

Driving Export Growth: Statement on Sectoral Competitiveness

December 2009





Introduction to the NCC

The National Competitiveness Council was established in 1997 as a Social Partnership body, reporting to An Taoiseach on key competitiveness issues facing the Irish economy and offering recommendations on policy actions required to enhance Ireland's competitive position.

Each year the NCC publishes the two-volume Annual Competitiveness Report.

- Volume One, **Benchmarking Ireland's Performance**, is a collection of statistical indicators of Ireland's competitiveness performance in relation to 17 other economies and the OECD or EU-15/Eurozone average.
- Volume Two, **Ireland's Competitiveness Challenge**, uses this information along with the latest research to outline the main challenges to Ireland's competitiveness and the policy responses required to meet them.

As part of its work, the NCC also publishes other papers on specific competitiveness issues.

Chairman's Preface

Earning our living in international markets drove the birth of the Celtic tiger. As a small, open and competitive economy, Ireland prospered from an export boom in the 1990s and early 2000s. However in subsequent years strong growth in the domestic economy, driven by spending on housing and consumption, replaced exports as the key driver of growth. It is now clear that growth derived from property price inflation, fuelled by low interest rates and reckless borrowing and lending, was not a sufficient basis for sustainable growth.

Generating export-led growth is the only sustainable strategy to secure long term growth and prosperity. In view of the need to improve the competitiveness of our main exporting sectors, the NCC undertook this study to identify the existing and emerging sectoral opportunities that can drive export growth, the key competitiveness factors affecting them, and the sector-specific actions which are required to improve their competitiveness.

Ireland is well placed to capture opportunities in export markets - these are outlined in the individual sector profiles. Ireland retains a range of strengths in internationally trading sectors. Our commitment to education, research and development, enterprise policy and the export focus of indigenous industry, in addition to a considerable track record as a base for overseas investment, remain considerable advantages. It is also helpful that our international competitiveness is beginning to improve as cost pressures change and as the availability of skilled labour has improved.

This study reviews eight sectors with significant opportunities for future growth. While each sector faces a unique set of challenges, a number of issues are common across many or all sectors:

- Advanced broadband services: Developing world class advanced broadband networks and services in key regional centres is essential to enable Ireland to support the smart economy and particularly for key exporting sectors such as ICT, medical technologies, financial services, tourism, and international education services; and
- Costs of doing business in Ireland: While prices are moderating, the cost base in Ireland remains high and many Irish exporters are adversely affected by the strength of the euro. Urgent action is required to reduce the higher costs of key business inputs such as energy, waste and professional services.

Our analysis has also identified a number of sector specific challenges which need to be addressed if we are to exploit growth opportunities. These include:

- the provision of specialised courses for particular sectors such as ICT, financial services and environmental goods and services;
- enhancing the clinical trials process is key to increasing the size of the pharmaceutical and medical technologies sectors; in particular we need to consolidate and streamline approval processes for new products and technologies;
- ensuring that various Government departments and agencies work together to implement coherent strategies for their sectors (e.g. food, tourism);

- 
- upgrading the road infrastructure in and to the west is critical for the medical technologies sector to enable easier access to international markets;
 - the strategic and timely implementation of impending EU environmental legislation to develop markets for indigenous green companies and create first mover advantage for Irish companies; and
 - coordinating public spending on tourism related investment across Government departments and agencies to ensure that the attractiveness of Ireland's international tourism profile and offering is enhanced.

It is clear that despite the challenging conditions which they currently face, there is a bright future for our exporters provided employers, employees, policymakers and other stakeholders respond quickly and effectively to develop a more competitive operating environment for firms. It is hoped that this report, by identifying sector specific actions to promote key exporting sectors, will help provide an impetus for action.

I would like to thank the Council members and advisors for their valuable contributions throughout the development of this report and to acknowledge the Forfás secretariat for the work that they have done in preparing material for consideration by the Council.

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Executive Summary

The Irish economy is currently facing enormous challenges. National income is declining rapidly, living standards are falling and unemployment is rising. There is growing recognition that export led growth is the only sustainable route to maintain living standards and secure long term prosperity. However, increasing our exports will not be easy in a time of weak global demand and sluggish world trade. It is therefore critical that Ireland focuses its attention on enhancing the competitiveness of our main exporting sectors to enable them to trade successfully in international markets.

The NCC has undertaken this study to identify the key sector specific competitiveness issues facing Ireland's main existing and emerging export sectors in the short to medium term and the policy actions required. Competitiveness is defined as all of those factors which affect the ability of firms in Ireland to sell goods and services in international markets.

The sectors included in the study are:

- Food and Drink
- Chemicals and Pharmaceuticals
- ICT Manufacturing and Services
- International Financial Services
- Tourism
- Environmental Goods and Services
- Other Internationally Traded Services

The main conclusion of our analysis is that, for the most part, the critical issues for individual sectors are cross cutting, national competitiveness issues of improving cost competitiveness and growing productivity and sustaining investment in the productive sectors of the economy. These issues have been highlighted in previous NCC reports and will be discussed in detail in the Annual Competitiveness Report 2009, Volume 2: Ireland's Competitiveness Challenge. However, there are a number of important sector specific issues that also need to be addressed. The NCC believes that a key part of Ireland's economic recovery is to progress without delay the critical policy actions for Ireland's exporting sectors.

Despite the current challenges facing the Irish economy, Ireland's exporting sectors continue to perform well. In the face of the first decline in the global economy in sixty years, Ireland's exporting sectors are proving remarkably resilient; for example, there was a two percent increase in Irish manufactured exports in the seven months to July 2009 compared with the same period in 2008. While our total exports are forecast to decline by 1.7 percent in volume terms and 0.9 percent in value terms in 2009, this must be set within the context of the severe difficulties facing exporters; the IMF forecasts total exports of goods and services from advanced economies will decline by 13.6 percent in volume terms in 2009.

The eight sectors profiled in this report represent key areas of strength within the Irish economy and present significant opportunities for future growth. This report aims to identify the conditions

for sustaining and growing enterprise activity in these sectors and makes recommendations with the aim of better positioning them to take advantage of the return to global economic growth when it occurs.

Sectoral Competitiveness Challenges

For all exporting sectors a large number of factors contribute to their competitiveness in international markets. Table A provides a simplified assessment of the priority issues for each of Ireland's key exporting sectors based on the research and analysis outlined in chapter three of this study. Competitiveness factors are categorised as critical, important or supporting.

Table A: Main Factors Driving Competitiveness in each Sector

Inputs	Food & Drink	Medical Technologies	Chemicals & Pharmaceuticals	ICT	Financial Services	Tourism	Environmental Goods & Services	Other ITS
Taxation, Regulation and Finance								
Taxation	I	C	C	C	C	C	I	C
Trade Regulation	I	S	S	I	I	S	I	C
Environmental Regulation	C	I	C	I	S	I	C	S
Labour Regulation	I	S	S	S	S	C	S	S
Intellectual Property	S	I	I	I	I	S	C	I
Sectoral Regulation	C	I	I	S	C	I	I	I
Access to Finance	I	I	S	C	I	C	C	I
Economic Infrastructure								
Energy Infrastructure	I	I	I	I	S	I	C	S
Broadband	I	C	I	C	C	I	I	C
Transport (External)	I	I	I	I	I	C	I	I
Transport (Internal)	I	C	I	I	S	C	I	I
Knowledge Infrastructure								
Skills and Training	C	C	C	C	C	I	C	C
R&D and Innovation	C	C	C	I	I	I	C	I
Costs								
Labour Costs	C	I	I	C	C	C	I	I
Utility Costs	C	C	C	I	I	I	I	I
Property/Land Costs	I	I	I	I	I	I	I	I
Business Services Costs	I	I	I	I	I	I	I	I

Source: NCC research

Note: Factors are coded as C =Critical, I = Important, S= Supporting.

The main competitiveness issues facing each sector and the priority actions required to address these are summarised below.

Food and Drink

The food and drink industry is Ireland's largest indigenous sector. It has a gross output of over €18 billion and total exports exceed €8.2 billion. Unprocessed food (e.g. live animals, fruit and vegetables) accounted for just 7 percent of total food and drinks exports in 2008. The sector accounts for eight percent of GDP and over 18 percent of gross value added (GVA) in manufacturing.

There are a number of growth opportunities for this sector, including developing access to more diverse markets and utilising its competitive advantage in dairy processing to become a world leader in the manufacture of functional foods.

- **Costs:** Pressure from retailers and customers to reduce prices is intense, so minimising the costs of doing business, particularly in the area of energy and waste costs, is a priority for the sector's competitiveness. With 43 percent of exports going to the UK and a further 27 percent to non-euro countries, Ireland's food and drink industry is heavily exposed to currency fluctuations. Efforts to diversify into other euro markets are dependent on quickly developing market knowledge and product adaptation/innovation.
- **Regulation:** The sector is heavily regulated to ensure the quality and traceability of goods. While this helps to protect the reputation of the Irish food and drink sector, regulation can sometimes result in unnecessary additional costs for Irish firms. Identifying best practice in the application of EU legislation by other member states will help ensure that the interpretation of EU legislation in Ireland does not present a competitive disadvantage to Irish firms.
- **Skills:** The NCC supports the implementation of the recommendations identified by the Expert Group on Future Skills Needs for the sector. In particular, the Council would like to highlight the need for skills in process efficiency and innovation commercialisation as well as multi-lingual skills and internationalisation expertise. Industry representatives have also stressed the importance of training for those with low skills to enhance overall firm productivity. Strong management capabilities are also critical for the future development of the sector.
- **Innovation and R&D:** Traditionally, there has been relative under-investment by Irish owned firms in the food industry in technology and capital deepening to increase plant productivity. The enterprise development agencies and sectoral representative groups have a role to play in promoting the use of technology within the sector. Access to the funds required to invest in productivity-enhancing technology will be critical to enable the Irish food and drink sector improve its competitiveness and longer term sustainability.
- **Trade:** Any changes in world trade policy have the potential to significantly alter trading conditions for the Irish food and drinks sector. As at an EU level import tariffs and market supports are likely to be reduced, the sector needs to prepare for increased competitive pressures.
- **Enhanced Public Sector Collaboration:** There are a large number of Government departments and agencies involved in the delivery of a range of services to the sector. It is important that

these bodies coordinate their activities to ensure that Ireland has a coherent food strategy that delivers the level of flexibility and responsiveness that the industry needs to continue to compete effectively on the global stage. Enhanced cross-border collaboration between agencies operating on the island of Ireland may also enhance growth opportunities in the sector.

