process of identifying strategic platforms fosters strong interaction and knowledge transfer between the different players in the innovation system. The building of expertise should also ensure that Ireland can link into similar initiatives being undertaken at EU level. Ireland already has experience in undertaking such an initiative, given the success of the Technology Foresight exercise conducted in 1998/1999.

Recommendation

Establish a consultative process to identify technology platforms. These platforms should be used to prioritise state expenditure on research and enterprise development. ('Technology Ireland')

Collaboration between Enterprise and Academia

Firms need to access relevant research in order to build expertise and capability in product and service development. Enterprise-academia collaboration can enable firms to access knowledge and technical know-how, both on an all-island basis and internationally. We need to develop world-class technology transfer and commercialisation mechanisms.

Mobility of researchers between industry and academia through sabbaticals and secondments should be encouraged. This would benefit both industry and academia: industry would be exposed to current best practice in research and technology, while the academics would be exposed to industry problems and market-related issues facing industry, as well as having the opportunity of commercialising their research results.

Internationally, public support for business sector R&D has moved strongly towards co-operative research. Enterprises that collaborate on R&D with other firms and other organisations/research providers have been shown to be the most effective innovators.

Despite many existing initiatives, collaboration between enterprise and academia has been limited in Ireland in contrast with, for example, Finland and Denmark, where co-operation and networking are well-established practices. This is due to a number of factors, in particular:

- » Low levels of investment in R&D (both public and private) in the past
- » A lack of proactive initiatives by universities and institutes
- » The lack of capacity or resources within the enterprise base to source, integrate and exploit new ideas
- » The lack of a framework for determining intellectual property rights.

The National Microelectronics Research Centre (NMRC), which is exceptional in this regard, demonstrates an effective model that could be replicated in other fields.

Ireland's increased investment in R&D and innovation is expected to result in an increase in intellectual property. A code of practice has been developed by the Irish Council for Science, Technology and Innovation (ICSTI) for the protection and exploitation of intellectual property arising from publicly funded research. Its objective is to ensure that intellectual property can be transferred easily from the research bodies and into enterprise, with clear rights and responsibilities on both sides. A similar code of practice for public-private funded research is currently being developed.

The institutes of technology are well placed to support enterprise through technical consulting and collaboration on close-to-market applied research projects. However, given the structural challenges of SMEs, the institutes must take a proactive, outreaching role to make this a reality. Section 4.4.1 outlines the role for educational institutes in facilitating the development of enterprise.

Recommendation

Public funding for applied research and in-firm R&D should be progressively increased to match that invested by the Department of Enterprise, Trade and Employment in basic research. This includes support for in-firm capability development, commercialisation, cluster-led academic research and innovation partnerships. (Department of Enterprise, Trade and Employment)

Non-technological Innovation

Innovative thinking can be applied to any phase of the product/service lifecycle. Technological innovation is applied typically (but not exclusively or necessarily) to the development of new products and services. Non-technological innovation, which may include for example, design, brand management, business process re-engineering, or new marketing or sales approaches, is typically applied in other phases of the lifecycle.

In Ireland, we need to recognise the importance of design in innovation and its relevance to many Irish companies. The systematic use of design can offer companies significant benefits, helping them to differentiate their products, deliver efficiencies and reduce costs. Firms in Ireland are relatively weak in the strategic use of design,⁹⁴ and it is estimated that there are fewer than 100 industrial designers working in enterprise.

Non-technological innovation is of particular relevance to service activities and these are, as we have seen, becoming more important. In services, innovation may result for example, in new financial instruments, new sales concepts and formats, organisational restructuring, or the bundling of new services with existing core products. In the years ahead, success in high value-added services will depend heavily on this kind of 'soft' or non-technological innovation.

The key drivers of innovation in services include:

- » New technologies which have an enabling role, eg facilitating electronic banking, logistics tracking systems, or virtual (electronic) design environments that enable collaboration by a number of people located in different buildings or different countries
- » Complexity: solving customer-specific problems where each problem is different and requires a different solution
- » Mass customisation: providing a high volume of customer-specific solutions
- » Blended offerings, that combine products and services
- » Regulatory changes, eg financial services.

A range of factors tends to inhibit innovation in the services sector, including a lack of R&D funding and service concept development. Although the significance of services is now recognised, the importance and scope of innovation in services is relatively uncharted.

Services innovation differs from product innovation in a number of respects. While high value-added and knowledge-intensive services⁹⁵ are typically very innovative, this innovation is difficult to quantify statistically, because it tends to be incremental and based on informal activities within firms. However, in Canada where services R&D is measured, it is estimated at approximately 30% of total enterprise R&D. Because of the problem-solving nature of service activities, the customer is the primary source of innovation (universities and research institutes play a lesser role than is the case with product R&D) and innovation is greatly facilitated by networks (both formal and informal).

As Ireland seeks to capitalise on opportunities in internationally-traded services over the next decade, we need to gain a better understanding of innovation in service markets and of how it can be facilitated.

4.2.3 Research and Innovation Policy Coherence

Ireland's existing support mechanisms for R&D are based on direct interventions through isolated funding measures. There is a need for greater coherence among all the relevant players, including research institutes and higher education institutions (HEIs), enterprise and state agencies, to ensure that resources are used to optimum effect.

If innovation in Ireland is to operate effectively, a continuous process of foresight, policy development, implementation and monitoring needs to be put in place. Funding schemes, priorities, objectives and targets need to be strategically aligned and clear lines of responsibility agreed between funding bodies, agencies and enterprise.

An integrated national innovation strategy should form the basis for decision-making and for focusing resources and funding on a number of niche areas where we can demonstrate world-class capability and realise economic benefit.

Recommendations

Develop an effective oversight and review mechanism that includes the appointment of a Chief Scientist, to optimise Ireland's national investment in science, technology and innovation. It should provide strategic direction to and co-ordinate national investment and should include structured evaluations of R&D expenditure. (Department of Enterprise, Trade and Employment)

Draw up a national research and innovation strategy statement. An integrated approach to policy formulation and implementation should be undertaken that involves all players (enterprise, research community, state agencies, etc) in the national innovation system. (Department of Enterprise, Trade and Employment)

⁹⁵ Includes computer software and information processing services, R&D, marketing services, business organisation services, legal and financial services, education and training and HR development services.

4.3 Business Networks

Networks are groups of firms and other organisations that are structured – formally or informally – around common interests. For example, the participants may share information on markets, they may cooperate to address a customer need that they could not address individually, they may share interests in technology, standards or regulations, or they may act in concert to commission research or to articulate skills requirements. In the future, business networks will increasingly facilitate knowledge transfer, disseminate market knowledge, foster innovation, inform the research agenda and identify infrastructure needs specific to sectoral development. We envisage enterprise-led business networks in Ireland playing a significant role in supporting the growth of internationally-traded activities and in enhancing the growth potential of the companies involved over the decade to come.

In Chapter 3, the benefits of collaborating at a business network level were discussed. They include:

- » Increased scale by aggregating complementary skills, activities, products and services
- » Shared costs and risks, particularly in relation to major innovation
- » Enhanced learning and transfer of tacit knowledge
- » Development of market focus and critical mass in complementary resources
- » Providing platforms for industry, academic and public sector co-operation.

There is considerable scope for increased networking between indigenous companies, foreign-owned companies, enterprise development agencies and educational and research institutions in Ireland.

Increased interaction between foreign-owned and indigenous companies would lead to a greater appreciation of their collective capability and potential for combining complementary skills to address specific market opportunities. Likewise, increased interaction between emerging and developed networks in Ireland, North and South, could broaden the depth and experience of the network.

Higher levels of interaction between companies and research institutes will enable us to realise the potential of our investment in research. Participation in networks by the educational institutions should be regarded as part of their basic mandate.

Enterprise-led Business Networks within National Enterprise Development

Three fundamental conditions should underpin enterprise-led business network initiatives in Ireland.

- » State funding should be made available on the basis of defined and independently assessed competitive proposals, designed to meet clearly identified and measurable business objectives
- » Participation in network initiatives should be based on the principle of co-funding

-
- » Proposals should be accepted only from groups of interested parties working in collaboration.

Business network proposals could seek to address areas of common interest within a long term strategy for national enterprise development. To do so, clarity around the following will be important:

- » Definition of a staged workplan, with measurable outputs and milestones, to achieve the desired objectives
- » Ensuring that networks have sufficient capacity and capability to be able to fulfil the role expected of them.

Networks should be complementary to the enterprise development agencies, business representative associations and similar entities and should be free to operate in whichever composition best suits their purpose, including sectoral, specialist or regional.

The Enterprise Focus of Networks

Business networks should be enterprise-led and have a clear set of agreed action-oriented objectives and functions aimed at significantly enhancing the growth potential of the companies involved, for example through:

- » Articulating customer and market demands and influencing the design and delivery of state supports
- » Sharing the principles of best practice in innovation and coordinating enterprise priorities, to influence the pre-competitive research agenda and plans for the development of skills and infrastructure
- » Promoting Ireland's reputation internationally for excellence and innovation in specific sectors and working to market this with Enterprise Ireland's overseas office network
- » Overcoming issues of scale by encouraging and facilitating alliances/partnerships
- » Disseminating information on relevant market developments
- » Facilitating close linkages between higher level institutions and enterprise to effect change in course structures and promote the use of international lecturers
- » Providing access to advice on contract negotiation, exploitation of IP and development of new pricing structures (for example, through licensing or risk-sharing)
- » Developing case studies, surveys and global benchmarking for the sector
- » Developing a region to realise its full potential.

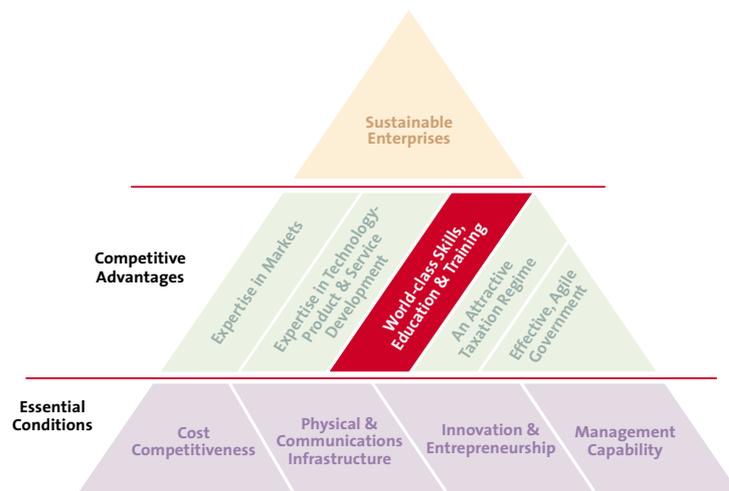
An Evolving Role for Networks

Subject to the success of a pilot phase of enterprise-led business network initiatives, a growing proportion of state supports for enterprise development could be provided through such networks to deepen expertise in areas where Ireland has or can develop sustainable competitive strength. Such a move would be subject to appropriate analysis of the benefits delivered.

Recommendation

Allocate a budget of €20 million per annum for five years from existing enterprise development agency resources to support the creation of enterprise-led networks to foster collaboration in defined areas of activity. All-island business networks should be supported where complementary strengths are identified. (Department of Enterprise, Trade and Employment)

4.4 Skills, Education and Training



Ireland has a strong record of commitment to education, commencing with the introduction of free post-primary education in the 1960s and continued through successive decades of targeted education policies. In a modern society, education should satisfy social, cultural and economic needs. From an enterprise perspective, the ability of the education system to respond flexibly to economic and social change is critical to the supply of appropriate skills for the effective functioning of the economy.⁹⁶

Ireland's economic development will depend to a large degree on knowledge and innovation, both of which are essential in making the transition to higher value activities that support economic growth and wealth creation. People are the enablers of such activities and the education and training system must adapt to produce the skills to drive successful enterprise.

⁹⁶ This report focuses on the economic role of the educational system, rather than on its cultural and social roles. These roles are, however, complementary – future enterprise will place a premium on well-rounded and creative individuals, while equipping individuals with the skills that enterprise requires maximises their prospects of having fulfilling and rewarding careers, which is a major determinant of their quality of life. Also, the report's concentration on upper secondary and higher education is a reflection of the impact of these parts of the educational system on enterprise during the timescale of this report; it is not a suggestion that earlier parts of the system are less important.

Three Critical Areas of Focus

Three aspects of education and skills development are critical to the future of the enterprise sector:

- » An adaptive and responsive higher education sector is necessary to create and exploit knowledge and to produce the number and quality of graduates necessary to support the knowledge economy. Investment in higher education and research is essential to generate the intellectual capital required to fuel an innovation-driven economy. The numbers entering higher education should be maximised. (See 4.4.1)
- » Upskilling of the existing workforce and raising education levels is essential in an environment of constant change. To foster the continual acquisition of knowledge, skills and competencies, formalised approaches to lifelong learning must be introduced and corresponding delivery structures put in place. As a particular priority, policy intervention will be required to ensure the low-skilled are not left behind in the move towards a knowledge society. (See 4.4.2)
- » Efforts will have to be made to expand the workforce to meet growth forecasts and an appropriate skills-based immigration strategy will be required to deal with demand for skilled workers that cannot be satisfied from within Ireland or the EU. (See 4.4.3).

4.4.1 Adaptive and Responsive Higher Education Sector

The future development of the higher education sector will require all institutions to:

- » Respond to changes in the global market, demands for skills and advances in knowledge
- » Be flexible and adaptive to the needs of students and enterprise
- » Be creative and innovative in delivery methods
- » Support high levels of participation in lifelong learning
- » Be innovative in exploiting the commercialisation of research
- » Facilitate the mobility of staff in both directions between academia and enterprise.

To enable this, changes are necessary in the way the institutions are funded, governed and managed and greater institutional autonomy will be required.

Integrated Higher Education Policies

Higher education should be underpinned by a coherent policy approach that includes the public and private sector (including the universities, institutes of technology, colleges of education and private higher education colleges etc). A cohesive policy should be agreed between education, enterprise and government to ensure that the skills necessary for enterprise success are developed in time, in sufficient quantity and to the required quality. The focus of policy in this area should be on outcomes, with quick and efficient adaptation and delivery of responses and regular monitoring and review.

Universities and institutes of technology have a complementary role to play in the provision of education and it is important that this is recognised in policy formulation.

Governance of Higher Education Institutions and Related Bodies

The structures and management of higher education are no longer adequate to meet the complex demands of society in general and enterprise in particular. Governing bodies are too large to permit flexibility and responsiveness. Re-structuring, in conjunction with enterprise representation, could bring external expertise and experience to bear in areas that directly reflect the challenges facing the institutions. The role, function and interrelationships of the governance structures in the higher education institutions should also be more clearly defined in legislation, to remove any confusion between the executive and the governing roles.

Recommendation

The enterprise sector should play an increased role in the governing bodies of higher education institutions and related bodies such as the HEA. To maximise efficiency and enhance responsiveness, such bodies should be reduced in size and reflect in equal proportions the needs of enterprise, education and society. (Department of Education and Science, Higher Education Authority)

Quantity and Quality of Graduates and Post-graduates

In a knowledge-based economy, the requirement for higher education graduates and post-graduates will increase and if we are to compete effectively, the per capita proportions of graduates and post-graduates in Ireland should compare favourably with our competitor countries. The quality of Irish graduates is also becoming increasingly important for national competitiveness and, in particular, for meeting the needs of enterprise as it faces global competition. Our aim should be for Irish graduates to be among the best in the world and this will require that the quality of Irish educational awards be benchmarked internationally. The HEA should work with the Expert Group on Future Skills Needs,⁹⁷ SFI and international experts to explore and develop an approach to benchmarking the quality of graduates.

Recommendation

The proportion of graduates in Ireland should be in the top decile of OECD countries and the quality of awards from the Irish higher education sector should be benchmarked internationally. (Higher Education Authority, Expert Group on Future Skills Needs)

⁹⁷ The Expert Group on Future Skills Needs was established by the Government in 1997 to develop national strategies to tackle the issues of skill needs, manpower needs estimation and education and training for business.

Financing Higher Education

The higher education institutions need to be adequately funded if we are to meet the aim to increase the quantity of graduates and to compare favourably in terms of quality.

At present, core funding for higher education in Ireland is provided predominantly from public sources (about 80%). An element of this public funding should be tied to performance and allocated on a competitive basis subject to the successful achievement of outputs. This should allow for flexibility and responsiveness to react to national strategic goals.

To augment public funding the higher education institutions should also be enabled to pursue additional funding from diverse sources including commissioned R&D, commercialisation of intellectual property and other forms of collaboration with the private sector.

Recommendation

Devise a funding framework that combines core funding with a competitively based element, allocated on the basis of performance. Actively encourage additional diverse sources of private funds. (Department of Education and Science)

Facilitating the Development of Enterprise

After education and research, educational institutions have a third role: the promotion of enterprise. The higher education institutions are already involved in many ways in supporting enterprise, but it is now important to provide more systematic support for this role.

The exploitation of knowledge and commercialisation of research must become embedded in the culture and infrastructure of the higher education system. This requires continued emphasis on new campus company start-ups, a pro-innovation culture of intellectual property protection and exploitation, programmes in entrepreneurship, consulting services, information services, new forms of graduate development programmes and greater links between higher education institutions and private enterprise. This role should be actively encouraged and incentivised.

Recommendations

Establish a competitive innovation fund for higher education institutions, to encourage them to further exploit knowledge and deliver innovative services to enterprise. Ring-fence a proportion of the fund to support the institutes of technology in fulfilling this role.

Projects should be evaluated by a panel that is representative of enterprise and expenditure from the fund should be monitored and reviewed on a regular basis. (Higher Education Authority, Department of Enterprise, Trade and Employment)

4.4.2 Upskilling the Existing Workforce and Raising Education Levels

Given the critical importance of education for our future competitiveness, ambitious targets should be set for our educational and training performance across the full spectrum of educational levels, from primary to lifelong learning. These must include:

- » Increasing the proportion graduating from second level education and facilitating access to higher education for a wider share of the population
- » Raising basic educational attainment levels and supporting a high level of participation in lifelong learning.

Second Level

A drop-out rate of almost 17% from secondary education is a disadvantage not only for the students involved but also for the economy: it limits our capacity to produce a workforce with the knowledge and skills required to drive and sustain a knowledge economy. Hence, there is need to reduce the scale of early school-leavers and ensure that all young people leaving education have acquired a recognised qualification that is relevant to the needs of the labour market.

As most education and training programmes for medium and high level skills require a Leaving Certificate as a prerequisite, those who have not attained that level of education are excluded. A wide range of training and education approaches can contribute to attainment of an equivalent level.

The apprenticeship scheme has been one of the more successful elements of the Irish education and training system in recent decades. It has produced generations of world-class crafts and trades persons who have made a major contribution to Irish economic development. Currently, some 27,000 people are undertaking apprenticeship programmes for some 25 occupations and the possibility of extending the apprenticeship model to additional occupations is currently being examined. Similarly, work-study approaches are also in use in other parts of the education/training system, most notably in the hospitality sector (Fáilte Ireland) and in parts of the formal education system.

Other work-study programmes that integrate and accredit both experiential learning in a supervised work placement and formal study need to become more widespread. Specifically, work-study programmes should be targeted at middle-skill occupations experiencing growth and not currently listed among designated crafts. In addition to bringing more equitable access to education and providing recognised qualifications, they could facilitate greater crossover in the national framework of qualifications (eg FETAC⁹⁸ and HETAC⁹⁹ awards).

Over the past decade, traineeships have been developed by FÁS as a shorter duration form of training for initial entry to a number of occupations not covered by the formal apprenticeship system. These jobs are generally in expanding parts of the services sector, including security services, financial services, personal and leisure services and childcare. Almost 1,900 people undertook occupational skills development through this route in 2003.

98 Further Education and Training Awards Council.

99 Higher Education and Training Awards Council.

Recommendations

Increase the current Leaving Certificate completion rate to 90%.¹⁰⁰

Provide training for a range of occupations, for those not completing the Leaving Certificate, through new work-study programmes, relevant to the needs of the labour market. Qualifications from these programmes should be equivalent to Leaving Certificate standard. (Department of Education and Science, FÁS)

Lifelong Learning is Essential

Although the concept of lifelong learning is well established, participation by adults in education and training is still significantly underdeveloped in Ireland compared with other countries, particularly as regards entry to higher education. Greater participation in lifelong learning must be encouraged by facilitating and motivating employees to continually raise their skill level in three ways:

- » Upskilling – increasing their level of skills and qualifications
- » Broadening – acquiring skills and knowledge in new areas, particularly by combining skills from different disciplines
- » Continual development – renewing existing skill levels to stay abreast of technological or other developments.

Embracing lifelong learning as a strategic commitment requires combined effort in the following areas:

- » A balancing of the rights and responsibilities of employers, individuals and the State
- » A cultural and attitudinal shift on the part of learners, employers and the State, including the recognition of learning as an investment, not a cost
- » Greater flexibility in the provision of higher education
- » Addressing the anomaly between part-time and full-time fees
- » Elimination of other non-financial barriers, particularly in the areas of access, transfer and progression.

Most recent evidence on education and training of the employed suggests that there are particular problems in relation to the needs of low-skilled employees. Those with lower-level educational qualifications and those working in lower-level occupations are much less likely to receive education or training.

100 | As outlined in the Department of Social and Family Affairs, National Action Plan Against Poverty and Social Exclusion 2003-2005.

Recommendation

Establish a national 'One Step Up' initiative, facilitated by the National Framework of Qualifications. While this initiative seeks to engage with the workforce as a whole, it should pay particular attention to the people with low levels of qualification and in low-level occupations, who are least likely to receive sufficient access to learning opportunities. (Department of Education and Science, Department of Enterprise, Trade and Employment)

Implementation Approach

An essential element of the 'One Step Up' initiative will be a single body charged with driving the process and with setting targets and milestones for monitoring progress.

Diagnostics will be an integral feature of the initiative. All firms and individuals participating will undergo an assessment of their skills development needs to identify suitable learning opportunities. The focus will be on raising skill levels rather than reskilling and on transferable rather than company-specific skills. All courses should culminate in a National Qualifications Authority of Ireland (NQAI) recognised qualification. Following a course of study, people should be encouraged to return to the diagnostic phase.

All providers of education and training should be eligible to participate in the 'One Step Up' programme, subject to compliance with the guidelines. At a minimum, it would be expected that FÁS, Vocational Education Committees, Fáilte Ireland, Teagasc, Skillnets and all public higher education institutions would participate. Others that might participate include the adult education operations of community, comprehensive and voluntary secondary schools, private educational institutions, community educators, private training organisations and professional organisations.

4.4.3 Augmenting the Skills Base

With the number of school-leavers declining and the population ageing, skills and labour market policies will have to be adjusted to ensure an adequate supply of skilled people, both in terms of quality and quantity.

Although Ireland is near full employment, continued efforts should be made to attract more people into employment. These efforts need to focus on those groups where there is scope for increased participation in working life: females, older people and the disabled. A greater commitment to policies that encourage participation, including tax incentives (particularly targeted at those on low incomes), childcare support and more flexible working arrangements, including part-time working, will be required to meet this objective.

Targeted Skilled Immigration Policy

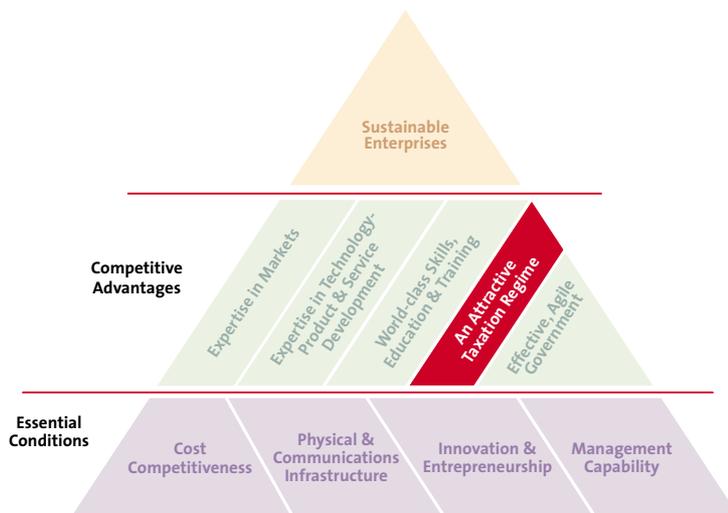
As set out in Chapter 2, approximately 420,000 new workers will be required over the period 2001-2010. As available domestic sources are diminishing, Ireland will need to attract a considerable number of highly skilled immigrants. The enlargement of the EU should allow for most of Ireland's immigration needs to be filled from within the EU. However it is likely that the demand for particular skills, for example,

research skills, will not be fully satisfied by migration from within the EU. The demographic profile of most EU countries shows an even more acute shortage of young people entering the higher education system and almost all developed economies are actively seeking highly skilled immigrants. In trying to attract knowledge workers, we face intense competition from advanced economies, including other EU countries and the US. To succeed in this, Ireland will have to be seen as an attractive place to live and work, with a welcoming attitude to immigrants and a vibrant, diverse cultural life. For these reasons, there is a need for a planned, coherent immigration policy that is carefully managed and regulated and is consistent with the skills requirements of the economy.

Recommendation

Develop a strategic skills-based immigration policy in order to attract and retain the necessary highly skilled workers from outside the EU who will be required to support enterprise development. (Department of Enterprise, Trade and Employment)

4.5 Taxation



Ireland's success in attracting foreign direct investment and encouraging entrepreneurship over the past decade has been assisted by the taxation policies adopted by successive governments.

In recent years, changes in the level of taxation in Ireland have created a more enterprise-friendly environment.

The income tax regime has helped to moderate pay demands in partnership negotiations and has increased Ireland's competitiveness as a location for inward investment. The introduction of tax credits, the individualisation of tax bands and the increases in the threshold at which employees enter both the lower and higher bands of tax have incentivised greater participation in the workforce.

The reduction in the capital gains tax rate from 40% to 20% in 1998 was an incentive to release funds for investment in enterprise.

Over the years changes in taxation have incentivised particular activities, such as international financial services, and more recently, holding companies, intellectual property and R&D activities.

4.5.1 Corporation Tax

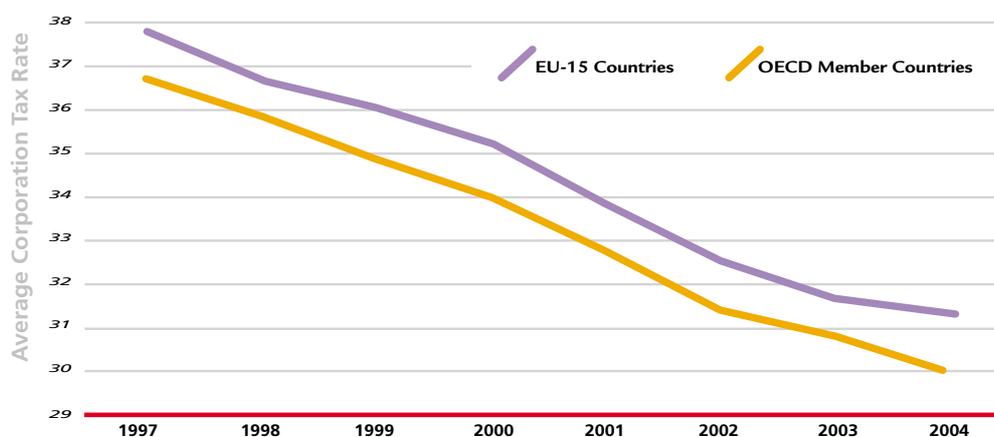
Ireland's corporation tax regime has served us well in the past, not only with respect to the tax rates, but also in relation to the regime's transparency and the benefits of our double taxation treaty network. Ireland's recently introduced 12.5% corporation tax rate has opened further opportunities for development, particularly in services. That said, we now require certainty about a continuing low tax regime.

The changing nature of business activity in Ireland and increasing global competition necessitate ongoing review of the appropriateness of taxation policies.

Our low corporation tax rate has been significant, but the global trend is towards lower corporation tax rates. Ireland's competitive advantage in this regard is being eroded.

Figure 4.3

Average Corporation Tax Rate in the EU-15 and the OECD, 1997-2004



Source: KPMG, *Corporate Tax Rate Survey, 2004*

Effective Rates Differ from Headline Rates

A study published by the EU Commission¹⁰¹ in October 2001 showed that, while most EU countries have much higher headline rates than Ireland, these rates do not represent the effective marginal tax rate (EMTR) actually paid by companies. The study shows that in 10 EU countries the EMTR is less than 65% of the headline corporation tax rate. Since these data were collected Ireland's headline rate has risen to 12.5% for profits on trading income. Ireland is the only EU country in which the marginal effective rate is higher than the headline rate.

101 | European Commission, *Working Paper, Company Taxation in the Internal Market, 2001*.

Table 4.1

Effective Marginal Tax Rate (EMTR) in Selected European Countries

Country	Corporation Tax Rate %	EMTR %
Austria	34	20.9
Denmark	32	21.9
Finland	28	19.9
Ireland	10	11.7
Luxembourg	37.45	20.7
Netherlands	35	22.6
Spain	35	22.8
Sweden	28	14.3
United Kingdom	30	24.7

Source: European Commission, Working Paper, Company Taxation in the Internal Market, 2001

Need for Certainty

Certainty about a continuing low corporation tax regime is required. In the face of other countries lowering their corporation tax rates, our fiscal policies must continue to contribute to Ireland's attractiveness as a place to work and invest by ensuring that personal and corporation tax rates remain competitive. Ireland's low corporation tax regime is far from unique within Europe.