Medical Technologies

There are currently over 140 medical technology companies in Ireland, exporting €6.2 billion annually and employing 24,000 people. While there are no official figures available, the sector estimates that medical technologies and diagnostics products represent almost ten percent of Ireland's total goods exports.

The 'made in Ireland' brand has been identified as an effective marketing tool by the medical technology sector due to the high quality manufacturing and specialised expertise on offer in Ireland. Given Ireland's strong reputation internationally, potential exists to further exploit Ireland's medical technology manufacturing capabilities and to grow the strong nascent Irish owned sector.

- **Costs:** High energy costs are a key concern for Irish based firms, as are local authority charges, in particular development levies and water charges.
- **Skills:** High-level engineering and scientific skills are essential to support innovation in the sector. The availability of skilled labour is significantly competitive for the Irish medical technologies sector, but there are specific skills shortages in the areas of quality control and regulation. Marketing and pricing skills will be required in the medium term to facilitate the sector's move towards higher value activities in Ireland. The NCC supports the implementation of the recommendations identified by the Expert Group on Future Skills Needs for the sector. In particular, the Council would like to highlight the following priority actions:
 - The entry criteria for the recently developed graduate programmes in medicine has the potential to produce a supply of graduates qualified in both medicine and engineering. The NCC recommends that medical and engineering schools jointly create more opportunities for clinicians in training to undertake studies and/or research in medical technology and biomedical engineering; and
 - The introduction of a master's course in regulatory affairs targeted either specifically at the medical technologies sector, or jointly at the medical technologies and pharmaceuticals sectors, but with a medical technologies specialisation. We also recommend that it be developed in collaboration with the industry in order to ensure the relevance of course content and to encourage uptake.
- **Innovation and R&D:** Ireland needs to continue developing the research capabilities of the Irish healthcare system to enable Ireland to become a world class destination for the development and clinical trialling of medical technologies. A key element of any strategy to enhance the level of research undertaken within the health system is the provision of protected time for clinicians to engage in research.

- Other policy priorities include consolidating the existing ethics committees to no more than six and streamlining the ethics approvals process so that approval from one committee is sufficient to undertake trials in multiple centres. Reform is also required to enable approval from the Irish Medicines Board and the relevant ethics committee to be sought simultaneously.
- A focus on ongoing innovation is essential for the industry to continue to grow. Under the current R&D tax credit system, the credit often accrues to the corporate headquarters and is therefore not captured in the accounts of the Irish plant. Reforming the operation of the tax credit so that it is applied to the cost of employment in Ireland could increase the volume of R&D activity taking place here without changing the incentives offered.
- **Regional Infrastructure:** Given the concentration of medical technology firms in the west, internal road access is a key issue for the sector. The completion of the interurban route from Dublin to Galway and the upgrade of the N4 (west of Mullingar) and the N5 (west of Longford) are critical to enable easier access to international markets.
- **Advanced Broadband Networks and Services:** Developing world class advanced broadband networks and services in the main regional centres is critical to enable Ireland to become a destination for the development and piloting of personalised health care devices. Ireland's limited capital budget notwithstanding, Government has a central role to play in developing Ireland's advanced broadband network.
- **Taxation:** The medical technology sector has highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as skills, innovation, infrastructure and regulation.

Chemicals and Pharmaceuticals

Ireland has a strong international reputation and track record in the manufacture of pharmaceuticals. Currently, 13 of the world's top 15 pharmaceutical companies have manufacturing operations in Ireland. Although the pharmaceuticals sector is primarily made up of foreign companies, there are a small number of Irish owned medium sized pharmaceutical manufacturers. There are 25,000 people employed in full time positions within chemical and pharmaceutical firms assisted by IDA and Enterprise Ireland. Chemical products, including medical and pharmaceuticals, accounted for 51 percent of manufactured exports from Ireland in 2008. The main challenge facing the industry globally is the imminent expiry of patents and insufficient levels of new products successfully emerging from companies costly research and development pipelines.

- **Regulation:** Identifying best practice in the application of EU legislation (e.g. the REACH directive) by other member states will help ensure that the implementation of EU legislation in Ireland does not present a competitive disadvantage to Irish firms. The NCC recommends that relevant Government departments, agencies and sector representative groups monitor the application of EU legislation elsewhere to ensure that the Irish interpretation and

implementation, while meeting the required standard, does not place unnecessary or excessive burden on the Irish chemicals and pharmaceuticals sector.

- **Skills:** The NCC recommends that universities and institutes of technology include modules that enable all graduates to gain a broader based experience through greater exposure to other disciplines including other areas of science and health as well as business disciplines.
 - We recommend as a priority the introduction of a master's course in regulatory affairs; either targeted specifically at each of the chemical and pharmaceuticals sector, or targeted jointly at the medical technology and chemicals /pharmaceuticals sectors. The NCC recommends that it be developed in collaboration with the industry in order to ensure the relevance of course content and to encourage uptake.
- **Innovation and R&D:** A key priority for the sector in Ireland is to continue to increase the level of process development R&D activity from a relatively low level in most companies to a key strategic activity by developing closer links between the Irish based plants which are predominantly manufacturing focused and the corporate R&D centres.
- **Costs:** Reducing the costs of doing business, particularly the impact of energy and local authority charges (development levies and water charges), is a priority for the sector's competitiveness.
- **Taxation:** The chemicals and pharmaceuticals sector has highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as skills, innovation and regulation.

ICT Manufacturing and Services

ICT manufacturing accounts for 26,000 full time jobs within development agency assisted firms and 11 percent of total merchandise exports. ICT services account for 60,000 full time positions within agency assisted firms and 35 percent of total services exports.

There are a number of growth opportunities within the sector, including the provision of software as a service basis, the trend towards greater tailoring of software solutions to meet the specific needs of various industries and an increase in specialised security software. The number of Irish owned firms engaged in these activities has increased significantly since 2000.


- **Costs:** Lower level manufacturing operations as well as low-end service activities such as call centres, are under increasing pressure from lower cost locations in Eastern Europe and Asia. Wages are a key cost category. A significant number of jobs have been lost in the ICT manufacturing sector.
- **Advanced Broadband Networks and Services:** ICT acts as an enabler for all other sectors. Increasingly ICT solutions are supplied online and require higher bandwidth. Developing advanced broadband networks and services in the main regional centres is a critical investment to ensure the long term competitiveness of the ICT sector and to enhance the productivity of

the wider economy. Ireland's limited capital budget notwithstanding, Government has a central role to play in developing Ireland's advanced broadband network.

- **Skills:** The projected domestic supply of high-skilled analytical computing and electronic engineering graduates needs to be increased to meet future demand. The NCC supports the implementation of the Expert Group on Future Skills Needs' recommendations for the sector. In particular, the NCC would like to emphasise the importance of policy action in the following areas:
 - Enhance the number of high skilled graduates in the ICT area by creating bursaries for achieving over 500 points in their Leaving Certificate and entering into a computing and engineering degree course.
 - Produce more graduates with domain-specific knowledge to meet the needs of software companies that develop products for specific sectors within the market. This will require higher education institutes to modify existing programmes to include modules that develop expertise and understanding of sectors in which the Irish software industry has a strong presence such as banking or telecommunications.
- **Innovation and R&D:** Given the need for the Irish ICT sector to move to higher value activity, it is important that Ireland becomes an attractive location for R&D investment. Further potential exists to make Ireland a more attractive location for the purchase and management of intangible assets (e.g. intellectual property, brands, software, and copyright). Reforming the operation of the tax credit so that it is applied to the cost of employment in Ireland could increase the volume of R&D activity taking place here without changing the incentives offered.
- **Access to Finance:** Many small and medium-sized enterprises (SMEs) in the software sub-sector are currently affected by a lack of access to finance and venture capital. Continued Government support through Enterprise Ireland working with the venture capital sector to develop new funds and attract investors from abroad is vital to ensure venture capital funding is available to support new businesses.
- **Taxation:** The ICT sector has highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as advanced broadband infrastructure and services, skills and innovation.

International Financial Services

Employment in international financial services firms assisted by the enterprise development agencies (IDA Ireland and Enterprise Ireland) has more than doubled between 2000 and 2008, with the number of full time jobs increasing from 8,000 to 20,000 during that period. In 2008, international financial services accounted for 23 percent of services exports. A diverse range of activities take place in both multinational and Irish owned firms in the sector.



Ireland is recognised globally as having strong competencies in a number of key areas such as banking, fund management, insurance and leasing. Since the establishment of the International Financial Services Centre (IFSC) in Dublin, a strong sector specific support network has evolved to meet the complex needs of the industry.

- **Reputation and Regulation:** The global financial crisis is affecting the sector in many countries. However, recent difficulties in Irish commercial banks along with ongoing investigations into activities in some domestic institutions, has damaged the reputation of the sector in Ireland. Reform of the regulatory environment to ensure greater transparency and to rebuild trust in the system is critical to sustain and further develop the sector. It is essential that this reform happens quickly and that the lack of regulatory certainty that currently exists is swiftly addressed to enable the Irish financial services sector to grow. The Department of the Taoiseach's IFSC Clearing House Group has an important facilitation role to play in this regard.
- **Skills:** Ensuring that the correct skills sets are in place to facilitate innovation in the sector is important. The level of specialisation required in some higher skilled areas of financial services has led to skills shortages. The NCC supports the implementation of the recommendations identified by the Expert Group on Future Skills Needs for the sector. In particular, the following actions need to be progressed:
 - In the higher education sector, develop new modules, and where appropriate, new courses to meet the skills needs identified. It will be important that opportunities are provided to specialise in specific areas of financial services through elective modules. Support for the Finuas initiative (a joint Government and industry funded training initiative for the financial services sector) which is seeking to address skills needs within the sector should be continued; and
 - Introduce improved training mechanisms to up skill new entrants to the sector. This can be done, for example, through the development of short intensive courses incorporating simulated environments, such as real-time trading floors.
- **Advanced Broadband Networks and Services:** Realising future growth opportunities in this sector requires access to a highly efficient and reliable communications system. Developing advanced broadband networks and services in the main regional centres is a critical investment for future growth in the sector.
- **Costs:** Reducing the costs of doing business, particularly labour and property costs, is a priority for the sector's competitiveness.
- **Taxation:** Despite the recent increase in unemployment growth, bringing in talent from overseas remains necessary to fill specialised positions within the sector. Industry representatives highlighted the important role that competitive labour tax levels play in attracting and retaining highly skilled and internationally mobile workers to meet the specific skills requirements of this sector. The international financial services sector has highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as advanced broadband infrastructure and services, skills and innovation.