Switzerland and five of the 10 new member states – Slovakia, Poland, Latvia, Hungary and the Czech Republic – have recently proposed or passed tax-cutting legislation. A recent report from CFO Europe¹⁰² notes that: *“If parliaments prove co-operative, the region's accession countries will boast a 17% average corporate tax rate – compared to almost 32% in the EU's present 15 member states.”* As set out in Table 4.2, Ireland continues to face stiff competition for inward investment from countries with very low tax rates such as Singapore, Puerto Rico and China.

102 CFO Europe, *Race to the Bottom*, <http://www.cfoeurope.com/displayStory.cfm/2118269>, May 2004.

Table 4.2
Corporation Tax Rates in Competitor Countries

Country	Standard Rate	Preferential Rate	Qualification
Czech Republic	28%	5%	Profits from investment funds
Hungary	16%	none	
Poland	19%	none	
Switzerland	24.1%	0%	Tax holidays of up to 10 years
China	33%	15-24%	For foreign investment in the Special Economic Zone
Puerto Rico	20%	0%-7%	Manufacturing products new to the island
Singapore	24%	0%-5%	For 'pioneer industries' and those engaging in new high-value added projects

Source: KPMG, Corporate Tax Rate Survey 2004; PwC, Corporate Taxes 2003-2004, Worldwide Summaries

Recommendation

The Government should reiterate its commitment to the current corporation tax rate of 12.5% on trading profits. (Government)

4.5.2 VAT and eCommerce

eCommerce is transforming the way companies do business internationally and Ireland needs to be in a position to compete. There is, however, a significant issue – VAT on business-to-consumer (B2C) transactions.

For B2C electronic transactions, VAT is currently charged at the rate applicable in the supplier's location. Given that the rate in Ireland (21%) is one of the highest in Europe, suppliers based in Ireland are at a significant competitive disadvantage in the B2C market.

This affects indigenous companies and it also makes Ireland less attractive to foreign companies that distribute B2C services electronically, such as eMusic and electronic delivery of software. It is an area of particular concern as we envisage capitalising on the global growth in international trade in services over the coming years.

The main option for addressing this problem is to change the EU rules so that VAT on B2C electronic transactions is charged at the standard rate in the customer's location. This would mean that, regardless of where the supplier is located, the EU consumer would pay the same VAT rate; the VAT collected would be routed to that country.

The Directive that introduced the current treatment is scheduled for review in 2006.

Recommendation

The Government should recommend to the EU to have VAT on B2C electronic transactions charged at the standard rate in the customer's location. (Department of Finance)

4.5.3 Tax Credits for R&D

The 2004 Finance Act announced a 20% tax credit for incremental expenditure on R&D for the purposes of stimulating R&D investment in Ireland by both indigenous and foreign-owned companies. Many other countries already have some form of fiscal incentive, with many increasing the attractiveness of their scheme in recent years.

Recommendation

Monitor and assess the effectiveness of the planned R&D tax credit in increasing levels of R&D investment in Ireland, and make modifications to the scheme if necessary. (Department of Enterprise, Trade and Employment and Department of Finance)

4.5.4 Carbon Tax

The EU is implementing a number of measures to reduce carbon emissions in line with commitments made under the Kyoto Protocol. As part of this process, the Government announced its intention to introduce a carbon tax in January 2005.

Ireland's obligations under the Kyoto Protocol will place higher costs on industry than those of our European neighbours. This is due to the gap between Ireland's targets and its actual emissions, with only the Netherlands and Finland facing more stringent targets.

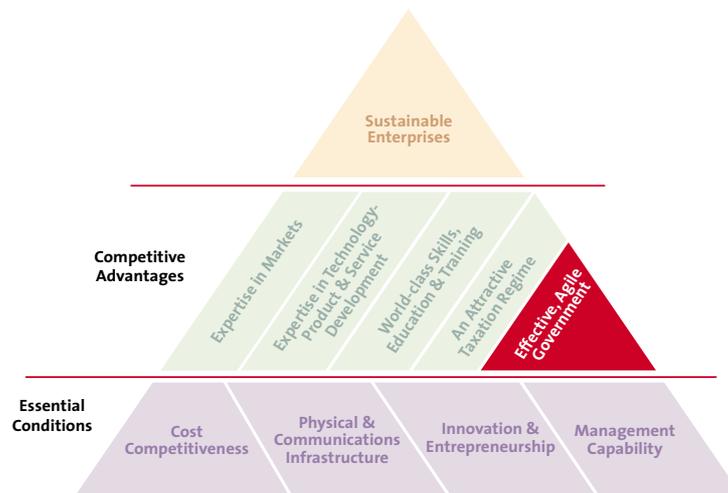
The proposed carbon tax should be introduced at a low level. Following the imposition of the tax, the level of emissions abatement achieved should be analysed in the context of targets set down under the National Climate Change Strategy. If Ireland has difficulty in meeting its commitments and the costs to industry are not prohibitive, there may be scope for further tax increases. It is premature, however, to set out a programme of tax increases over four years that bears no relation to Ireland's performance in meeting its Kyoto targets.

The primary aim of the carbon tax should be to effect behavioural changes and reduce Ireland's emissions of greenhouse gases in the most economically efficient manner. Revenue raised through taxation should be used to help Ireland meet its Kyoto targets, for example, by investing in the purchase of emissions reductions or clean technologies that would help Ireland to achieve greater abatement domestically. It is important that the carbon tax be introduced across all sectors of the economy, such as transport, residential and agriculture, as well as industry, to ensure that all sectors contribute proportionately to abatement.

Recommendation

The carbon tax should be set initially at a low level and paid by all sectors of the economy and on all fuels. (Department of Finance)

4.6 Effective, Agile Government



“A country’s global competitiveness has as much to do with effective government as it has with effective corporations.” – Peter Drucker

The transition from a production-driven, investment-based economy to one that is market-led and knowledge-based cannot be achieved by the enterprise sector acting on its own. The Government and state agencies, the education sector and the social partners will need to be mobilised to embrace the change and absorb it into their own structures and operational processes.

This places a particular onus on Government and the public sector. To succeed, enterprise needs to work in an environment that is designed to respond to the changing global economy, as outlined in Chapter 2. Such an environment would give Ireland a unique strength. Ireland is well placed to build such an environment ahead of its competitors, given the potential for flexibility, focus and speed of response conferred by its small scale.

The Irish public system proved itself capable of such responsiveness in the past, but many believe that Ireland has lost its former ability to respond quickly and flexibly to identified needs and that there is no longer a clear focus on enterprise as a key economic driver.

As we face increasing global competition, all levels of government will need to adopt a proactive and flexible approach to the implementation of enterprise policy.

A range of reports and recommendations has already been produced aimed at addressing gaps and barriers to enterprise development. However, significant elements of these recommendations await action.

4.6.1 Policy Coherence and Integration

The whole of society ultimately depends on the enterprise sector for employment and wealth. Government policies and the way in which they are implemented have a major influence on the ability of enterprise to realise its full potential.

Specifically, the ability of enterprise in Ireland to produce knowledge-based, market-led products and services over the coming decade will depend to a significant degree on the Government and its agencies developing and implementing policies covering a broad range of activities, including enterprise; education and learning; research, development and innovation; infrastructure and environment; taxation; and regulation and competition.

It is critically important that policies in these areas be developed and implemented in a coherent, integrated way and that the policy-making process be focused, agile and responsive to ever-changing conditions. This is a requirement if enterprise policy is to respond effectively to increasing international competition.

4.6.2 Supporting Structures and Processes

We need to create structures and processes that ensure that Government departments and agencies act in mutually complementary and supportive ways. These mechanisms should enhance the ability and willingness of these important actors to co-ordinate their activities and to collaborate where appropriate, so that their policies reinforce one another and the whole becomes more than the sum of the parts.

Relevant models include the UK Prime Minister's Delivery Unit and the Finnish Economic Policy Committee chaired by its Prime Minister. Structures for improving communications between Government and business would also facilitate a shared understanding of enterprise concerns and bring innovative enterprise thinking into Government.

A mechanism at the heart of Government is required to drive the required responses and coherence – a mechanism that will ensure the commitment of all those involved and ensure that they all act in the same direction and with the same sense of urgency.

Recommendation

To create a shared vision at senior political level of the nature and importance of the enterprise agenda, institute a twice-yearly Cabinet meeting dedicated to enterprise, to debate and prioritise the cross-departmental responses required for enterprise development, commencing with the recommendations set out in this report.

These Cabinet meetings should be supported by an Expert Group on Enterprise, meeting at least quarterly and consisting of the Secretaries General from the six departments specified and approximately four senior figures from the enterprise sector. (Government)

The Expert Group on Enterprise should meet at least quarterly and include the Secretaries General from the following departments:

- » Enterprise, Trade and Employment
- » Education and Science
- » Finance
- » Communications, Marine and Natural Resources
- » Transport
- » Agriculture and Food.

The twice-yearly Cabinet meeting should:

- » Oversee the implementation of enterprise strategy
- » Review progress and revise priorities as necessary
- » Agree actions and spending required
- » Publish an annual review of progress.

The Expert Group on Enterprise will be responsible for reviewing the enterprise agenda and performance. It will propose various actions to be undertaken and the associated expenditure to facilitate implementation.

This will ensure cohesion across Government departments in dealing with enterprise needs – for example, investment in R&D, broadband roll-out, energy and priorities for access infrastructure. This should help to overcome rigidities across the different departments, prioritise enterprise needs and ensure that refocusing of priorities can be accommodated in line with changing demands.



Chapter

5

Essential Conditions

5 Essential Conditions

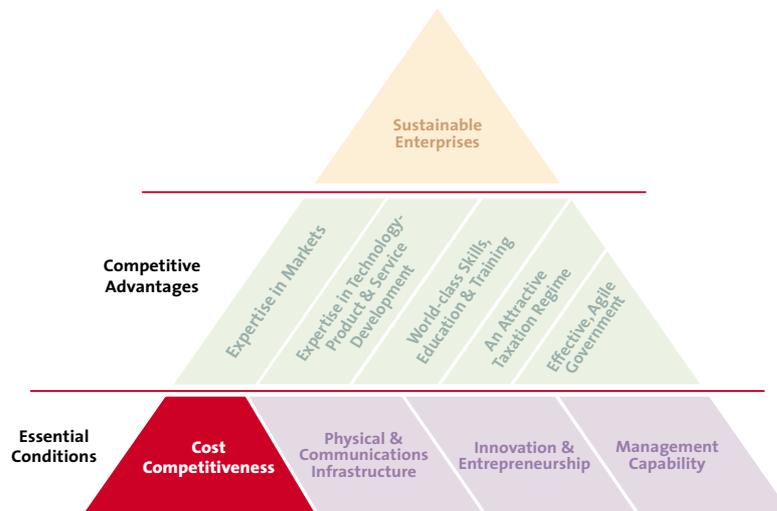
Ireland's future depends on an enterprise sector that is knowledge-based and market-led, operating in a distinctive competitive business environment, as set out in Chapter 4.

Certain conditions, while not conferring competitive advantage, are essential to the success of the strategy – they are basic requirements for international competitiveness. These are discussed in this Chapter.

This Chapter comprises four main sections, as follows:

Section	Page
5.1: Cost Competitiveness	91
5.2: Infrastructural Requirements	97
5.3: Innovation and Entrepreneurship	102
5.4: Management Capability	109

5.1 Cost Competitiveness



Even high value innovation-driven enterprises ultimately have to compete on costs. In Ireland, however, many costs and price levels are considerably higher than those of our main competitors, as noted in a number of reports including the National Competitiveness Council's *Annual Competitiveness Report 2003*. In Ireland, the costs of insurance, broadband, electricity, office rental, waste disposal, transport and professional services – to name but a few – are significantly higher than in competitor countries.

As many of these specific areas are already being considered by the National Competitiveness Council and others, this report focuses on a number of deep-seated structural factors that contribute to Ireland's cost profile, which must be addressed because they pose a fundamental threat to Irish national competitiveness:

- » A lack of effective competition policies
- » Excessive or inappropriate regulatory policies
- » An inability to promote and reward workplace productivity
- » Higher housing costs.

Each of these factors is described in turn.

5.1.1 Competition Policies

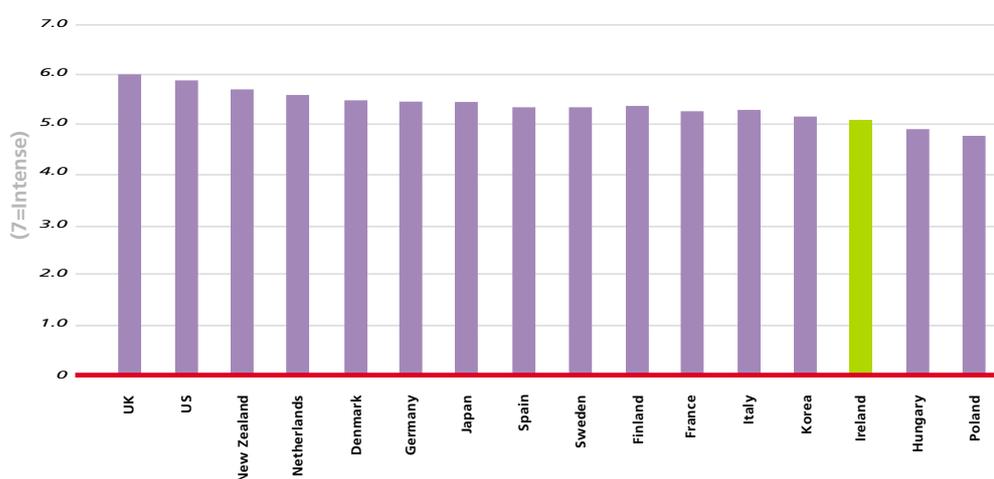
In the past, Government policies in many spheres have inhibited competition and thereby prevented the emergence of more efficient, innovative and responsive industry structures that would lower costs and improve services for business and consumers. These policies have resulted in:

- » Direct and indirect barriers to entry to markets (for example, through restrictive state licensing schemes, or through the customs and practices engaged in by some of the self-regulated professions)

- » The absence of competition in the provision of economic infrastructure via statutory and other monopolies
- » The sheltered status enjoyed by many areas of business activity through legal protections of one kind or another (for example, claims that particular sectors are ‘special’ and that normal market disciplines should not therefore apply).

The low level of competition is particularly notable in the case of goods and services that are not traded internationally. A World Economic Forum study of the intensity of local competition in 16 countries ranked Ireland in 14th place.

Figure 5.1
Intensity of Local Competition



Source: World Economic Forum, *Global Competitiveness Report 2003-2004*

The restriction of competition allows dominant companies to produce goods and services inefficiently and/or to inflate prices artificially. This affects the cost base of enterprise and limits the range and quality of choice available, thus impacting negatively on the international competitiveness of companies requiring such goods and services as inputs to their businesses. Higher prices also have an indirect effect on the cost base of industry in that they put upward pressure on wage demands and make the country less attractive to skilled immigrants. In general, therefore, regulation that inhibits competition operates against the best interests of consumers and ultimately against the well-being of the economy.

With increased powers under the Competition Act 2002, the Competition Authority has challenged anti-competitive practices across a number of sectors. However, they and others, continue to highlight a range of sectors where consumer interests are secondary to those of producers.

Adequate competition is a prerequisite for efficient markets and efficient markets are vital to driving down the cost of doing business. Legislation in this area must be backed by enforcement. Unlike most EU countries (such as the UK, Germany and France), Ireland has no civil sanctions for infringements of competition law. As only a small set of competition matters can be successfully pursued through criminal enforcement, the absence of civil penalties weakens the ability of the State to enforce existing competition laws. We recognise that further work is required by the Government and the Attorney General to assess the constitutionality of civil sanctions.

Recommendations

Review and dismantle the many legislative shelters which serve to protect existing operators and restrict competition. In particular, quantitative restrictions of any kind that limit market entry and shelter incumbents should be removed. (Government)

Implement a regime of civil sanctions for infringements of competition law in conjunction with the Competition Authority. (Government)

5.1.2 Regulation Policies

Better regulation is increasingly being used across the developed world to create competitive advantage in the race for investment, jobs and innovation. While regulation is necessary and often valuable, it must be balanced against the costs to enterprise. Regulatory compliance has a price – not only in financial terms, but also in terms of time and management attention. This can have a significant impact on small businesses.

In the past, new regulations, both European and Irish, have been written into law without detailed consideration of their impact on small business. Going forward, when adopting new regulations, our guiding principle should be: *think small first*. If regulations are designed so that compliance is relatively easy for small firms, it is also likely to be easy for larger companies.

The regulatory environment must also be kept under review and any unnecessary, dated, unduly burdensome or impractical regulation should be repealed. In 2003, the Dutch Government committed itself to a 25% reduction in red tape by 2007. The Dutch Bureau for Economic Policy Analysis estimated that this would result in a 1.5% increase in Dutch GDP.

The Irish Government's White Paper, *Regulating Better*, (2004) spells out the first steps on the road to regulatory reform.¹⁰³ We welcome this initiative. It needs to be implemented and we need to go further.

Regulatory Impact Analysis

In many OECD countries (18 out of 28), an assessment is made of the expected consequences of any proposed new or changed regulation prior to its introduction. This is known as Regulatory Impact Analysis (RIA). While the proposed introduction of RIA in Ireland is welcome, a range of further actions are required if RIA is to be implemented in a meaningful way to improve the environment for enterprise development.

Recommendation

The Regulatory Impact Analysis (RIA) process must be fully transparent. RIAs should be published (subject to freedom of information confidentiality rules). While individual government departments and agencies should have the primary responsibility for conducting the RIAs, the Department of the Taoiseach should have a strong screening role and the power to reject RIAs due to inadequate analysis or enterprise consultation. (Government)

The White Paper *Regulating Better* acknowledges the importance of the RIA process and sets out a series of high-level steps toward its implementation. The following additional steps should be taken:

- » Special consideration should be given to whether the proposed measure will encourage entrepreneurship and when reviewing the impact on SMEs, the RIA should include a detailed assessment of the effects on their cost structure, as well as the administrative burden. In cases where there is a significant cost to SMEs without a corresponding gain in terms of the national policy objective of the draft regulation, consideration should be given to simplifying the regulation for smaller firms or creating a block exemption.
- » There is a particular dearth of information on SMEs¹⁰⁴ and the services sector. The National Statistics Board's strategy¹⁰⁵ to develop a network across government departments to generate official statistics from administrative records should be implemented.¹⁰⁶
- » Clearly not all administrative changes and ministerial orders can be the subject of a full RIA. This would represent an impossible requirement in terms of resources apart from introducing unnecessary delays in government. For regulations not subject to RIA, a simpler assessment process should be developed to ensure they meet basic quality criteria and that their broad impact is fully understood. Consultation and transparency procedures should be just as open as for larger-impact regulations.

Improving Sectoral Regulation

There are a number of issues associated with sectoral regulation in Ireland:

- » The proliferation, cost and lifespan of regulators
- » The lack of co-ordination between regulators and the Competition Authority, despite the existence of a range of bilateral co-operation agreements
- » The continued dominance of single companies in most sectors
- » The increases in prices of regulated services
- » The perceived inability of the regulatory regime to achieve national development objectives, such as broadband usage in telecommunications
- » Ireland's small market size and geographical location
- » Effective barriers to trade in many of the sectors in question
- » Rapid technological change.

104 *Despite the fact that SMEs account for 99% of all enterprises, two-thirds of all private sector employment and 50% of GDP in the EU.*

105 *National Statistics Board, Strategy for Statistics 2003-2008.*

106 *The introduction of a unique identifier code for businesses (to provide a linking mechanism for the data gathered across all administrative schemes) and a postal code system (to provide disaggregated local data) are key steps in this process.*

It is appropriate that the existing structure of sectoral regulators be reviewed, given the resources involved and the increasing importance of regulation. The White Paper *Regulating Better* commits the Government to “...*assess, on an ongoing basis, the possibilities for rationalisation of sectoral regulators including through the merger of existing regulators and/or through the sharing of common services*”.

Merging a number of regulators to create a larger multi-sectoral regulatory body could yield significant benefits, including:

- » The development and utilisation of more specialised resources and skills (legal, economic, etc) to promote competition and an ability to shift resources more easily away from sectors declining in importance
- » A greater ability to identify and deal with convergence in technologies, markets and other cross-sectoral regulatory issues more effectively
- » The development of a common approach and consistency of regulation across sectors
- » A reduction of costs to regulated sectors, as larger agencies can be more efficient through economies of scale, especially in advocacy, legal work and back office functions
- » An enhanced ability to deal with legal or political challenges to their independence.

Recommendation

The existing regulators for networked sectors (for example, electricity, gas, telecommunications and broadcasting) should be replaced by a new regulatory body covering all networked sectors. (Government)

5.1.3 Rewarding Workplace Productivity

Firms have to continually increase their productivity – either by reducing input costs or by increasing output value – in order to remain competitive and profitable and to pay employees real wage increases. Productivity is in everyone’s interest. Increases in productivity are best realised in a work environment that is flexible, and in which the creativity, knowledge, skills and experience of the workforce are channelled and rewarded. The majority of firms in Ireland lack the structures for this to happen. Over the next few years, firms that rise to this challenge and modernise their organisations will gain a distinct competitive edge.

Financial Participation and Reward

Employee financial participation (EFP) and reward systems, such as profit-sharing, gain sharing, share ownership schemes and savings-related schemes have been demonstrated to benefit the company through higher productivity, cost savings, improved quality of work and reduced staff turnover.¹⁰⁷ Profit-related remuneration has the added advantage that it is not a fixed cost, so that the company has greater flexibility in uncertain financial environments.

107 | NESI, *Profit Sharing, Employee Share Ownership and Gainsharing: What can they achieve? Research Series Paper No. 4, May 2000.*

Employees benefit tangibly, in terms of financial rewards and intangibly, in terms of job satisfaction.

Progress has already been made in Ireland on:

- » Approved profit sharing schemes (APSS)
- » Approved save as you earn schemes (SAYE)
- » Approved share option schemes (ASOS)
- » Employee share ownership plans (ESOPs)
- » Gain sharing.

Recommendations

Enterprise should use employee financial participation schemes (not just at management level) to promote employee commitment to business goals, increased productivity and reduced costs. (Enterprise)

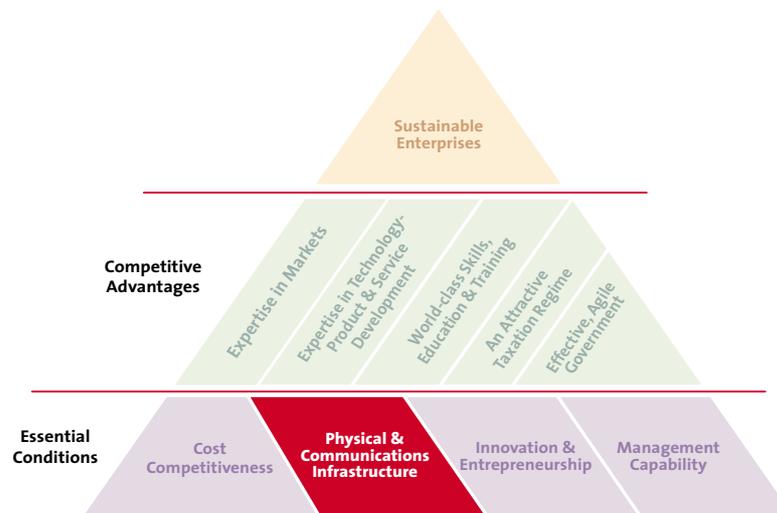
The Government and the social partners should urgently address the question of taxation of gain sharing related payments, in order to expedite implementation. (Government, Social Partners)

5.1.4 Housing Costs

High house prices are a significant contributor to increased wage demands. Strong economic growth in recent years, coupled with demographic changes, is creating very strong demand for housing, which is not matched by supply. This imbalance caused steep price rises – house prices in Ireland rose by an estimated 219% between 1995 and 2002.

The gap is narrowing somewhat: in 2003, 69,000 house completions were recorded – the ninth successive record year for house building. However, house prices continue to increase. Containment of growth in house prices is critical to ensuring wage growth stability and in enabling Ireland to compete for high-skilled immigrant labour. This is an issue that needs to be urgently addressed.

5.2 Infrastructural Requirements



The recent expansion and strong performance of the enterprise sector in Ireland has exposed deficiencies in Ireland's physical infrastructure. These deficiencies add substantially to business costs and impair their efficiency. They also affect business decisions regarding investment and location.

In recognition of these deficiencies – which result partly from the rapid development of the economy in the 1990s and partly from decades of under-investment – the National Development Plan 2000-2006 (NDP) committed to significant investment in infrastructure such as national roads, public transport and environmental infrastructure. While the next few years should see considerable improvement in physical infrastructure, substantial elements of the NDP will not be completed before 2006 – for example, the roads programme is behind schedule and over budget.

Five aspects of infrastructure are dealt with in this section:

- »» The requirement to invest in infrastructure ahead of demand in key centres
- »» The need to prioritise infrastructure investment decisions based on the current and future needs of enterprise
- »» The management of infrastructure projects
- »» The opportunities for North-South co-operation on infrastructure
- »» The need to develop infrastructure.

5.2.1 Investing in Infrastructure Ahead of Demand

While the economic advances of the past decade have had nationwide impact, job creation and new business activity have not been geographically balanced: the Greater Dublin Area has benefited disproportionately from the growth. The concentration of economic activity has been driven by factors such as the size and strength of the existing enterprise base, growing levels of accessibility (for example, international transport and telecommunications links), availability of a large skilled

workforce and a well-developed social infrastructure that promotes business networks. Research and educational facilities also play an important role in sustaining and promoting growth.

Weak infrastructure in the regions presents a barrier to their economic development. The key mechanism for enabling regional development is to enhance their infrastructure. Regions will attract enterprise only if they have the infrastructure and facilities that allow them to compete with Dublin and international regions for trade and investment.

The National Spatial Strategy

The National Spatial Strategy (NSS), published in November 2002, sets out a 20-year plan for greater regional balance. It identifies a number of gateways and hubs around the country into which it is intended to channel growth in the years ahead. In the absence of such policy intervention, it is estimated that the population of the Dublin and Mid-East regions would increase by approximately 750,000 by 2031.¹⁰⁸ We believe that if the gateways and hubs identified in the NSS are to provide business with a viable alternative to Dublin and compete with leading regions overseas, it is essential that they have the necessary infrastructure. The physical infrastructure and services must be able to support a critical mass of population and enterprise.

Recommendation

Invest in infrastructure ahead of demand in key locations. Investment should be prioritised in NSS designated gateways and hubs to enable them to achieve their regional potential. (Government)

5.2.2 Prioritising Infrastructure Investment Decisions

Funding for infrastructure and enterprise services is traditionally allocated to Government departments and agencies as an increment on past investment levels, rather than on an assessment of current and future enterprise requirements.

As the country increasingly moves towards a knowledge-based economy, the relative importance of different types of infrastructure is changing. Infrastructure that supports the mobility of people (for example, air services, national roads) and ideas (broadband networks) will increase in importance, while the relative demand for other types of infrastructure may diminish. It is important that such changing needs are reflected in investment decisions.

While significant progress is being made, the current key infrastructure priorities for enterprise include:¹⁰⁹

Broadband Telecommunications

Advanced telecommunications services are critical for the attraction of foreign direct investment, for the development of indigenous industry and the promotion of the knowledge economy. Relative to leading and competitor countries, broadband services in Ireland are more expensive for relatively low speed products, with restricted availability. Ireland ranks 11th in the EU-15 in terms of the monthly rental cost of ADSL, 30% above the EU-15 average.¹¹⁰

108 CSO, *Regional Population Projections 2001-2031*.

109 These priorities are based on an Inter-Agency Submission to the NDP Mid-Term Review, 2003, www.forfas.ie/ncc/reports/ncc030701/webopt/ncc0307_interagency_submission_NDP_midterm_review.pdf

110 ComReg Quarterly Market Report March 2004. This ranking is based on the cheapest offering in each country for a service equivalent to 1Mbit.

National and Non-national Roads

High-quality inter-urban infrastructure is critical for promoting regional development. We recommend that the following inter-urban routes be prioritised:

- » Dublin-Border motorway
- » Cork-Dublin motorway
- » Waterford-Dublin motorway
- » Cork-Limerick-Galway corridor
- » Galway-Dublin motorway
- » Limerick-Dublin motorway
- » Completion of the M50 South-Eastern motorway

By 2006, only the Dublin to Border (M1) route is scheduled for completion.

Funding also needs to be prioritised for non-national roads to improve access to these centres.

Waste Management Facilities

As many existing waste disposal facilities are reaching the end of their useful life, waste management needs to be urgently addressed. New facilities will have to be built to cater for hazardous and non-hazardous waste.

Air Services

Air services are particularly important for knowledge-intensive industries. For businesses operating internationally, proximity to an airport (in terms of time to access) coupled with cost effective, timely international connections is a prerequisite for a competitive location. To promote critical mass, the development of Dublin (including the provision of a second terminal) and Shannon, which can service the southern and western regions, should be prioritised. Road links between the airports and the regions they serve should also be improved.