Tourism

Foreign earnings from tourism amounted to €4.8 billion in 2008. According to the latest Quarterly National Household Survey, 119,000 people are employed directly in accommodation and food service activities. The sector employs thousands of others in entertainment, cultural, transport and related services. Tourism represents a larger share of employment in Ireland (6.1 percent) than in many other EU member states.

As 'experiential tourism' grows in popularity, there is an opportunity for the Irish sector to build upon Ireland's image as a cultural and scenic destination by developing more products that enable the visitor enjoy 'hands-on' engagement in cultural and leisure activities such as traditional Irish music, cookery dance, sailing and golf. The growth of the middle classes in both China and India presents opportunities to increase the number of tourists from these countries. In addition, demographic changes in established markets provides the potential for further growth, with older travellers making more frequent trips of shorter duration. A focus on continuously developing new tourism products that will appeal to the tourist of the future is essential.

- **Costs:** While Ireland is relatively competitive in terms of air fares and accommodation, other costs such as dining and entertainment are significantly higher than in competitor destinations. While there has been significant improvement in recent years in the choice and quality of accommodation options and the range of leisure activities available, further consideration needs to be given to how the quality and choice of products and services offered to visitors can be improved to deliver better value for money. Reducing the costs of doing business, particularly labour and utility costs and local authority charges is a priority for the sector's competitiveness.
- **Excess Hotel Capacity:** The number of hotel rooms in Ireland has risen significantly in recent years. The surplus in hotel accommodation has led to reduced prices for consumers. While this is to be welcomed, more attention is needed on marketing this capacity and related product offerings internationally. There is also a concern that a number of hotels built to gain tax advantages are being kept in operation solely to retain these advantages. The discounted accommodation prices offered by these hotels may create distortions in the market and result in the closure of hotels which may better meet the demands of tourists and would otherwise be viable businesses. In light of this, the NCC recommends that the Department of Finance consider the potential for allowing a change of use.
- **Access to Finance:** One of the biggest challenges currently facing the sector's 18,000 SMEs is access to working capital, particularly given the significant reductions in tourism numbers and expenditure in the past year.
- **External and Internal Infrastructure:** Good international air and sea access coupled with effective internal connectivity is critical for our attractiveness as a tourist destination. In view of the long lead times for the delivery of air and sea port infrastructure and services, it is critically important that we plan now to ensure that we are well positioned to meet the longer term needs of business, citizens and tourists and that airport operators seek to maximise the flow of international visitors using their existing facilities. Continued, focused investment in road and rail infrastructure is required to improve Ireland's internal connectivity. Road access

to Ireland's main tourist destinations, particularly on the south and west coasts needs to be improved.

- **Public Investment:** Given the current pressures on the public finances, the amount of State assistance provided for both tourism infrastructure and marketing may have to be reduced. The NCC recommends that funding be prioritised to ensure that Ireland's international tourism profile and offering is not diminished. The NCC supports the recommendation of the Tourism Renewal Group to coordinate public spending on tourism related investment across other Government departments and agencies (e.g. Department of Community, Rural and Gaeltacht Affairs, the Office of Public Works, local authorities). In addition, firms and business representative bodies within the tourism sector need to play a greater role in the external marketing of Ireland as a tourism destination abroad.
- **Tourism Agencies:** In order to facilitate the development of a stronger and more cohesive branding of Ireland as a tourism destination for both international and domestic tourists, the sector would benefit from a merging of tourism bodies. This would require the consent of both Governments. Focussing on the development and marketing of the tourism sector on an all-island basis would ensure greater coordination across the sector.
- **Taxation:** It is important to recognise that consumption taxes directly affect tourism exports in a way that is unique to this sector. These taxes contribute to the cost of tourism products.

Environmental Goods and Services

The Environmental Goods and Service (EGS) sector in Ireland is estimated to worth €2.8 billion to the economy and to directly employ 6,500. The global market for environmental goods and services is vast and continues to grow quickly. Ireland is well placed to capture some of that growth in niche areas. The NCC welcomes the publication of the report of the Higher Level Action Group on the Green Economy, which sets out the priority actions to drive growth in the sector. In particular, the Council would like to highlight the following priority actions:

- **Develop Green Zones:** The green economy in Ireland is highly dispersed across various sectors (e.g. ICT, engineering, finance, energy, waste, water) and across various state organisations that both drive and support the sector. The NCC believes that an environment that is conducive to the development of green enterprises can be fostered through the development of one or more green zones by retrofitting existing business parks and premises to meet best environmental standards and that future State-led industrial site developments be designed with sustainability in mind. This would serve to build a cluster around existing enterprises and initiatives and to develop a brand that can be used to effectively market Ireland overseas.
- **R&D and Innovation:** Environmental research and engineering solutions are central to the growth of the EGS sector. Given that Ireland is starting from a lower base than a number of competitor countries, it is important that EGS-related basic and applied research targeted at specific areas of opportunity for products and services continues to be prioritised for public investment. The challenge for Ireland is to develop a small number of world-class centres for research and development in niche areas. Science Foundation Ireland's remit has recently been extended to include sustainable energy and energy efficient technologies and reaching planned

investment targets in this area will be important to enhance the knowledge and business potential of the EGS sector. Initiatives to encourage green-related innovation at firm level need to continue to be strengthened.

- **Skills:** The NCC welcomes the commitment from the Expert Group on Future Skills Needs to identify the skills required to enable development within the EGS sector. Skills need to be enhanced in areas such as science, management and installation and maintenance of new environmental technologies to support future growth in the sector. Given the potential shortage of environmental engineering skills, conversion courses could be introduced to enable people with good basic engineering skills to work in the sector.
- **Regulation:** Consistent and timely enforcement and implementation of environmental legislation is critical for investment in the sector. The strategic implementation of impending EU and international environmental legislation can play an important role in developing markets for Irish owned green companies and creating first-mover advantages. In addition, regulation and public procurement regimes need to encourage new products and services.
- **Infrastructure :** Continued development of the electricity grid in terms of improving grid access, increasing interconnection to the UK and potentially continental Europe and addressing planning barriers is required for Ireland to realise opportunities in renewable energy. The waste sector requires policy and regulatory certainty to incentivise private investment in waste infrastructure. A decision on the future regulatory structure for the waste sector needs to be made quickly.
- **Access to Finance:** As a nascent sector, access to seed funding and venture capital will be critical for realising the opportunities in the sector for Irish owned firms. Continued Government support through Enterprise Ireland working with the venture capital sector to develop new funds and attract investors from abroad is vital to ensure venture capital funding is available to support new businesses.

Other Internationally Trading Services

Other internationally trading services include a diverse range of activities across a number of sub-sectors such as business services, international education, and transport services. Significant growth opportunities exist in Ireland across the sub-sectors.

- **Skills:** The variety of skills that the internationally trading services sub-sectors require is particularly broad. Given the range of skills required, the implementation of the National Skills Strategy is of crucial importance. In particular, the sector requires employees to have range of high quality personal and interpersonal skills, such as communication and languages, team-working, customer-service, problem-solving, and planning and organising;
- **Advanced Broadband Networks and Services:** The success and growth potential of many existing and emerging internationally trading services activities are dependent on access to a highly efficient and reliable communications system. Developing advanced broadband networks and services in the main regional centres is a critical investment to ensure Ireland can exploit the growth opportunities in this sector.

- **Trade:** The Single European Market has already exposed Irish services industries to more competition from overseas. The Services Directive will push this trend further, opening up Irish markets to competition from overseas, and opening up foreign markets to Irish service providers. Transposition and implementation of the Services Directive is vital to exploit the growth opportunities for Irish firms in internationally trading services sector.
- **Taxation:** Industry representatives have highlighted the important role that competitive labour tax levels play in attracting and retaining highly skilled and internationally mobile workers to support the development of the other internationally trading sectors. The sector has also highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as advanced broadband infrastructure and services, skills and innovation.

Convergence

In addition to the opportunities presented within each of the sectors outlined above, the growing convergence between sectors and technologies also offers further potential for economic growth in Ireland. Cross sectoral convergence is characterised by inter-disciplinary technology, product and services development. It often involves inter-firm partnership and capitalises on the divergent skills, expertise and technologies of different disciplines and sectors, bringing them together to create new products, services and markets.

Ireland's sectoral mix presents a strong value proposition for convergence. As a base for some of the world's leading multinationals and as home to numerous innovative Irish owned firms in the key convergence sectors, Ireland provides an ideal microcosm for developing relationships and commercial partnerships between pharmaceutical, medical technologies, food, ICT and financial services. Convergence is facilitated by access to a range of skills and expertise and by the proximity of the collaborating firms to one another. Through stakeholder collaboration and the development of a strong Irish brand in this area, Ireland has the potential to become a prime location for undertaking collaborative investment projects.

Conclusions

Ireland's key exporting sectors have shown resilience in the face of global recession and will be the key drivers of Ireland's return to sustainable economic growth. This report sets out a range of sector-specific recommendations that will facilitate an increase in exports from these sectors.

The forthcoming report, *Ireland's Competitiveness Challenge 2009*, will address in greater detail the priority policy actions required to tackle the cross-cutting issues identified in this report.

1. Introduction

As a small, open and competitive economy, Ireland prospered from export growth in the 1990s and early 2000s. In recent years, strong growth in the domestic economy, driven by spending on housing and consumption, replaced exports as the key driver of growth. There is a growing consensus that targeting export-led growth is the only sustainable strategy to secure long term growth and prosperity.

Our future success is dependent on the competitiveness of a small number of key sectors, how they evolve and whether new higher value added sectors and firms emerge. The purpose of this study is to identify the sector specific issues that need to be addressed to enhance the competitiveness of our main exporting sectors and to better support them to trade successfully in international markets. The goal of this report is not to pick winners or to develop detailed sectoral strategies but to identify the conditions for sustaining and growing enterprise activity in important exporting sectors in the medium term.