Energy

There are significant concerns over the ability of the energy sector to cater for further economic expansion. The main objectives of energy policy in Ireland over the next 5-10 years should be to achieve security of supply while ensuring that costs are competitive with those of Ireland's main trading partners and to minimise the impact of energy provision and consumption on the environment.

Recommendation

Develop a strategic infrastructure investment programme for the period beyond 2006. Based on the current and future needs of industry, the programme should prioritise investment in broadband, national roads, waste management, air services and energy. (Government)

Increasingly, the private sector is working with the State to provide a range of economic infrastructure (for example, motorways and waste management facilities), both directly and through public-private partnerships. The State should ensure that the business environment is conducive to private sector investment in infrastructure and should invest only where there is market failure (as, for example, in the case of broadband).

5.2.3 Management of Infrastructure Projects

Many of the major infrastructure projects in Ireland have been subject to delays and overruns in time and cost. While the development planning process is the cause of some delays, project planning, budgeting and project management appear to be inadequate when compared with other countries.¹¹¹ In some projects, too many state bodies are involved without the required level of co-ordination.

Recommendations

Each infrastructure project should be the responsibility of a single department or agency. Specific guidelines for consultation between agencies should be developed to clarify their respective remits and responsibilities. Government departments and agencies should ensure that they have adequate planning and project management skills to manage infrastructure projects. (Government)

Develop a mechanism to enable strategic national infrastructure projects to be processed quickly through the planning system and a special division of the High Court should be established to deal with judicial reviews of major infrastructural projects and third-party planning appeals. (Government)

5.2.4 North-South Co-operation

Both parts of the island of Ireland share many of the same natural resources (eg groundwater, sea, rivers, lakes, air, etc) and face similar environmental and economic challenges with respect to infrastructure development. As the Good Friday Agreement provides for increased interaction between institutions North and South, greater consideration should be given to the development of a shared infrastructure agenda.

The creation of North-South infrastructure would offer advantages to all parts of the island, particularly to exploit the significant economic development opportunities between larger cities and towns, such as between Derry and Letterkenny, Monaghan and Armagh, Cavan and Enniskillen and Dundalk and Newry and through the further enhancement of the emerging Dublin-Belfast economic corridor.

The following areas should be considered for collaborative development:

- » **Telecommunications:** Telecommunications operators should be encouraged to enhance cross-border telecommunications backbone networks to provide greater diversity of supply, competition and choice and to allow the entire island to benefit from Ireland's competitive international connectivity
- » **Roads:** The extension of the M1 has already substantially improved North-South access along the East coast. Access to the North-West requires further investment, as it suffers from poor road connections to Dublin and to centres in Northern Ireland

¹¹¹ *Inter-Agency Submission to the NDP Mid-Term Review, 2003*, www.forfas.ie/ncc/reports/ncc030701/webopt/ncc0307_interagency_submission_NDP_midterm_review.pdf

- » **Air Services:** The number, frequency and schedules of flights should be improved further, especially between Belfast, Derry, Dublin, Cork and Shannon
- » **Energy:** The adequacy of Ireland's electricity supply is in question; Northern Ireland has excess capacity. There is potential to develop an all-island energy market and an all-island electricity grid to the benefit of both economies
- » **Sea Ports:** Sea ports are essential for external trade. Improved access to Drogheda port and to ports in Northern Ireland would improve logistical efficiency.

Recommendation

Examine the potential for infrastructural development required to promote trade between Ireland and Northern Ireland and make concrete proposals to the two Governments. (InterTradeIreland)

5.2.5 eInfrastructure

Advanced broadband services are an absolute necessity for the development of knowledge-based enterprises in existing and emerging sectors, for the creation of an IT-literate society, for achieving more effective government services in areas such as healthcare and education and for Ireland's reputation as a world-class centre for enterprise and research.

Relative to physical infrastructure, such as road and rail, the NDP allocated modest funding to the development of broadband (€150 million – 0.3% of the NDP). Leading countries such as Korea, Sweden, Singapore, Japan and Taiwan, are investing significantly in eInfrastructure.

Although Ireland has excellent international connectivity, the cost of regional connectivity and the lack of access to the 'last mile' reduces competition and choice in the market. Within the public sector, various arms of Government are involved in the rollout of eInfrastructure, including the ESB, Bord Gáis, CIE, local authorities, city councils, HEAnet and the Department of Communications, Marine and Natural Resources. However, there needs to be an integrated vision of what all these constituent elements are to achieve and whether they are being exploited effectively to provide a competitive network infrastructure to meet the Government's broadband targets.

Due to the current competitive dynamic of the Irish market, prices, availability and quality of broadband services in Ireland are poor relative to other countries, especially for residential and small business customers. To address the current impediments to the supply of broadband, greater competition is required between broadband telecommunications organisations and between broadband delivery technologies (such as DSL, cable, fibre and wireless). Competition would stimulate greater choice, wider availability and reduced costs. At present, the aggregated nature of the Government's procurement services does not promote diversity and competition in the market. Significant additional regulatory pressure is required to promote the development of competition.

Government should stimulate demand for broadband by making more government services available online (or by making them more attractive online than otherwise) and by implementing a broadband awareness programme.

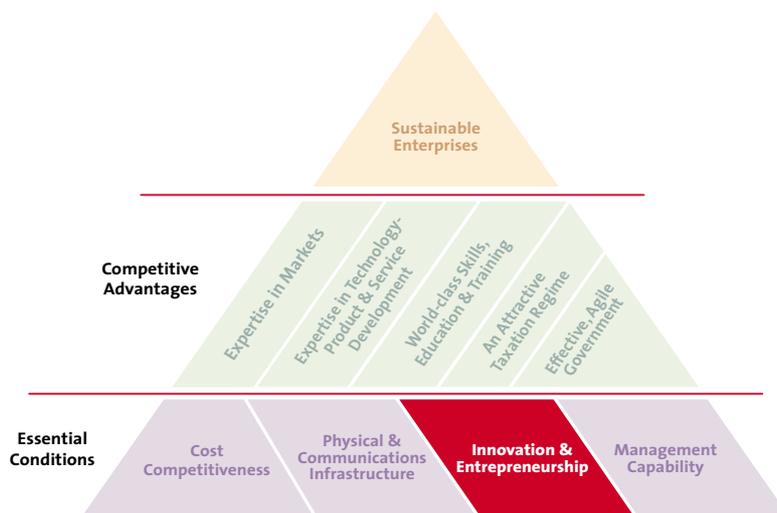
Recommendations

Accelerate the remaining phases of the Broadband Action Plan¹¹² (particularly to key NSS centres) and promote emerging communications technologies that could accelerate the uptake of high-speed broadband services in homes and businesses. (Department of Communications, Marine and Natural Resources)

Establish a competitive single national rate for national backbone access (over state owned networks). This would facilitate uptake of broadband by businesses and consumers in the regions, as well as helping to attract foreign investment to the regions. (Department of Communications, Marine and Natural Resources)

Disaggregate state procurement contracts for telecommunications services to promote the deployment of competing infrastructures and to foster services competition, ensuring long-term value for money. (Department of Finance)

5.3 Innovation and Entrepreneurship



Given the openness of the Irish economy, economic performance is highly sensitive to both Irish and global economic developments. Businesses that accept change as a fact of life and seek to accommodate it, adapt to it and initiate it as a central part of their business strategy will thrive in the years ahead.

Equally, for the state system, innovation is a requirement to sustain and improve standards of living.

This section deals with three aspects of innovation:

- » Innovation and entrepreneurship
- » Workplace innovation
- » Innovation in the public sector.

5.3.1 Stimulating Innovation and Entrepreneurship

Innovation requires a particular mindset that involves curiosity, creativity and problem-solving, the ability to continually question established ways of doing things and the ability to apply knowledge, insights and intuition to change them.

Innovation can be initiated anywhere in the organisation – on the factory floor or in the R&D laboratory.

Entrepreneurship requires this attitude, together with a desire for autonomy. It also requires a range of skills that is neither easy to teach nor learn, including people-management skills, negotiation skills, problem-solving and communication skills.

These skills and attitudes are necessary for starting and running a business, but they are also assets in an employment context. Only some people actually exercise their entrepreneurial skills by starting a business; others contribute to the success of the business that employs them. Employees who take responsibility for their work and its contribution to the company, who see it as their role to identify problems and solutions, who try to find ways to operate more efficiently and who work with their fellow employees and their employer to enhance the productivity of the business are particularly valuable – and especially so as the business becomes more knowledge-based. Entrepreneurial skills and attitudes deliver benefits to society in many ways – only one of which relates to new business start-ups.

Entrepreneurial skills and attitudes are core requirements in an innovation-driven, knowledge economy and they must be fostered. While the level of entrepreneurship in Ireland is one of the highest in Europe,¹¹³ it is considerably lower than in the US. It is also of concern that the level of entrepreneurship by women is significantly lower than in the most entrepreneurial nations, for example, the US, Canada, New Zealand and Australia.¹¹⁴ Given the significant contribution entrepreneurial behaviour can make to economic development, specific initiatives to promote entrepreneurship should be supported, including:

- » Education for entrepreneurship and developing an entrepreneurial culture
- » Ensuring that finance is available for entrepreneurs and for start-up companies.

Entrepreneurial Culture and Education

Public attitudes towards entrepreneurs in Ireland and particularly the attitude to business failure, have not been particularly positive.¹¹⁵ Although these attitudes are gradually changing for the better, there is a need for more education and awareness raising.

Clearly, the innate abilities of an individual, coupled with the business environment (ease of establishing a new business, access to finance and advice, as well as the prevailing cultural attitudes to entrepreneurship), are extremely important factors in determining whether they start a new business. However, innate abilities can be complemented by training to enhance the likelihood of the new business' survival and growth. Education can contribute to creating a more entrepreneurial culture by helping to build a more entrepreneurial mindset among young people.¹¹⁶

Education and training – both in its content and in the way in which it is delivered – can instil a positive attitude to entrepreneurship among students by:

113 Fitzsimons, O'Gorman; *The Global Entrepreneurship Monitor, 2003 –The Irish Report, How Entrepreneurial is Ireland?* 2004.

114 *ibid.*

115 Goodbody Economic Consultants, *Entrepreneurship in Ireland, October 2002.*

116 European Commission, *Green Paper Entrepreneurship in Europe, COM (2003) 27 final, January 2003.*

- » Providing positive role models and promoting self employment as a long-term career goal and focusing on this area in the curriculum, in transition year and in career guidance advice, with a particular emphasis on potential early school leavers
- » Fostering positive attitudes to personal responsibility, independence, self-directed learning, initiative and risk-taking
- » Teaching the basics of business, finance and communication at primary, secondary and higher levels of education
- » Giving greater recognition to non-academic achievement
- » Ensuring access to entrepreneurial award schemes
- » Providing relevant entrepreneurial training at third level, including a focus on commercialisation of academic innovations.

The applied and practical Leaving Certificate courses and the transition year facilitate this process. Many of the higher education and training institutions provide modules on entrepreneurship and these should be encouraged and further developed. A number of non-statutory organisations also promote entrepreneurship with educational programmes and award schemes, in association with state educational bodies and the enterprise development agencies, particularly the City and County Enterprise Boards. These initiatives make an important contribution. Ideally, they should co-ordinate their efforts to deliver attractive and content-rich modules, programmes and experiences for students, on a more widespread basis. Opportunities for all-island initiatives should be pursued.

Recommendations

Entrepreneurial skills should be included in the syllabus for the senior cycle and any necessary curricular changes made at primary and junior cycle level. (National Council for Curriculum and Assessment)

Support award schemes aimed at encouraging entrepreneurship in order to ensure their widespread availability, particularly at primary and secondary school level. Such support should be primarily private sector led. (Enterprise, Government)

Finance for Entrepreneurs and Start-up Companies

The sources of funding available for indigenous enterprise vary depending on the development stage of the company, the type of business and its risk profile. While there are financing difficulties at all stages of business development, they are generally more acute at the earlier stages, where the market is less willing to provide solutions. Business start-ups – especially those operating in international services and higher risk technology-intensive sectors – have particular difficulty in sourcing finance. Many of these companies are not attractive or suited to venture capital investment for a number of reasons, such as the lack of exit opportunity or the small scale of the project.

The State has recognised this deficiency and has provided a number of schemes to address this issue, including:

- » The income tax relief afforded by the Business Expansion Scheme/Seed Capital Scheme (BES/SCS). These play a key role in attracting equity into early stage companies
- » Public-Private Seed and Venture Capital schemes,¹¹⁷ supported by Enterprise Ireland.

When the State gets involved in financing, it needs to do so efficiently and with a minimum of bureaucracy and it needs to complement the provision of finance with management and marketing support, possibly using mentor schemes.

The State should shift the balance of funding away from direct support for second round financing and leave this segment of the market to the private sector venture capital firms.

Recommendations

The private sector, with co-investment from Enterprise Ireland, should continue to stimulate the development of seed funds to address gaps in the financing of business start-ups. (Enterprise Ireland, Private sector)

Maintain the income tax relief afforded by the Business Expansion Scheme/Seed Capital Scheme (BES/SCS). (Department of Finance)

5.3.2 Workplace Innovation

Few countries have developed a co-ordinated and focused policy for organisational innovation: this is an area where Ireland, with its positive experience of social partnership, can gain early mover advantage. Our past experience of the partnership approach has left us with most of the problem-solving skills and attitudes needed to create a focused workplace development programme. We now need to build on that experience, recognising the productivity and competitiveness gains that can be made through full employee participation and gain sharing.

A number of trends are converging to change the ways in which businesses are organised, in which management and control are exercised and in which responsibilities are distributed. These trends include:

- » Information technology: Information can be made available where and when it is needed. As a result, front-line workers are more equipped to make decisions and work independently of traditional management hierarchies
- » Human resources: Workers are not only skilled at a specific task, but because of education and information technology, they are versatile and creative
- » Changes in employee preferences: Workers now seek more variety and challenge at work than before. They also seek more flexible working arrangements, such as part-time work and teleworking
- » Industrial technology: Large single-purpose machines are being replaced by more flexible, multi-purpose machines. These demand a more versatile, educated and creative workforce.

¹¹⁷ Enterprise Ireland under a new Seed and Venture Capital Programme (2001-2006) committed €91 million to 15 funds leveraging a total of €396 million into the funds as of 31 December 2003. These include funds targeted at technologies, companies in the regions and enterprises arising from the higher education sector.

A New Workplace Model

In the new workplace model, the creativity, knowledge and skills of the workforce are recognised as a primary source of value and are continually developed through structured training programmes. The management style is participative rather than hierarchical and effective leadership is evident throughout the organisation. New ideas for processes, efficiencies, products or services are welcomed and rewarded. The organisation offers flexible working arrangements in order to facilitate better work-life balance.

This type of organisation is more effective. The National Centre for Partnership and Performance (NCP) reported recently that a partnership approach is more effective than a directed management style in:

- » Improving the quality and efficiency of business processes
- » Reducing costs
- » Improving levels of innovation and customer service
- » Improving employee conditions, developing better employee relations and reducing industrial relations conflict
- » Developing more effective responses to organisational change.

Through its work under the Forum on the Workplace of the Future,¹¹⁸ the NCP is engaged in a 12 month programme of consultation, examination and consideration of issues relating to the transition required in Ireland to workplaces that are innovative, dynamic and capable of adapting to change. We endorse this approach and look forward to the conclusions of the NCP Forum on the Workplace of the Future.

Enhancing Workplace Flexibility

Organisations in the coming years will have to recognise the changing needs of the workforce and their own need to retain skilled and experienced staff and to continually upgrade their skills. At present, there are several disincentives for people to move in and out of the workforce – not only the loss of immediate income, but also the loss of position, pension rights and other benefits. This results in a loss of expertise and a low take-up of learning opportunities.

Recommendation

Individuals should be facilitated to manage work, learning and caring commitments throughout their working lives, for example through a restructuring of pensions and other benefit schemes. (Government)

5.3.3 Innovation in the Public Sector

Current Position on Public Service Reform and Modernisation

In recent years, much progress has been made in adapting public service delivery to meet 21st century client requirements. Two major initiatives – the *Strategic Management Initiative*, launched in 1994 and *Delivering Better Government* in 1996 – have been supported in the two most recent national partnership agreements.¹¹⁹ The central objective of these reform strategies is to manage the public service in such a way that it provides services that are excellent in quality, effective and efficient in delivery and responsive to changing requirements. An Implementation Group of Secretaries General was established in July 1997, with a mandate to drive the reform process forward. In March 2002, an evaluation of progress as a result of these initiatives was published. Strong progress had been achieved, particularly around the ‘outward-facing’ themes of openness, transparency and accountability, quality customer service and regulatory reform. The modernisation programme is not yet complete, particularly in the core corporate support functions of managing human resources, finances and information systems. Because of their linkages with the other components, improving these would yield a disproportionately positive contribution to the overall change programme.

Challenges to Creating a More Innovative Public Service

Public service modernisation and efficiency remains a critical challenge for the Government; expenditure has risen by 90% in the five years to 2003, rising to €36.9 billion,¹²⁰ including net pay costs of an estimated €12.5 billion for the 335,800¹²¹ staff employed across a total of 572 departments and agencies.¹²² The delivery of agile, responsive, efficient and cost-effective Government remains both a strategic imperative and a potential source of competitiveness for the Irish economy.

To create an environment conducive to innovation within the public sector, certain interdependent conditions need to be in place for each department and agency. These include:

- » Specific and prioritised goals: Ensuring that goals are clearly defined, prioritised, communicated and understood is a basic precondition to making real progress. Without this, the ability to focus resources to best effect to achieve objectives and to respond to the needs of the organisation and its clients is substantially weakened
- » Empowerment of senior public servants: Public sector managers face particular challenges in creating an innovative, efficient and responsive public service. Secretaries General are required to assume a high level of personal accountability and exposure, while simultaneously resolving competing service demands within a resource-constrained environment. Apart from providing clarity on specified goals and their prioritisation, senior managers within the public sector should be further encouraged to achieve high levels of delivery by ensuring that they have appropriately skilled staff

119 Programme for Prosperity and Fairness, 1999 and Sustaining Progress, 2003.

120 Independent Estimates Review Committee, Report of the Independent Estimates Review Committee on Estimates for Public Services, 2003.

121 CSO, Public Sector Employment and Earnings, September. 2003.

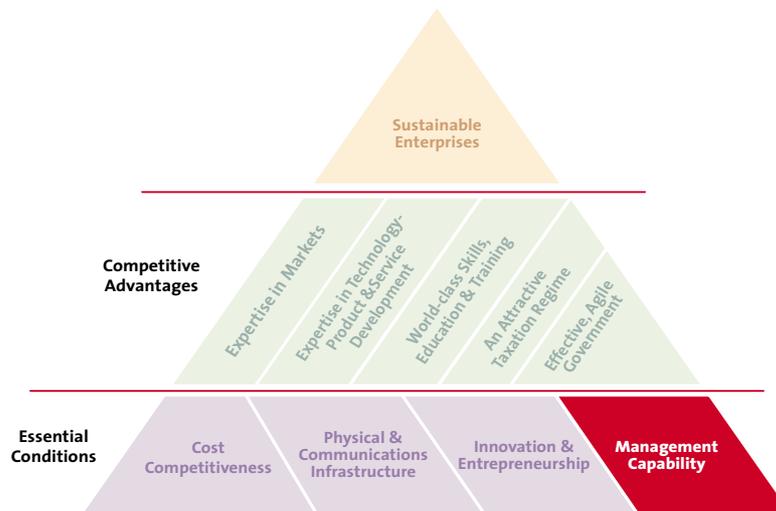
122 Jordon, Enda; The Public Sector Anticipating and Adapting to Change, Presentation to Forum on the Workplace of the Future, 6th October 2003.

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- » Appropriate resources: The limitation on Secretaries General with regard to the direct employment and dismissal of staff hinders progress towards modernising the public sector. Personnel with the requisite skills must be available to deliver the policy objectives set for the public service organisation and managers should be free to recruit, retrain and reallocate staff to ensure effective performance. Equally, in specific instances of persistent under-performance and following due process, the effects on finite resources of continuing to retain an underperformer in employment needs to be recognised and addressed
 - » Appropriate and meaningful performance measurement: What is most easily measurable is what is most often measured and valued. At present, public sector accountability is provided primarily through the annual reports of the Secretaries General to the Comptroller and Auditor General. These reports focus on accounting for exchequer expenditure and on value for money. In future, all financial allocations should be linked to expected results and the Secretaries General should be required to report on the effectiveness and coherence of delivery on strategic objectives and should take account of the elements of policy implementation that are qualitative and/or are expected to deliver results in the longer-term.

Recommendation

Re-energise the Strategic Management Initiative/Delivering Better Government programme by clearly articulating and prioritising policy goals, by giving public service managers the autonomy needed to deploy resources as necessary and by developing a more effective system of performance accountability. (Government)

5.4 Management Capability



5.4.1 The Importance of Management

Management skills are critical to the success of an enterprise. The national pool of management talent and expertise has a huge bearing on the country's economic development.

Today's business environment is becoming more challenging from a management perspective: on the one hand, the complexity of the management task is increasing, with the emergence of more sophisticated business models, greater competitive pressures and the relentless advance of technology; on the other hand, the timeframe in which managers must act and make decisions is decreasing.

In short, as Ireland evolves to a knowledge economy, characterised by the primacy of innovation, services and customer focus, management skills will become increasingly important.

The following statement, from a November 2003 survey of senior expatriate managers operating in Ireland and commenting on the management capability of their Irish peers, underscores some considerable challenges in this respect: *"Irish managers are becoming complacent and their weak international skills and lack of strategy and customer focus are putting Ireland's continued success at risk"*.¹²³

The Irish Context

Managers themselves have diagnosed some of the areas in which support and development are required – a recent IMI study,¹²⁴ found that Irish managers wanted guidance and training in a wide range of areas, including the management of change and the development and implementation of strategies.

While management capability is of relevance for all businesses operating in Ireland, indigenous firms, in particular, face a number of difficulties in this respect. The scale and longevity of foreign-owned companies may permit them to cultivate management skills in-house, through secondment of experienced managers from parent or sister organisations, in conjunction with managed career progression and

¹²³ Torc Consulting Group, Cranfield University, Survey of Senior Expatriate Managers in Ireland, November 2003.

¹²⁴ O'Connor, Irish Management Institute, Top Challenges for Managers, 2003.

mentoring of their Irish staff.¹²⁵ Many indigenous firms require external assistance in order to develop their management expertise particularly at the start-up and early stages of internationalisation. SMEs may be inhibited from availing of external training by some of the following:

- » **Tactical Focus:** SMEs generally have an overstretched management structure that is occupied with immediate, operational issues rather than more strategic ones¹²⁶
- » **Training:** Many firms, particularly the smaller ones, have difficulty in accessing appropriate training¹²⁷
- » **Resources:** SMEs have difficulties in meeting the full cost of training.

Skills development in this area should be viewed as a business priority both within the firm and by those responsible for national enterprise development.

Defining the Requirement

In order to maximise the uptake of training opportunities by firms and the resulting benefits, a series of principles should be observed:

- » **Clear articulation of needs:** A clear prioritisation should be made identifying the most pressing needs in relation to management capability building. This should then influence the formulation and delivery of appropriate training programmes
- » **Industry-centric:** Enterprise should play a prominent role in promoting, developing, and delivering training, and disseminating best practice
- » **Focused:** The appeal and value of training to firms can be greatly enhanced if it can be set in their immediate context; the context has a sectoral aspect as well as stage of business maturity
- » **Action-oriented:** Training should emphasise practical skills that can be readily applied in the SME
- » **Flexible Delivery:** Courses must be available at times and locations convenient to firms
- » **Evaluation:** An on-going assessment of the benefits to individuals and firms should be an integral part of all training.

¹²⁵ The diffusion of management expertise from the foreign owned into the indigenous sector may go some way towards addressing the weakness in the latter, however, to date many foreign owned companies have been production orientated, consequently much of the management focus has been on operational issues rather than strategic ones. This may change in the future if some of these companies can be encouraged to locate headquarters and marketing operations in Ireland.

¹²⁶ Only 30% of Enterprise Ireland clients have a substantial middle tier in their management structures.

¹²⁷ Expert Group on Future Skills Needs, Report on In-company Training, 2000.

Recommendations

Businesses should recognise the importance of and assume responsibility for, management capability building. This area should be a major business development priority. (Enterprise)

Business networks should articulate the management development needs of their members. These networks could act as a focal point for the delivery of targeted training. (Business networks)

The enterprise development agencies should place increased emphasis on the Board and management capabilities of firms to which they are providing support. (Enterprise development agencies)



Chapter

6

The Role of the Enterprise Development Agencies

6 The Role of the Enterprise Development Agencies

The State's primary responsibility in relation to enterprise policy is to ensure that the broad environment and essential conditions for business are in place.

Enterprise Development Agencies should only intervene to address market failures. At this stage of Ireland's development, we believe that only the following interventions are appropriate:

- » Facilitating access to overseas markets
- » Encouraging R&D and technology application
- » Attracting foreign direct investment
- » Fostering entrepreneurship
- » Training for those in the labour market.

Recommendations in relation to the above have been set out in Chapters 4 and 5.

Historically state intervention has been undertaken primarily through the state development agencies. In future, we envisage a growing role for the private sector in driving initiatives through networks of companies with common interests. The development agencies will continue to have an important role in both enterprise development and in facilitating the emergence of enterprise-led networks.

This Chapter addresses the need for change in the development agencies to meet future enterprise needs and the skills required in these agencies. The Chapter has two sections:

Section	Page
6.1: Meeting Future Needs	115
6.2: Skills Required in the Enterprise Development Agencies	116

6.1 Meeting Future Needs

A continued focus on foreign direct investment will be an important part of Ireland's future success. Greater success in developing indigenous internationally-trading companies will also be critical.

Sustainable enterprise will be achieved by fostering strong collaboration between indigenous and foreign-owned businesses in key sectors, by networking, by assisting firms internationally with sales, outsourcing and alliance opportunities, by supporting demand-driven R&D, by identifying technology transfer opportunities to satisfy sectoral needs, and by fostering entrepreneurship and skills development in the labour force.

State intervention needs to adapt to support these future needs. This will necessitate:

- » Increasing collaboration between existing enterprise agencies to ensure the coordinated policy approach and focus necessary to develop and implement strategies and realise synergies across Irish and foreign-owned businesses
- » Bringing together in a more integrated way the development and support services provided at present on a separate basis by Enterprise Ireland, Shannon Development and the City and County Enterprise Boards.

The 35 City and County Enterprise Boards play a valuable role in fostering entrepreneurship and enhancing the business environment at local level. Improved co-ordination of their activities would facilitate widespread roll-out of best practice in client support, as well as synergies in the areas of training and information provision.¹²⁸ Plans for decentralisation, which envisage the relocation of the headquarters of Enterprise Ireland (with 300 staff) to Shannon, call into question the need for a separate development agency in the form of Shannon Development.

If we are to appropriately address the challenges facing enterprises, agency resources must be focused on building enterprise capability in markets and applied R&D. We need structures that have their own identities and budgets, with strong leadership, direction and energy to focus on core functions. As discussed in Chapter 4, a dedicated focus is required within Enterprise Ireland to promote market intelligence and exports ('Export Ireland'), and to build capability in applied research ('Technology Ireland').

Recommendations

The Boards of Forfás, IDA Ireland and Enterprise Ireland should have a number of directors in common, and in particular a common Chairperson.

The enterprise activities of Shannon Development should be brought within the remit of Enterprise Ireland and IDA Ireland.

The City and County Enterprise Boards (CEBs) should be integrated into the mainstream enterprise development system by establishing a Central Coordination Unit in Enterprise Ireland. This unit should provide central direction, technical support, shared services and quality assurance, to further enhance the effectiveness, efficiency and impact of the CEBs.

(Department of Enterprise, Trade and Employment)

¹²⁸ Fitzpatrick Associates, *Review of the Role of the County and City Enterprise Boards in the Development of Micro-Enterprises*, November 2003.

Ireland's future economic development will depend to a large degree on our ability to produce the changing skills required by enterprise over the coming decade. It is estimated that 80% of the global workforce of 2015 is already in the labour force.¹²⁹ As the quantity of people entering the labour force will decline in Ireland (as set out in Chapter 2), enhancing the skills of the existing labour force will grow in importance. This implies a need for continual training and re-training.

FÁS, as the national training body, should further prioritise activities aimed at training those in the labour force. The design and provision of FÁS training programmes should support the proposed national 'One Step Up' initiative as outlined in Chapter 4. FÁS should have a central role in the delivery of this initiative in consultation with other relevant agencies and necessary resources should be allocated accordingly. All training courses should be delivered to high quality standards to ensure that they are recognised and valued by industry. FÁS apprenticeship courses have been successful in this regard.

Recommendations

There should be an increased focus by FÁS on training for those in the labour force. Funding should be allocated to reflect this reorientation of FÁS's remit.

The Government should review its approach to the delivery of the community employment and training initiatives. These should not be a priority for FÁS.
(Government)

6.2 Skills Required in the Enterprise Development Agencies

The enterprise environment over the next decade will be particularly challenging and fundamentally different from that which obtained in the past. For the agencies to contribute as effectively to enterprise development in the future, staff within the agencies must have a strong and detailed understanding of existing and emerging sectoral opportunities. This will require a step-change in integrated cross-agency teamwork and in the depth, quality and consistency of expertise in the enterprise agencies, including:

- » In-depth knowledge of the sectors in which Ireland has or is developing a strong position
- » Specialist skills in the activities of sales and marketing, and applied technology development.