In detail, this study aims to:

- *Identify the key existing and emerging sectors driving export growth today and the opportunities for future growth;*
- *Identify the main factors driving the competitiveness of the exporting sectors today and in the future; and,*
- *Identify what sector-specific actions (either through the targeting of national actions or additional actions) are required to improve the competitiveness of these sectors.*

Structure of the Report

Chapter 2 provides a brief analysis of the performance of Ireland's key exporting sectors in recent years. Detailed profiles of each of the key exporting sectors are provided in chapter 3. This includes the current areas of activities for the sector and the potential future growth areas. It also provides details of the competitiveness issues facing each sector and puts forward recommendations to address these.

2. Performance of Ireland's Key Exporting Sectors

The ability of Ireland to protect the living standards achieved in recent decades and to secure future gains rests on our ability to succeed as competitive exporters of high quality goods and services. The outlook for global trade remains poor given sharp falls in consumer and business confidence globally. The IMF forecasts a contraction of 3.9 percent in the GDP of developed economies in 2009 -the key markets for Irish exports as present¹.

The fall in the value of sterling is also a significant challenge, particularly for exporters who are focused on the UK market and compete against UK firms in other markets. In 2006, 45 percent of exports from Irish owned companies went to the UK, up from 40 percent in 2000². Encouraging export led recovery will require a determined effort to provide expanding market access opportunities for our exporters.

While the global economy is declining in 2009 for the first time in over sixty years, overall Irish exporters are performing relatively well. While merchandise exports declined by three percent in value terms in 2008, the performance of some key sectors such as pharmaceuticals and medical technologies remained robust. Exports in the predominantly Irish owned food and beverage sector meanwhile fell by 7.3 percent, reflecting the consequences of the appreciation of the euro relative to sterling as well as difficult demand conditions in the UK market. Irish services exports continued to grow in 2008, albeit at a much slower rate than previous years. Services exports grew by three percent in value terms, with growth in computer services (8.9 percent), business services (5.1 percent) and royalties (17.6 percent) offsetting declines in other services. Financial services (-7.2 percent) and insurance services (-4.3 percent) were particularly weak while tourism and travel exports declined by 2.3 percent³.

The latest data (the seven months to July 2009) shows the value of manufacturing exports has increased by two percent on the same period in 2008. However this is due to a strong performance by the chemicals, pharmaceutical and medical technologies sectors; exports from other sectors like food and drink have declined⁴. Ireland's total export volumes are forecast to decline by 1.7 percent in volume terms and 0.9 percent in value terms in 2009⁵. However, other countries are facing significantly weaker export performance this year. The IMF forecasts that the total volume of exports of goods and services from advanced economies will decline by 13.6 percent in 2009, with significant falls in Japan (- 27.3 percent), Germany (-16.9 percent), the UK (-12.9 percent) and the US (-12.9 percent)⁶.

1 IMF, World Economic Outlook, October 2009.

2 CSO, Census of Industrial Production for 2006, 2008.

3 CSO, Balance of International Payments, March 2009.

4 CSO, External Trade, September 2009.

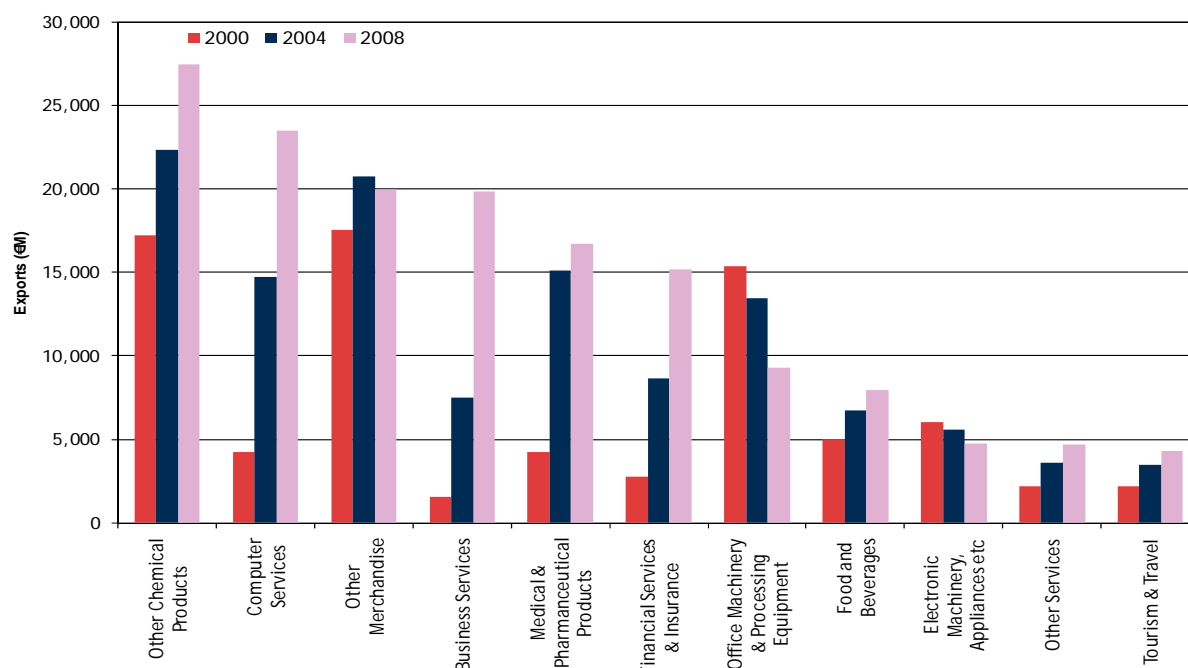
5 ESRI, Autumn Quarterly Economic Commentary, October 2009.

6 IMF, World Economic Outlook, October 2009.

2.1 Existing Sectors' Export Performance⁷

Like many other developed economies, exports of services have become a vital driver of economic growth in Ireland in recent years. While total exports grew by 47 percent between 2000 and 2008, services exports increased by 219 percent compared to just three percent growth in manufacturing exports⁸. Figure 1 illustrates the value of exports in key exporting sectors since 2000.

Figure 1: Sectoral Analysis of Exports, 2000, 2004 and 2008, (€millions)⁹



Source: Forfás calculations; CSO External Trade and Balance of Payments, 2008

In 2008, manufactured goods made up 54.6 percent of Ireland's exports, compared to 79 percent in 2000. The chemicals and pharmaceuticals sector has significantly increased its contribution to Ireland's exports (Figure 2). Medical and pharmaceutical products (19 percent) and other chemical products (26 percent) made up 51 percent of manufactured exports in 2008 compared to 32 percent in 2000¹⁰. The contribution of office machinery and processing equipment has fallen by 13 percentage points during the same period. Other merchandise represents a significant proportion of exports (23 percent in 2008); however, this category represents a combination of disparate export products including crude materials, mineral fuels, animal products and manufactured goods classified by raw material such as cork, leather, paper and rubber.

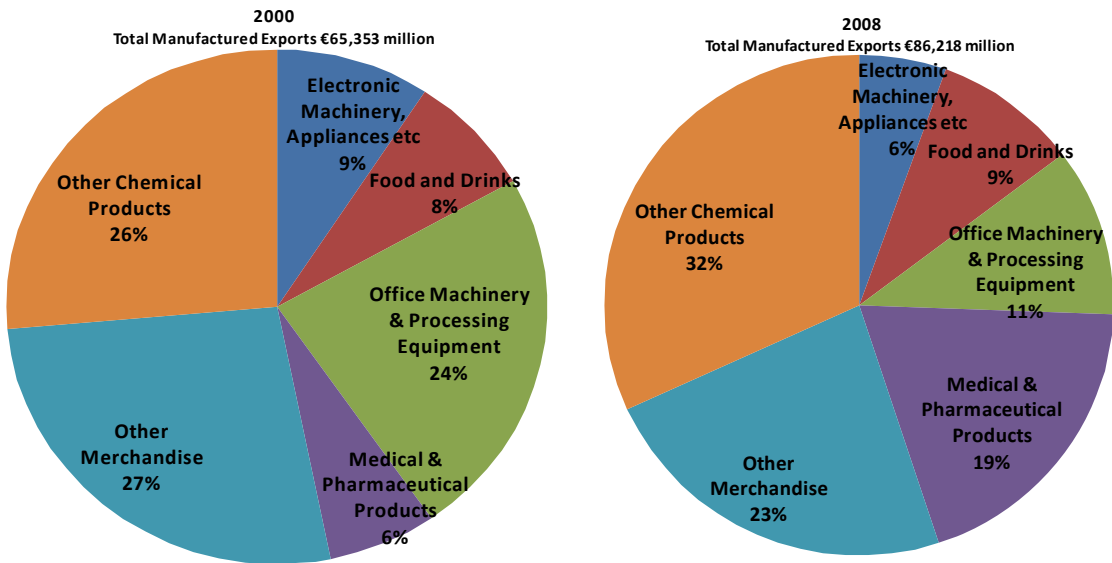
⁷ Sectoral definitions vary by source (e.g. CSO, WTO). We have endeavoured to use comparable sectoral categories across the charts presented in this section.

⁸ CSO, Balance of Payments, 2008.

⁹ Data for figure 1 is collected from two different CSO publications. Figures for manufacturing exports are extracted from External Trade, December 2008 and figures for services exports are from the Balance of Payments December 2008. Some exports may be counted in both sets of figures and therefore figure 1 should be viewed only as an indication of the sectoral breakdown of exports.

¹⁰ The Irish Medical Devices Association estimates that medical technologies account for ten percent of Ireland's total goods exports.