Delivering the state interventions effectively will require that staff in the agencies act as 'enterprise catalysts'. This implies a more active involvement with the companies than the provision of information and grants, but stops short of determining priorities and directions of development. The catalyst role requires the agencies to:

- » Stimulate firms and groups of firms to evaluate and adopt appropriate strategies
- » Provide support at both firm and sector level to companies in executing their strategies.

129 ILO, cited in *Towards a Strategic Plan*, Berglind Ásgeirsdóttir, Deputy Secretary General, OECD, 2003.

Achieving a detailed understanding of individual sectors or activities will require that staff in the agencies work consistently for a number of years with a range of firms engaged in the same sector or activity – ideally both in Ireland and in the overseas marketplace. It implies close co-operation between:

- » Staff within an agency who are assisting the same firms with different aspects of business
- » Staff in different agencies who are assisting firms in the same sector or activity.

This will maximise knowledge transfer, efficiencies and identification of new opportunities.

Recommendations

Develop sector expertise in the enterprise agencies by:

- » Organising operations in each agency around groups of clients with common interests, with these groupings as consistent as possible across the agencies
- » Recruiting specialist expertise from outside the agencies in order to drive the export sales and applied technology agendas across enterprise.

(Enterprise development agencies)



Chapter

7

Implementation

7 Implementation

The Enterprise Strategy Group believes that enterprise development in Ireland is now at an important turning point.

The success of the 1990s was facilitated by a national consensus on the need for job creation in a time of very high unemployment. This consensus ensured that policy formulation was directed towards this national goal and provided a common focus for all relevant enterprise actors. To sustain and grow in the future, we must rebuild national consensus around the need for stronger enterprises that will create wealth and sustainable employment for all in an environment where the application of knowledge and skill will increasingly be the competitive differentiator. To achieve this goal:

- » **Firms** will need to develop higher value products and services, to increase investment in applied research and to diversify the markets in which they operate. This will require them to build expertise in markets and technologies and to upgrade their management capabilities. Firms will also have to continually increase their productivity – either by reducing input costs or by increasing output value.
- » **Management and employees** will need to commit to greater levels of partnership in the workforce, displaying higher levels of innovation, change and performance, and an openness to new organisational models and new ways of gaining competitive advantage. Employees will need to take responsibility for upgrading their own skills to meet the challenges of a knowledge economy. Workforce productivity should be encouraged through employee financial participation and reward systems.
- » Our **education and training systems** will need to produce people with the level of knowledge and skills required to drive and sustain a knowledge economy; improve their governance, delivery mechanisms and operating practices to be flexible and responsive to the needs of students and employers, and be innovative in exploiting the commercialisation of research.
- » Our **development agencies** will need to achieve greater collaboration and enhanced skills to support enterprise in a changing environment.
- » Our **business leaders** and their representative organisations will need to foster the emergence of business networks which will become increasingly important as a mechanism to drive success.
- » Finally, our **government and public service** will need to be agile and effective in building a business environment that will give Ireland competitive advantage.

As the activities of a wide range of Government departments (not just the Department of Enterprise, Trade and Employment) will critically impact on the success of future enterprise policy, including this Enterprise Strategy, we need to have structures and processes that ensure that these departments act in mutually complementary and supportive ways.

We believe that the timely, decisive and complete implementation of the strategy and recommendations set out in this report is necessary to achieve a transformation of enterprise in Ireland to meet future challenges. Many believe that Ireland has lost its former ability to respond quickly and flexibly to defined needs. A range of reports and recommendations has already been produced aimed at addressing gaps and barriers to enterprise development. However, significant elements of these recommendations await action.

Accordingly, we strongly believe that the Cabinet enterprise review process outlined in Chapter 4 is essential to drive the cross-departmental and state agency responses required by enterprise, commencing with the recommendations set out in this report.



Appendices

A	Terms of Reference	124
B	Membership of the Enterprise Strategy Group	125
C	Membership of the Advisory Groups	126
D	Submissions	136
E	Developing the Agri-food Sector	139
F	Glossary	141

A Terms of Reference

The Enterprise Strategy Group was established by An Tánaiste and Minister for Enterprise, Trade and Employment, Mary Harney TD, in July 2003. Membership is detailed in Appendix B.

Under its Terms of Reference, the Enterprise Strategy Group was requested to develop a medium-term enterprise strategy, and to propose and prioritise national policy responses which will:

- » Strengthen the competitiveness of Ireland's enterprise environment
- » Promote the emergence of an innovation- and knowledge-driven economy
- » Sustain those industries already providing employment
- » Underpin the industries of the future where Ireland is or can become a substantial player, with particular reference to segments of the ICT, life sciences, food, financial services and internationally traded services sectors
- » Encourage business start-ups and companies with potential for growth, and
- » Examine the scope for increasing the value of sectors to the Irish economy as a whole.

The Enterprise Strategy Group was asked to take account of:

- » Long-term international trends in globalisation, EU enlargement, technology and regulation, as well as in the structure of industries and markets, and
- » Ireland's increased prosperity and changing cost and competitiveness base, future trends in demography, the regulatory environment, and our physical, R&D and technological infrastructures.

Against this background, the Enterprise Strategy Group was asked to produce a strategy based on a vision which recognises the desirability of appropriate balance between:

- » Business sectors in the economy
- » Foreign and domestic enterprise ownership
- » Regions as set out in the National Spatial Strategy, and
- » Types of economic activity, such as research, manufacturing and commercial services.

B Membership of the Enterprise Strategy Group

Enterprise Strategy Group Members

Chair: **Mr Eoin O'Driscoll**, Managing Director, Aderra Limited

Mr Alan Dwyer, Managing Director, Eurostyle Limited

Mr Hugh Friel, Chief Executive Officer, Kerry Group plc

Mr Des Geraghty, Former General President of SIPTU

Mr David Griffin, Chief Risk Officer, AIB Bank

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Mr Tom McManus, International Vice President, EMEA, Johnson & Johnson

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Dr Eucharia Meehan, Head of Research Programmes, Higher Education Authority

Mr Barry Moore, European Patent Attorney, Hanna Moore Curley Limited

Mr Pa Nolan, Director, FexCo Limited

Dr Conor O'Carroll, Assistant Director of Research Policy, Conference of Heads of Irish Universities

Mr Feargal Ó Móráin, Director, Science and Innovation and Corporate Support Services, Enterprise Ireland

Mr Oliver Tatton, Chief Executive, Daon

Secretary: **Mr Seamus Bannon**, Department Manager, Competitiveness and Innovation Division, Forfás

Mr Declan Hughes, Department Manager, Science and Technology Division, Forfás

D List of Submissions

American Chamber of Commerce Ireland
Association of Chief Executive Officers of the City and County Enterprise Boards
Association of EC Business and Innovation Centres in Ireland
Atlantic Technology Corridor
Avoncourt Vacuum and Pressure Formers
Border, Midland and Western Regional Assembly
Bradley McGurk Partnership
Business in the Community Ireland
Chambers of Commerce of Ireland
Commergy Limited
Commission for Energy Regulation
Competition Authority
Conference of Heads of Irish Universities
Cork Business Innovation Centre
Cork Electronics Industry Association
Cork Institute of Technology, Department of Education Development
Council for the West
Council of Directors of Institutes of Technology
Design Ireland
Digital Hub
Donegal Local Development Company
Drogheda Partnership Company
Dublin Business Innovation Centre
Dublin Chamber of Commerce
Dublin City Development Board
Dublin Molecular Medicine Centre
Economists Network, TASC
Eircom
Electronic Product Services Limited
Engineering Solutions International Limited
Enterprise Ireland
Fanning, Eugene

FÁS, Director General's Office
FÁS, Excellence Through People
Faulkner Export Packaging Limited
Feeney, Paul
Financial Services Ireland
Galway Mayo Institute of Technology, Department of Industrial and Mechanical Engineering
Galway Mayo Institute of Technology, School of Business
German Irish Chamber of Industry and Commerce
Higher Education Authority
IAWS Group plc
ICT Ireland
IDA Ireland
Industry Research and Development Group
Inner City Enterprise
Institution of Engineers of Ireland
InterTradelreland
Irish Business and Employers Confederation
Irish Clothing and Textiles Alliance
Irish Congress of Trade Unions
Irish Council for Science, Technology and Innovation
Irish Engineering Enterprises Federation
Irish Exporters Association
Irish Forest Industry Chain
Irish Medical Devices Association
Irish Mining and Exploration Group
Irish National Organisation of the Unemployed
Irish Pharmaceutical Healthcare Association
Irish Small and Medium Enterprises Association
Irish Software Association
Irish Tourist Industry Confederation
Irish Venture Capital Association
Kelly, Grellan
Kerry Innovation Centre
Louth County Development Board
Maguire, Andy
Marketing Institute

Meath County Council
Murphy, Dermot
National Centre for Partnership and Performance
National Competitiveness Council
National Institute of Transport and Logistics
National Qualifications Authority of Ireland
National Standards Authority of Ireland
National University of Ireland, Centre for Innovation and Structural Change
Novara I.T.
Oak Tree Press
Oracle Corporation Ireland Limited
PLATO Ireland
Print Industry Training and Development Forum
Science Foundation Ireland
Shannon Development
Sherlock, Malachy
Skillnets
Small Firms Association
South East Regional Authority
South Tipperary County Council
Sure Engineering (Europe) Limited
Telecommunications and Internet Federation
Tourism Policy Review Group
Údarás na Gaeltachta
University of Dublin, Trinity College, School of Business Studies
University of Limerick, Programme for University Industry Interface
Western Development Commission
Young Entrepreneurs Scheme National Committee

E Developing the Agri-food Sector

Developing the Agri-food Sector: An example

Unlike other sectors of the Irish economy, the agri-food industry is multi-faceted, with a large number of growers/producers at farm level complemented by primary processor and added-value processing industries. Food security and food safety issues are paramount, which, coupled with the multi-national trade profile of the industry, make it a heavily regulated sector.

2004: The Starting Point

Today, Ireland is internationally recognised as a leading food producing country – benefiting from its ‘green’ image and relatively unspoiled environment. Ireland is generally perceived as a source of high-quality base ingredients with the potential to increase output of added-value and speciality food and beverage products. Key companies in the industry have out-performed other indigenous sectors in developing the capabilities and scale required to compete and grow in world markets. A number of indigenous enterprises have established leading positions in niche or specialist markets globally. Importantly, given the sector’s regional spread, it plays a significant role in the spatial distribution of development and employment across the country.

The Irish agri-food and drink sector now faces fundamental change, largely driven by CAP reform and WTO negotiations. Rapid consolidation at retail and production levels, trade liberalisation and increased competition from lower cost regions, represent major challenges to this important sector of the Irish economy.

Ireland’s future competitiveness as a food exporter will depend on efficiencies across the entire supply chain, from primary input production to manufacturing, marketing and distribution. Product differentiation and the capability to satisfy evolving consumer requirements will be essential.

A number of strategies have been proposed in recent years for the development of the agri-food sector.¹³⁰ If some of the key initiatives were implemented, Ireland could become world renowned for the highest quality and standards in production, processing, and customer services in specific segments of the industry.

The Agri-food sector in 2015

If appropriate policy initiatives are taken, by 2015 Ireland will be internationally recognised as an important location for the production of high value-added foods products such as:

- » Prepared consumer foods
- » Functional foods and beverages
- » Food ingredients
- » Speciality foods

¹³⁰ Previous reports published include: Department of Agriculture, Food and Rural Development, *AgriFood 2010, A Plan of Action, 2000*; Promar International, *Strategic Plan for the Irish Dairy Processing Sector, 2003*; McKinsey and Co., *Preparing the Irish Beef Sector for the 21st Century, 1998*; Prepared Consumer Foods Group, *Prepared Consumer Foods Strategy 2003-2006*.

Developments in the industry will include some or all of the following:

- » Consolidation and growth in the industry will lead to a greater number of significant companies, capable of addressing European markets*
- » Active collaboration between enterprise and academia, both nationally and internationally, in applied research and innovation will facilitate knowledge transfer and commercialisation. The focus of research effort will be on areas where Ireland has existing expertise or natural advantages and on specific growth opportunities*
- » Increases in productivity and efficiencies will be realised across the entire supply chain, in processing, delivery mechanisms, and customer service*
- » The sector will be recognised as offering attractive career prospects, and will attract the highest calibre of management and staff capability.*

Ireland's success in the agri-food sector will be reinforced by initiatives such as the following:

Cohesive Agri-food Strategy: The activities of existing agencies charged with the development of the food industry will be consolidated into a single food industry development agency. This agency will be responsible for the development of an over-arching strategy, combining inputs from enterprise and academia. The strategy will be focused on developing industry strengths and effective innovation and will encompass clear objectives and aggressive national targets for high standards.

The agency will foster rich interaction between the key players in relation to research and product development, primary production, processing, marketing and distribution. It will seek to gather and disseminate market research, to develop technology roadmaps specific to the industry, to market Ireland's 'brand' for agri-food internationally, and to actively engage in the formulation of effective food safety policy.

Marketing: *A comprehensive marketing programme will be developed between Irish companies and international customers, extending Ireland's reach beyond the UK to European markets. Ireland's industry will be increasingly customer-orientated, and continue to adapt products to meet changing customer needs. The industry will develop 'Food Ireland', a strong brand for its high-quality food sector that is internationally recognised and renowned.*

Research and Development: *Increased collaboration between research institutes and enterprise, both at national and international levels, will be actively fostered to drive market-led R&D. Ireland's research base will reach critical mass. Research will be carried out in a number of world-class research institutes and there will be active collaboration and complementarity in research agendas. Ireland's intellectual property framework will facilitate access to research and its subsequent commercialisation.*

The application of non-technological innovation will result in significant efficiencies in processing, delivery mechanisms, logistics and customer service, and an increased awareness and strategic use of design (packaging, branding and product development).