Figure 2: Distribution of Irish Manufacturing Exports, 2000-2008

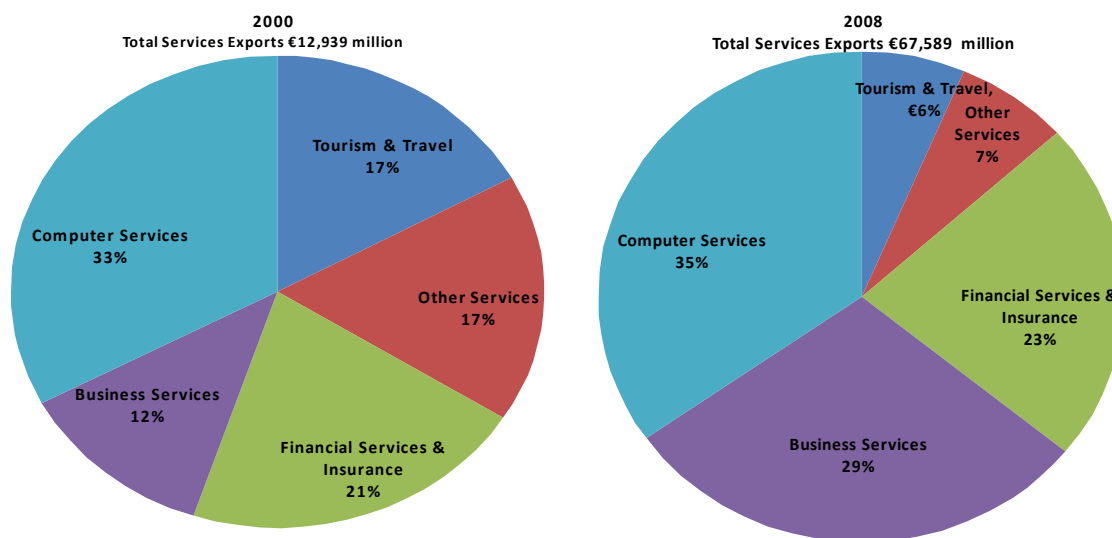


Source: CSO, External Trade December 2000 and 2008

In 2008, services made up 45.4 percent of total Irish exports compared to 21 percent in 2000¹¹. Computer services continue to be the largest contributor to Ireland’s services exports, accounting for 35 percent of the total in 2008 (Figure 3). The contribution of business services has grown from 12 percent in 2000 to 29 percent in 2008. Tourism and travel has declined during the period from 17 percent to six percent of total service exports. This, however, reflects the growth of other sectors rather than the decline of tourism. Transport, communications and royalties are among the services captured in the ‘other services’ category.

¹¹ CSO, Balance of Payments, 2008.

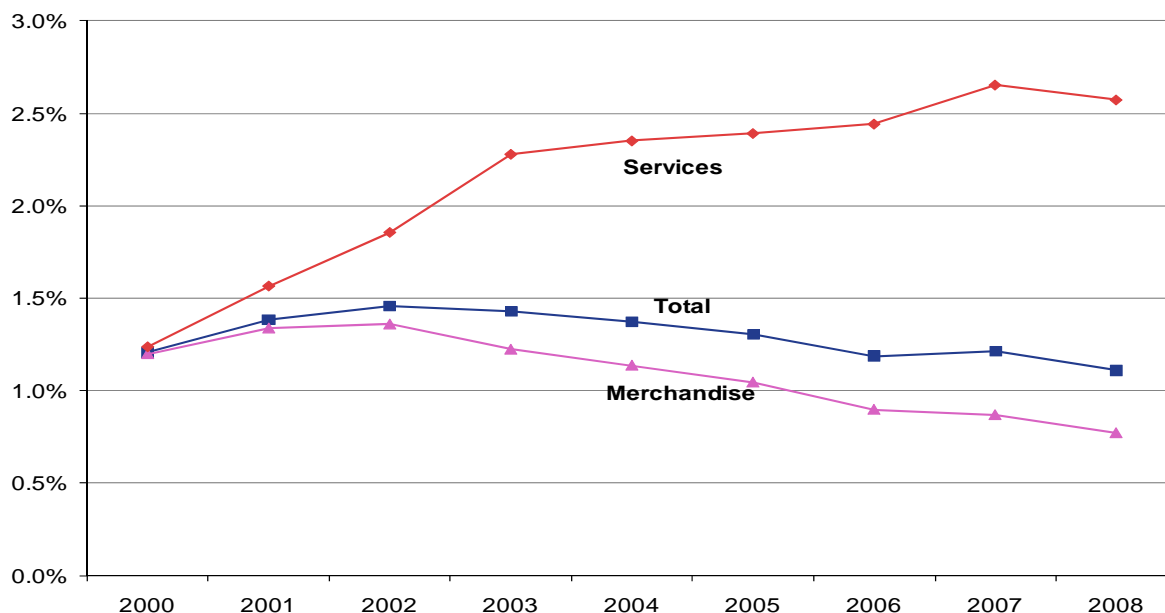
Figure 3: Distribution of Irish Services Exports, 2000-2008



Source: CSO, Balance of Payments, December 2000 and 2008

Ireland's share of global merchandise trade has fallen gradually since 2002. Our share of global services trade (a smaller but growing component of world trade) grew throughout the period 2000 to 2007, although it fell marginally in 2008 (Figure 4).

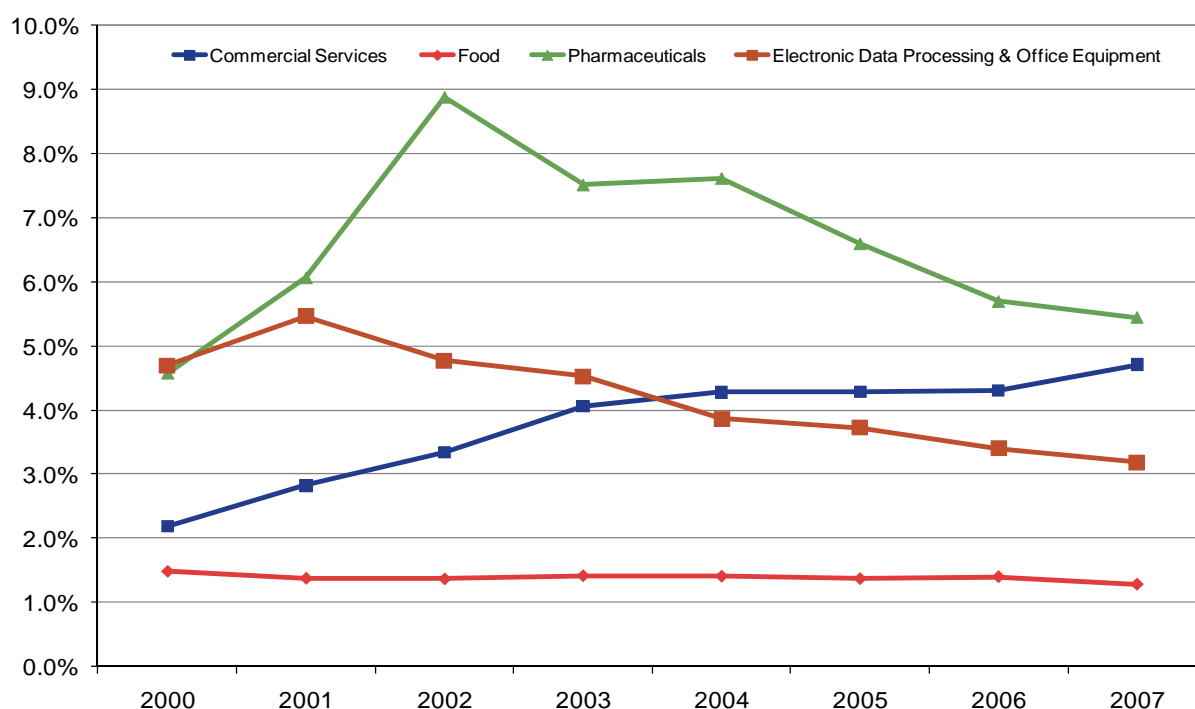
Figure 4: Ireland's Share of World Trade: Overall, Merchandise and Services (%), 2000-2008



Source: World Trade Organisation, 2009

Although the availability of world trade data at a sectoral level is limited, particularly for services, the high level manufacturing sectoral trends provide some important insights (Figure 5).

Figure 5: Ireland's Share of World Exports by Sector (%)



Source: World Trade Organisation, 2009

Ireland's share of the ICT sector (electronic data processing and office equipment) has declined significantly since 2001. While the Irish pharmaceutical sector's share of world trade has fallen from its 2002 peak, the sector has increased by almost a fifth in absolute value terms between 2002 and 2007¹². The food sector's share of world trade has remained unchanged. Ireland's share of the commercial services sector has increased from two percent in 2000 to almost five percent in 2007¹³.

2.2 Employment in Key Exporting Sectors

Ireland's key exporting sectors are responsible for a large proportion of total employment. Within agency (IDA Ireland and Enterprise Ireland) assisted firms, 70 percent of employment occurs within these sectors¹⁴. While 'other manufacturing' forms the largest employment category, this is composed of a number of disparate sectors including machines and equipment (five percent), wood products, rubber and plastics and transport equipment (three percent each) and miscellaneous manufacturing (four percent). Combining these sectors under the heading 'other manufacturing' reveals an 18 percent decline in employment between 2000 and 2008, the largest decline across all categories (Figure 6).

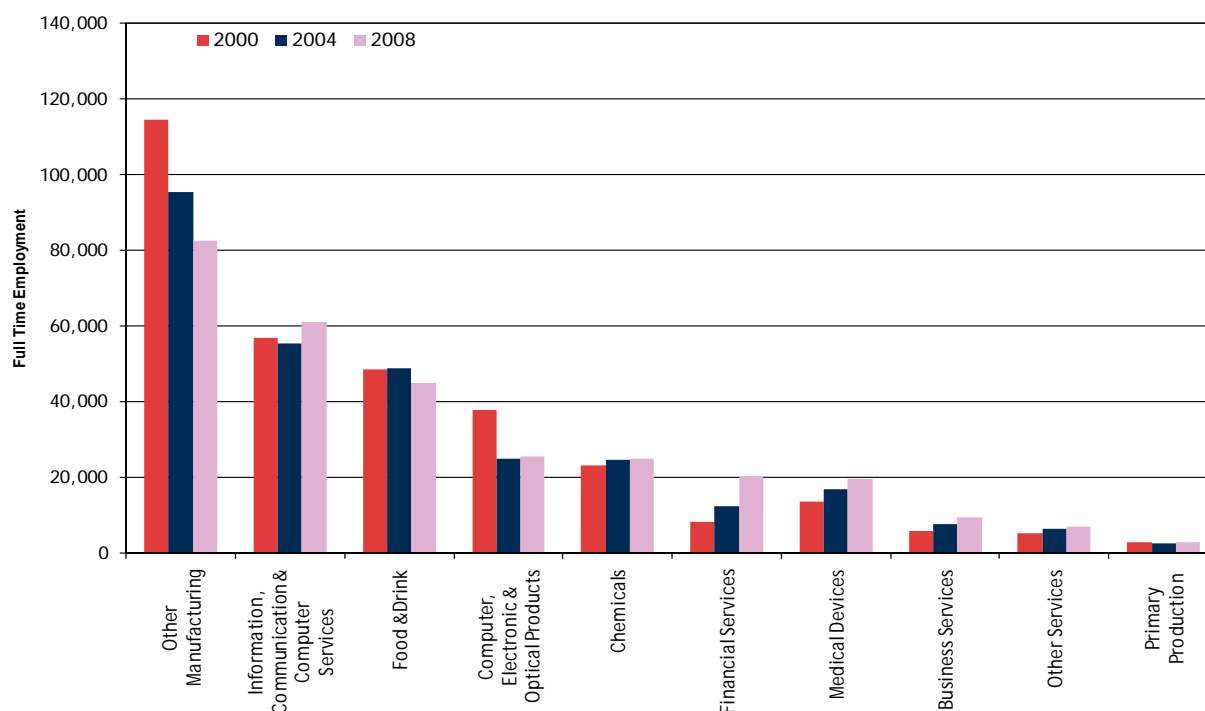
12 The Irish chemicals sector grew particularly strongly in the early years of the decade, leading to a significant increase in market share. While the sector in Ireland has continued to perform well since the 2002 peak, global growth in the sector has been faster.

13 The commercial services category includes communications services, construction services, insurance services, financial services, computer and information services, royalties and licence fees, personal cultural and recreational services and other business services such as trade-related services and operational leasing.

14 Forfás, Annual Employment Survey, 2008.

Information, communication and computer services firms have remained significant employers throughout the period, accounting for 28 percent of agency assisted employment in 2000 and 2008. Financial services firms reported the greatest increase in the numbers of full time employees during the period (141 percent), albeit from a relatively low base.

Figure 6: Full Time Employment within Development Agency Assisted Firms by Key Sectors



Source: Forfás, Annual Employment Survey, 2008

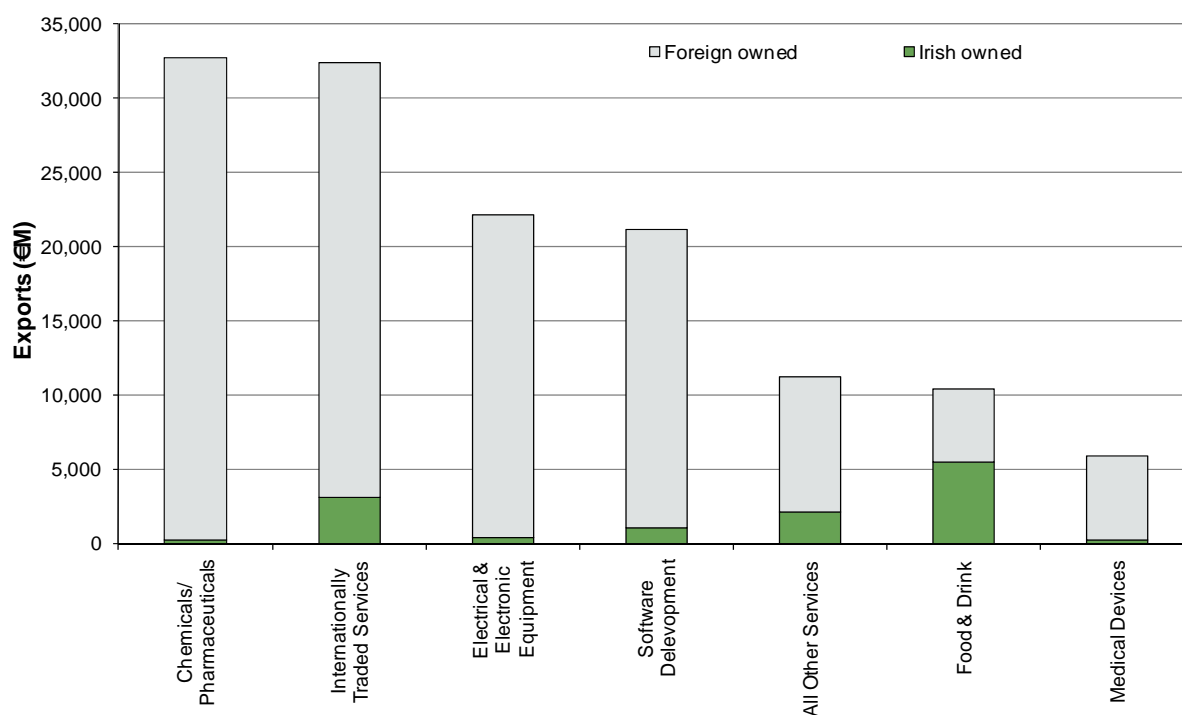
As well as the direct jobs created by our key exporting sectors, a large number of indirect jobs are also created and sustained through their activities.

2.3 Ownership Characteristics of Key Exporting Sectors

Ireland's enterprise base has a relatively high proportion of foreign-owned firms. These are concentrated in our key exporting sectors. The Irish owned enterprise base is more diverse and a significant proportion of these firms operate in locally traded sectors.

The following charts illustrate the level of exports (Figure 7) the destination of exports (figure 8) and the level of employment (Figure 9) by sectors in Irish and foreign owned firms. The data in these charts relates to development agency assisted firms only.

Figure 7: Exports from Development Agency Assisted Firms by Key Sectors and Ownership



Source: Forfás, Economic Impact Survey 2007

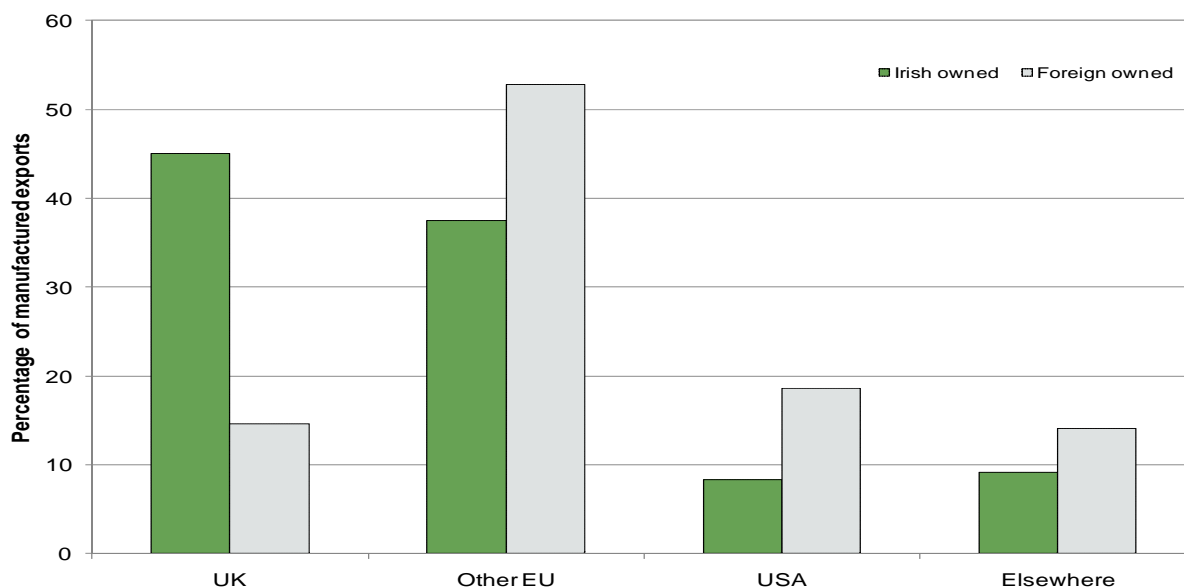
The food and drink sector is the only sector where the contribution to exports from Irish owned firms exceeds that of foreign owned firms. In each of the other sectors for which data is available, the contribution of foreign-owned companies to exports is significantly higher than the contribution of Irish owned firms. The small scale of many Irish firms also acts as a barrier to exporting. Irish firms in these sectors may also be suppliers to multinational firms located in Ireland and thereby contribute to exports indirectly.

As multinationals work within global networks, a large proportion of their exports occur on an intra-firm basis (that is they are exporting to an affiliate or sister-site in another country). It is difficult to capture the extent of intra-firm trade but OECD research indicates that almost 57 percent of exports from Ireland to the US in 2002 were intra-firm trade¹⁵.

There are also differences between the destination of exports between Irish owned and foreign owned firms (Figure 8). Exports from Irish owned enterprises are more concentrated in the UK market than foreign owned firms, with 45 percent of all manufactured exports from Irish owned firms exported to the UK. Foreign owned companies have a more diverse market for their exports with other EU areas receiving 53 percent of exports from these firms.

¹⁵ OECD, Economic Globalisation Indicators, 2005.