Regulatory Environment: *Competition law will be clarified in recognition of the need for scale in order to compete effectively at international level (as with models in the UK, Denmark and the Netherlands). Ireland's agri-food enterprise base will consolidate effectively as a result, and will benefit significantly in growth of export sales.*

Education: *The education system for the agriculture and food sectors will be re-vamped following consultation with enterprise, and courses will include modules on sales and marketing, strategic and business planning, commercialisation of R&D, and product and process development.*

F Glossary

ABT	An Bord Tráchtála-The Irish Trade Board <i>ABT was merged into the newly established Enterprise Ireland in 1998.</i>
ADSL	Asymmetric Digital Subscriber Line <i>A communications technology which allows an ordinary telephone to be used for high speed broadband communications.</i>
APSS	Approved Profit Sharing Schemes <i>These schemes enable employees to convert taxable cash bonuses into tax free shares in their employing company or parent company</i>
ASOS	Approved Share Option Schemes <i>These schemes offer tax relief on share options: an employee may be given shares in his/her employing company worth up to €1,270 per annum without being liable for income tax.</i>
B2C	Business to Consumer <i>Any business or organisation that sells its products or services to consumers for their own use.</i>
BERD	Business Expenditure on Research and Development
BMW Region	The Border, Midland and Western Region <i>The region consists of 13 counties; Cavan, Monaghan and Donegal; Galway, Leitrim, Roscommon, Sligo and Mayo; Laois, Longford, Louth, Offaly and Westmeath.</i>
Bord Bia	The Irish food and drink industry's trade development and promotion organisation
BPO	Business Process Outsourcing <i>The practice by which firms turn over their back-office functions, such as human resources, accounting and administration, to outside vendors. Advances in communications technology mean that the geographic relocation of such tasks can be local, national or international.</i>
CAP	Common Agricultural Policy <i>CAP was adopted by the European Economic Community in the 1960s in an attempt to increase food security and stabilise food prices in its member states. It provides price supports to, and promotes technical progress amongst, EU farmers.</i>
CEBs	City and County Enterprise Boards <i>There are 35 city or county enterprise boards, co-ordinated by the Department of Enterprise, Trade and Employment. Their role is to promote the development of micro-enterprises (10 employees or less) at local level.</i>

Clusters	<i>A geographically proximate group of companies and associated institutions in a particular field, linked by commonalities and complementarities. (Michael E. Porter)</i>
Culliton Report	<i>A Time for Change: Industrial Policy in the 1990s. A Government-commissioned review of industrial policy conducted in 1992.</i>
DSL	Digital Subscriber Line <i>A family of similar technologies which allow ordinary telephone lines to be used for high speed broadband communications. The family includes ADSL, HDSL, VDSL etc.</i>
EFP	Employee Financial Participation <i>Schemes which encourage greater employee involvement in the enterprise in which they work through gain-sharing and profit-sharing.</i>
EGFSN	Expert Group on Future Skills Needs <i>Established by the Government in 1997 to develop national strategies to tackle the issues of skill needs, manpower needs estimation, and education and training for business.</i>
EMEA	Europe, Middle East and Africa
EMTR	Effective Marginal Tax Rate <i>The rate at which each additional euro is taxed when allowance for the initial tax threshold is made.</i>
EMU	European Monetary Union <i>Currency union between 12 EU member states, commonly called the Euro Zone. Since January 1st 2002, euro notes and coins have been in general circulation, replacing national currencies. Monetary policy in the Euro Zone is set by the European Central Bank rather than the central bank in individual member states. Each member state in the Euro Zone is represented on the General Council of the European Central Bank.</i>
Enterprise Ireland	<i>State agency with primary responsibility for the development of Irish-owned business in manufacturing and internationally-traded services.</i>
Eolas	The Irish Science and Technology Agency <i>Eolas' functions were merged in 1994 into the institutional arrangement which evolved into Enterprise Ireland.</i>
ESOPs	Employee Share Ownership Plans <i>Tax effective mechanisms through which employees can acquire shares in their company.</i>
ESRI	Economic and Social Research Institute <i>Ireland's national independent think-tank undertaking economic and social research, with the aim of informing policy formation and societal understanding.</i>
Fáilte Ireland	<i>The national Tourism Development Authority, established in 2003. It provides strategic and practical support to develop and sustain Ireland as a high quality and competitive tourism destination, working in partnership with the tourism industry.</i>
FÁS	Foras Áiseanna Saothair <i>The Training and Employment authority established in 1998 responsible for increasing the employability, skills and mobility of jobseekers and employees to meet labour market needs.</i>

FDI	Foreign Direct Investment
FETAC	Further Education and Training Awards Council <i>The national awarding body for all further education and training in Ireland.</i>
FOI	Freedom of Information
Forfás	<i>State agency responsible for providing policy advice on enterprise, trade, science, technology and innovation and for advising and co-ordinating IDA Ireland, Enterprise Ireland and Science Foundation Ireland in relation to their functions.</i>
FTSE 100	The Financial Times Stock Exchange 100 stock index <i>A share index of the 100 largest companies on the London Stock Exchange, by market capitalisation.</i>
GDP	Gross Domestic Product <i>The total value of all goods and services produced in an economy in a given time period.</i>
GERD	Gross Expenditure on Research and Development <i>This includes both public and private investment in R&D</i>
Globalisation	<i>Globalisation is the process of integration of economies and societies around the world.</i>
GNP	Gross National Product <i>The total value of all goods and services produced in a country's economy in a given time period accruing to the residents of that country.</i>
HEA	Higher Education Authority <i>The statutory body responsible for the funding of universities and designated third-level education institutions. Its functions include the development of third-level education to meet the needs of the community and to perform an advisory role in relation to all higher-level education.</i>
HEAnet	<i>Ireland's National Education and Research Network, providing Internet services to students and staff in Irish Universities, Institutes of Technology and other educational and research organisations. It provides direct connectivity for its community to other networks in Ireland, Europe, the USA and the rest of the world.</i>
HETAC	Higher Education and Training Awards Council <i>The qualifications awarding body for third level education and training institutions outside the university sector.</i>
IBEC	Irish Businesses and Employers Confederation <i>IBEC represents and provides economic, sectoral, regional, commercial, employee relations, social affairs and information services to companies and organisations from all sectors of economic and commercial activity.</i>
ICSTI	Irish Council for Science, Technology and Innovation <i>Established in 1997 to advise the Government on all aspects relating to the strategic direction of science, technology and innovation policy.</i>
ICT	Information and Communications Technology
IDA Ireland	<i>The state agency responsible for attracting inward investment in manufacturing and internationally-traded services sectors.</i>

InterTradelreland	<i>Established under the 1998 Belfast Agreement, InterTradelreland is responsible for exchanging information and co-ordinating work on supporting trade, business and related matters in a cross broader context.</i>
IP	Intellectual Property <i>The asset which arises where innovation or creative activities lead to an invention, design or process sufficiently unique or original to be considered confidential or valuable or both.</i>
IRCSET	Irish Research Council for Science, Engineering and Technology <i>Established in 2001 to promote excellence in research across the sciences, engineering and technology.</i>
Linkages	<i>Systems of networked links and collaboration between firms in key sectors, between Irish and foreign companies, and between enterprise and academia.</i>
Mass Customisation	<i>The process by which mass-market goods and services are individualised to specific customer needs.</i>
NALC	National Adult Learning Council <i>Established in April 2002 to promote the development of adult learning, to ensure a co-ordinated strategy across the different sectors and agencies involved in adult learning, to support quality, engage in research and promote international co-operation.</i>
NCC	National Competitiveness Council <i>Established in 1997 as part of the Partnership 2000 Agreement. The NCC provides regular reports to the Taoiseach on key competitiveness issues for the Irish economy together with recommendations on policy actions required to enhance Ireland's competitive position.</i>
NCCA	National Council for Curriculum and Assessment <i>The statutory body that advises the Minister for Education and Science on matters relating to the curriculum for early childhood education, primary and post-primary schools, assessment procedures employed in schools and examinations on subjects which are part of the curriculum.</i>
NCPP	National Centre for Partnership and Performance <i>Established by the Government in 2001 to support and drive change in the Irish workplace. The Centre's remit is to enable organisations in the private and public sectors, through partnership, to respond to change, to build capability and to improve performance.</i>
NDP	National Development Plan <i>The NDP involves an investment of over €52 billion of public, private and EU funds (in 1999 prices) over the period 2000-2006 in health services, social housing, education, roads, public transport, rural development, industry, water and waste services in Ireland.</i>
Networks	<i>Groups of firms and other organisations that are organised, formally or informally, around common interests. The firms may share interests in, for example, technology, standards or regulations; they may co-operate to commission research, to articulate skills requirements or to purchase equipment; they may share information on markets or they may form a consortium to address a customer need that none of them could address on their own.</i>

<p>NQAI</p>	<p>National Qualifications Authority of Ireland <i>Established in 2001, the NQAI's role is to develop and maintain a framework of qualifications to facilitate learners in accessing programmes of education and training and in transferring and progressing from them.</i></p>
<p>NSS</p>	<p>National Spatial Strategy <i>A twenty-year national planning framework, launched in 2001, designed to deliver more balanced social, economic and physical development between regions. A commitment to prepare a spatial strategy to plan at national level for the country's future spatial development was included as part of the National Development Plan 2000-2006.</i></p>
<p>NSS Gateways</p>	<p>National Spatial Strategy Gateways <i>Named as Dublin, Cork, Limerick/Shannon, Galway, Waterford, Dundalk, and Sligo. Gateways have a strategic location nationally and relative to their surrounding areas, provide national scale, social, economic infrastructure and support services.</i></p> <p><i>In addition to the Gateways named above, Letterkenny/Derry, and Athlone/Tullamore/Mullingar, act as linked gateways working together to promote regional development in their respective areas.</i></p>
<p>NSS Hubs</p>	<p>National Spatial Strategy Hubs <i>Hubs support the role of the Gateways and in turn energise smaller towns and rural areas within their sphere of influence. The NSS Hubs are named as Cavan, Ennis, Kilkenny, Mallow, Monaghan, Tuam, Wexford. In addition Ballina/Castlebar and Tralee/Killarney act as linked hubs working together to promote regional development in their respective areas.</i></p>
<p>OECD</p>	<p>Organisation for Economic Cooperation and Development <i>A global body dedicated to the promotion of democratic government and the market economy. It has 30 member states and active relationships with some 70 other countries, NGOs and civil society. Best known for its publications and statistics, its work covers economic and social issues from macroeconomics to trade, education, development, and science and innovation.</i></p>
<p>PRTL</p>	<p>Programme for Research in Third Level Institutions <i>An initiative to boost research capabilities in the higher education sector, PRTL supports research in humanities, science, technology and the social sciences.</i></p>
<p>RIA</p>	<p>Regulatory Impact Analysis <i>An assessment of the expected consequences of any proposed new regulation or regulatory change. It involves a detailed analysis to ascertain whether or not the new regulation would have the desired impact and also helps to identify the consequences of any hidden costs associated with regulation.</i></p>
<p>SAYE</p>	<p>Save As You Earn <i>A tax efficient means of saving. Under this scheme, employees agree to save for a fixed time period and are given the option to buy shares in their company at a predetermined price that may be at a discount of up to 25% of the market value at the time.</i></p>

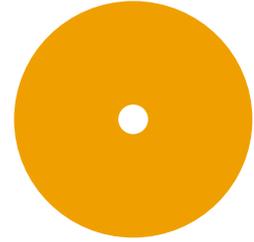
SFI	Science Foundation Ireland <i>Established in July 2003 by the Government to invest €646 million between 2000 and 2006 in academic researchers and research teams who are most likely to generate new knowledge, leading-edge technologies and competitive enterprises in the fields underpinning biotechnology and information and communications technology. SFI is becoming increasingly responsible for various state investments in basic research.</i>
Shannon Development	<i>Established in 1959 to generate industry, tourism and regional development in the wider Shannon area.</i>
Skillnets	<i>Established in 1999 to encourage and support groups of enterprises to formulate strategic answers to their joint training needs. This process is facilitated through the establishment of networks where companies and organisations work together to decide on their training requirements and delivery. Skillnets is funded under the National Training Fund by the Department of Enterprise, Trade and Employment.</i>
SSC	Shared Services Centres <i>Central locations to which multinational companies relocate certain functions, such as payroll, purchasing and accounts payable, in order to reduce costs and improve efficiency.</i>
State Aid	<i>Any aid granted through state resources in any form whatsoever which favours certain undertakings or the production of certain goods.</i>
Task Force on Physical Sciences	<i>Established in 2000 to tackle growing concerns about declining numbers of students opting to study the physical sciences in Irish schools, universities and colleges.</i>
Teagasc	<i>Teagasc provides integrated research, advisory and training services for the agriculture and food industry and for rural communities in Ireland.</i>
Technology Platforms	<i>A group of technologies that draw on more basic areas of knowledge (such as mathematics, physics and computing), and which can be applied to the development of a wide range of products and services.</i>
Telesis Report	<i>A Review of Industrial Policy: A Report by Telesis Consultancy Group. A Government-commissioned review of industrial policy conducted in 1982 by the Telesis Consultancy Group.</i>
Údarás na Gaeltachta	<i>Regional development agency with responsibility for the economic, social and cultural development of the Gaeltacht regions and ensuring the continuation of the Irish language as the spoken language of the community in these regions.</i>
VC	Venture Capital <i>Capital provided by full-time, professional firms (venture capitalists) or private persons who invest with management in ambitious, fast-growing companies which have the potential to develop into significant businesses.</i>
VECs	Vocational Education Committees <i>VECs provide and manage vocational schools and community colleges, employ administrative and teaching staff, and provide vocational and continuation education for their administrative areas. There are 33 VECs operating in respective county council areas.</i>

WCM	World Class Manufacturing <i>A set of concepts, principles, policies and techniques for managing and operating a manufacturing company. It primarily focuses on continual improvement in quality, cost, lead time, flexibility and customer service as the companies concerned aim to become best in class in each area.</i>
WTO	World Trade Organisation <i>Established 1995 (formerly General Agreement on Tariffs and Trade – GATT), and with a membership of 147 countries, the WTO is the international body which deals with the rules of trade between nations.</i>

The CD-ROM attached contains reports produced by a number of private sector led Advisory Groups established by the Enterprise Strategy Group to identify sectoral opportunities for enterprise in Ireland. These reports have informed the work of the Enterprise Strategy Group and helped shape its analysis and recommendations.

CD-ROM Table of Contents

Advisory Group Reports



→ Internationally Traded Services

- Education Services
- Intellectual Property
- Franchising
- International Sales and Marketing
- Healthcare Services
- Creative Services (Design)
- Creative Industries (Entertainment/Media Services)
- Electronic Commerce (eServices)
- European Headquarters
- Maritime Services
- Shared and Outsourced Business Processes
- Supply Chain Management
- Electronic Data Management
- Aviation Services
- Tourism
- Construction Related Services (Engineering, Environmental & Architectural)
- Agricultural and Bloodstock Services
- Professional and Consultancy Services
- Financial Services

→ Pharmaceutical/Biotechnology Sector

→ Food and Drink Sector

→ Information and Communications Technology Sector (*incl. Software*)

→ Medical Technologies Sector

→ Engineering Sector

→ Consumer Goods Sector

PC + Macintosh CD-ROM

PC - Windows 98SE or later
Macintosh - OS 9.1 or later

For PC users, the CD-ROM will auto-start.

For Macintosh users, open the
CD-ROM and double click
“Opportunities_for_Ireland”
to start.

Requires Acrobat Reader v4 or later.
An installation file for this program is
provided on the CD-ROM should you
need to install it on your computer.