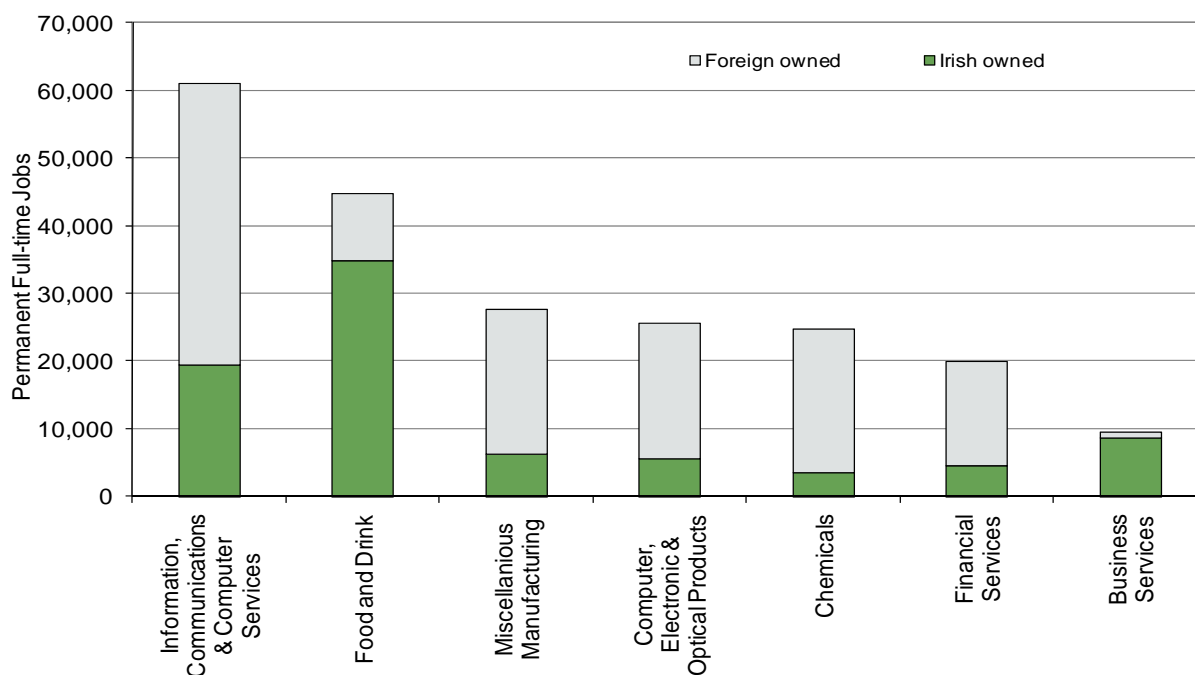
Figure 8: Destination of Ireland's Goods Exports by Firm Ownership, 2006



Source: CSO, Census of Industrial Production 2006

Irish owned firms make a significant contribution to employment in exporting sectors (Figure 9). Irish owned agency assisted firms are responsible for 91 percent of employment in business services and for 78 percent in food and drink. They are significant employers in information, communication and customer services (32 percent), financial services (23 percent) and computers, electronic and optical products (22 percent).

Figure 9: Employment in Development Agency Assisted Firms by Key Sectors and Ownership



Source: Forfás, Employment Survey 2008

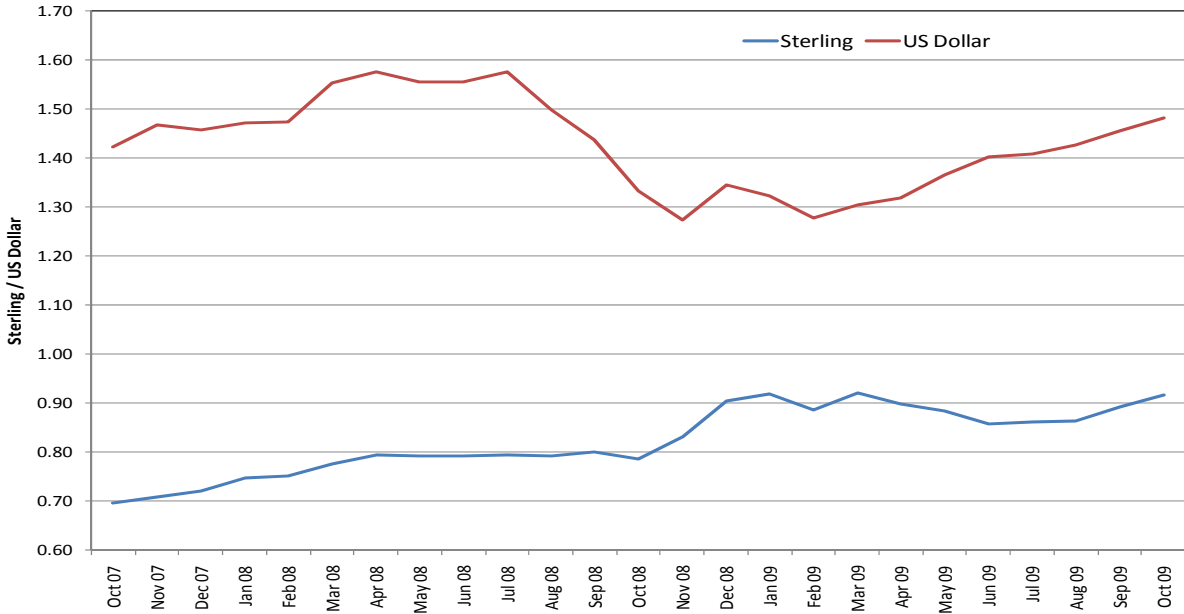
Notwithstanding the issues of scale and the focus of many Irish firms on supplying the local market, the high levels of employment in Irish owned firms and the relatively low contribution to exports may be indicative of lower productivity levels compared with foreign owned companies in the same sector.

Competitiveness Challenges for Multinational and Irish Owned Firms

According to a recent survey, 70 percent of multinationals in Ireland operate at the high value end of their global parent and act as a strategic centre for the company, product or region. The survey found that Ireland’s cost base has become the largest competitiveness challenge facing multinationals, with energy costs being of particular concern. Of those surveyed, 40 percent indentified the level of personal taxation as a barrier to attracting expatriate staff. Following recent investment, concerns about the quality of infrastructure in Ireland seems to have eased¹⁶.

The high cost base is also a major competitiveness challenge for Irish owned firms. In this context, Enterprise Ireland has highlighted the importance for Irish firms to move into higher valued activities, requiring the development of management capabilities among other skills and expertise. Given the large focus of Irish owned exporting firms on non-Eurozone markets, Irish owned firms are more vulnerable to currency fluctuations and their competitiveness has been damaged by the weakening of sterling and the dollar (Figure 10).

Figure 10: Average Monthly Exchange Rate of Euro for Sterling / US Dollar (Oct 2007 -Oct 2009)



Source: Central Bank, Exchange Rates

16 IMI / National Irish Bank, Survey of MNCs in Ireland, 2009.



There have been significant fluctuations in the euro against both sterling and the US dollar over the past two years. In October 2007, the euro was worth 0.70 sterling. However, sterling has weakened considerably over the past two years creating extremely difficult trading conditions for many Irish owned firms with an export concentration in the UK market or those competing with UK firms in other markets. In January, March and October 2009, the euro reached the peak value for the two year period of 0.92 sterling. With regard to the US dollar, the euro peaked at \$1.58 in July 2008. While trading conditions for Irish firms exporting to the US improved during 2008, the value of the euro has continued to rise throughout 2009 and reached \$1.48 in October 2009. In order to reduce exposure to currency fluctuations, it will be important that Irish firms increase their exports to Eurozone markets.

Current economic conditions and the ongoing turmoil in the financial markets have made access to finance a particular issue for Irish firms, particularly SMEs. A recent survey by Mazars, found that the rate of decline for access to finance was 24 percent among SMEs, rising to 30 percent among micro enterprises¹⁷. A more recent survey by the European Central Bank found that 12 percent of European firms had their applications for finance rejected¹⁸.

Trade policy, and in particular international trade agreements, (e.g. WTO agreements and free trade agreements between the EU and its main trading partners) have an important role to play in supporting export growth. The growing sophistication of Irish exports means that the barriers to trade are not simply tariff based. Many of the sectors profiled in this report face technical and other non-tariff barriers that restrict the potential to develop markets for new, innovative products. The NCC welcomes the action plan that is being prepared by the Department of Enterprise, Trade and Employment on trade, investment and tourism, and the longer term strategy currently being developed by Forfás.

2.4 Regional Distribution of Exporting Sectors

While firms within the key exporting sectors are distributed across the country, some variations in sectoral concentrations are evident across the regions. For example, the west has a significant share of Ireland's medical technologies sector, Dublin and the east region have a large share of the ICT and financial services sector, while the chemicals and pharmaceuticals sector has a strong presence in the south-west region, particularly in Cork.

The sectors which are dominated by Irish owned enterprises tend to be less geographically concentrated than sectors dominated by foreign owned companies. In particular, the food and drinks sector and the tourism sector are relatively more dispersed than other sectors. In more rural areas, these sectors often provide the main source of economic growth and employment and play an important role in supporting regional development.

¹⁷ Mazars, Review of Lending to SMES, June, 2009.

¹⁸ European Central Bank, Survey on the Access to Finance of Small and Medium- Sized Enterprises in the Euro Area, September 2009.

3. Profiles of Ireland's Main Exporting Sectors

This chapter profiles the main existing and emerging exporting sectors in Ireland and highlights the priority competitiveness issues for each sector¹⁹.

3.1 Food and Drink

The food and drink industry is Ireland's largest indigenous sector. It has a gross output of over €18 billion and total exports exceed €8.2 billion; unprocessed food (live animals, fruit and vegetables) accounted for just seven percent of the total food and drinks exports in 2008²⁰. The sector accounts for eight percent of GDP and over 18 percent of GVA in manufacturing. It also accounts for two thirds of all exports by Irish owned firms²¹. The food and drink sector currently employs 47,000 directly and an estimated additional 64,000 are employed indirectly by the sector²². The food and drinks industry is also important because of its regional spread. It is also the sector with the greatest degree of integration on an all-island basis which offers opportunities for greater collaboration.

With 43 percent of the sector's exports going to the UK, its recent export performance has been weakened due to exposure to the adverse movements of sterling as well as difficult demand conditions in the UK. Domestically, a fall in sales revenue of food and non-alcoholic drinks of four percent is predicted for 2009 with a return to 2008 levels not predicted to be achieved until 2013²³. Driven by the recession, consumers have become more price conscious. While some of the fall in volume can be accounted for by an increase in cross-border shopping, growth in sales of discount grocery stores such as Lidl and Aldi has emerged as a key trend. In response, Tesco Ireland has decided to increase the proportion of UK goods supplied in its stores in an effort to offer lower cost options to consumers²⁴. An important priority for the sector is the development of enterprises of scale with strong competitive positions to balance the increasing buyer power of multiples in Irish, UK and international markets.

Current Areas of Activity

The food and beverage sector comprises a number of distinct and important subsectors such as meats (beef, sheep, pig and poultry), dairy products, prepared foods and drinks.

- **Meat:** The combined value of meat and livestock exports is estimated to be almost €2.58 billion for 2008, two percent ahead of 2007 levels. Beef exports performed particularly well during 2008, offsetting declines in pig meat, poultry, sheep meat and live animal exports.

19 In preparing the profiles in this chapter, we have drawn on Forfás sectoral work, the sectoral strategies of Enterprise Ireland and IDA Ireland, and consultations with the various sectors' industry representative bodies.

20 CSO, External Trade, 2008.

21 Food and Drinks Industry Ireland, Bridging the Gap, 2009.

22 Expert Group of Future Skills Needs, Skills Requirement for the Food and Beverage Sector, 2009.

23 Business Monitor International, Ireland Food and Drink Report Quarter 3, 2009.

24 Business Monitor International, Ireland Food and Drink Report, Quarter 1, 2009.

- **Dairy:** Following an excellent performance in 2007, dairy prices came under pressure as 2008 progressed. Stable to slightly lower volumes were evident for most product categories with the exception of infant milk formula.
- **Prepared Foods:** Prepared foods exports fell by 15.3 percent in 2008. This was largely due to the sub-sector's dependence on the UK market and the depreciation of sterling.
- **Drinks:** Beverage exports experienced a challenging market environment in 2008 due to the weakness of the US dollar and slower consumer spending. Overall, drinks exports declined by 13 percent. The strongest performing category was whiskey, with exports recording double digit growth.

Growing and Future Areas of Activity

Across the food and drinks sector, the value agenda has become extremely important as consumers become more price sensitive. A recent report by the Competition Authority found that increasingly price-conscious consumers are shopping around for the best prices and spurring more competition between retailers and their suppliers. This is causing prices to fall. For example, between January and May 2009 grocery prices fell by over two percent²⁵.

The most significant change occurring in the food and drinks market is the increasing convergence of three main trends; health, premium/indulgence and convenience. Ethical foods are also emerging as an important trend.

The increased focus on health and wellness, developments in enabling technologies and increased knowledge about the effects of certain nutrients has led to the development of functional foods and nutraceuticals (for example, cholesterol reducing products, those that improve bone health or the digestive system). Dairy products often provide ideal carriers for these 'ingredients' and therefore the growth of the functional foods sector provides a strong opportunity to capitalise on Ireland's comparative advantage in dairy products. Aquaculture also provides significant opportunities to compensate for the decline in wild fish species. However, major challenges exist in addressing environmental concerns.

Competitiveness Issues and Policy Actions

The sector faces a challenging environment with a range of factors having a serious impact upon its competitiveness.

Cost Competitiveness and Adverse Currency Movements: Increased competition among supermarkets is resulting in a fall in the costs of food and drinks products for consumers. In order to remain competitive, both in the domestic market and internationally, the sector must focus on enhancing its productivity, developing greater efficiencies and improving product innovation and differentiation. Pressure to reduce prices is intense, so reducing the costs of doing business and

²⁵ The Competition Authority, Retail-related Import and Distribution Study, 2009.

increasing productivity are central to ensuring the future of this sector. The food and drink sector is particularly exposed to higher energy costs as it is one of the largest input costs for the industry. Waste costs are also a major concern for the sector.

According to Food and Drinks Industry Ireland, the Eurozone accounts for just 30 percent of the sector's exports. With 43 percent of exports going to the UK and the balance of 27 percent going to non-European countries (which are in many instances denominated in dollars), Ireland's food and drink industry is heavily exposed to currency fluctuations²⁶. This highlights how critical improving cost competitiveness and diversifying into other Eurozone markets will be for the future of the sector. In spite of enterprise agency supports to expand into new markets, particularly since the introduction of the euro, there has been little progress to date. Moving into new Eurozone markets is dependent on quickly developing market knowledge and on product adaptation and innovation. New markets are likely to have a different set of tastes and may have different regulations in place. Accessing new markets for food and drink products is likely to require a certain degree of scaling up for firms and strong management capabilities.

The islands of Ireland and Britain can be considered a single market for food and drink companies, with many common products, packaging and marketing campaigns. This is evidenced by a very strong trading relationship with Ireland exporting over 40 percent of its €3.5 billion²⁷ food and drink exports to the UK and importing €2.36 billion or 51 percent of its total food and live animal imports from the UK²⁸. Ireland's higher cost base and the appreciation of the euro against sterling is placing the food and drink sector under extreme pressure both at home, in the UK and in third markets where Irish produce competes with UK produce.

Regulation: The sector is heavily regulated to ensure the quality and traceability of goods. While this helps to protect the reputation of the Irish food and drinks sector, it is important that regulation does not result in unnecessary additional costs for Irish firms. Many of the regulations affecting the sector derive from European legislation and include framework policies like the Common Agricultural Policy (CAP), climate change, sustainable consumption and environmental issues through to specific regulations and directives on food safety and consumer information.

Identifying best practice in the application of EU legislation by other member states will help ensure that the implementation of EU legislation in Ireland does not present a competitive disadvantage for Irish firms. The NCC recommends that relevant Government departments, agencies and sector representative groups monitor the application of EU legislation elsewhere to ensure that the Irish interpretation and implementation does not place unnecessary or excessive burden on our food and drinks sector.

²⁶ Food and Drinks Industry Ireland, Bridging the Gap, 2009.

²⁷ Bord Bia, Export Market: Performance and Prospects, 2008.

²⁸ CSO 2008 - compiled from preliminary monthly figures from External Trade publication. Includes live animals and excludes beverages and is therefore not a direct comparison with export figure in previous footnote.

Waste Infrastructure: Ireland's is the third most expensive country for non-hazardous landfill costs among the countries benchmarked by Forfás²⁹. Facilities for converting meat and bone meal into energy via incineration are not generally available and this presents difficulties for the industry.

The Forfás report found that waste management infrastructure rollout in Ireland remains slow. The NCC believes that a range of infrastructures necessary to meet the food sector's waste management requirements need to be accelerated including thermal treatment and biological treatment (composting, anaerobic digestion, mechanical biological treatment).

Skills: The NCC supports the implementation of the recommendations identified by the Expert Group on Future Skills Needs for this sector³⁰. In particular, the Council would like to highlight the need for skills in process efficiency and innovation commercialisation as well as multi-lingual skills and internationalisation expertise in the areas of supply management and international trade to enable expansion into new markets, especially in the Eurozone. Industry representatives have also stressed the importance of training for those with low skills to enhance overall firm productivity. Strong management capabilities are also critical for the future development of the sector, particularly if Irish exporters are to successfully diversify into new markets.

Innovation and R&D: The future competitiveness of the sector will require a greater commitment to and investment in innovation and R&D. In 2005, the sector was responsible for just 4.7 percent of total business expenditure on R&D while its share of GDP is almost double that. R&D and innovation will be particularly important if Ireland is to develop a comparative advantage in the future growth area of functional foods. A number of Irish based food companies are engaged in development and production of functional foods. The recent investment in the Functional Foods Centre at NUI Limerick, Ireland's international reputation for high quality food, and the fact that the underpinning sciences are similar to those within the established life sciences sector puts Ireland in a good position to take advantage of this growth opportunity. A key challenge for this area will be for products to successfully meet the requirements of the relevant regulatory authorities by proving the credibility of their claims to health benefits. It will be important that Teagasc, the higher education institutes and the food sector work together to develop commercial products.

Traditionally Irish owned firms in the food industry have not invested significantly in technology and capital deepening to increase plant productivity. The enterprise development agencies and sectoral representative groups have a role to play in promoting the use of technology within the sector.

Access to the funds required to invest in productivity-enhancing technology will be critical to enable the Irish food and drinks sector boost its competitiveness and longer term sustainability.

²⁹ Forfás, Waste Management in Ireland, Benchmarking Analysis and Policy Priorities, 2009.

³⁰ Expert Group on Future Skills Needs, Future Skills Requirements of the Food and Beverage Sector, 2009.



Trade: Any significant policy changes have the potential to significantly alter global trading conditions, particularly if import tariffs and market supports are reduced significantly, as has been proposed. To this end, the eventual outcome of the WTO Doha round of trade talks will be a critical driver of the trading environment for Irish food and drink exports.

Multiple Food Agencies: There are a large number of Government departments and agencies involved in the delivery of a range of services to the food and drinks sector³¹. It is important that public sector bodies in this area coordinate their activities to ensure that Ireland has a coherent strategy for the sector that delivers the level of flexibility and responsiveness that the industry requires to continue to compete effectively on the global stage. In addition, enhanced cross border collaboration between all food and drink related agencies operating on the island of Ireland may also provide greater opportunities for the sector.

³¹ These include the Departments of Enterprise, Trade and Employment, Agriculture and Food, Health and Children, and Marine and Fisheries, Enterprise Ireland, Bord Bia, Food Safety Authority, Teagasc, Bord Iascaigh Mara and SFI.

3.2 Medical Technologies

The global centres for medical technology production are the US and the EU. Ireland is one of the leading global medical technologies industry centres, with an industry comparable in scale to those of Massachusetts and Minnesota, two of the main centres for medical technologies in the US. In a European context, Ireland is one of the major exporters of medical technologies; in 2006, Germany's exports totalled €14 billion, Ireland's were €6.6 billion, France's were €6.1 billion and the UK's were €5.6 billion³².

The Irish medical technologies sector has a strong history of growth. It is predominantly foreign-owned, although the Irish owned component is growing. It is overwhelmingly an export industry, either directly, or through sub-supply to exporting companies. There are currently over 140 medical technology companies in Ireland, exporting €6.2 billion annually and employing 24,000 people. Ireland has the highest number of people working in the industry in any country in Europe on a per capita basis. According to the Irish Medical Devices Association (IMDA), exports of medical technologies and diagnostics products now represent close to ten percent of Ireland's total manufactured exports³³. The medical technology industry in Ireland is changing from a concentration on manufacturing to the undertaking of more complex processes involving a greater degree of R&D activity.

A significant share of the country's medical technology companies are located in Galway and the west region.

Current Areas of Activity

The sector comprises a number of subsectors.

Surgical Instruments and Appliances

While this sub-sector produces a great variety of products, there is a strong focus on technologies for minimally invasive surgery, particularly in cardiovascular surgery. The leading product categories produced by the industry are:

- Stents - tubular devices inserted into constricted vessels and channels in the body to hold them open, generally using minimally invasive techniques; and
- Instruments and delivery systems for minimally invasive surgery.

Orthopedic and Ophthalmic Goods

Within the area of surgical appliances, there is also significant activity in the manufacture of orthopaedic devices. Other key areas of activity include the manufacture of ophthalmic goods (including contact lenses) and diagnostic test kits.

³² Ibid.

³³ Irish Medical Devices Association, Sector Profile, www.imda.ie. The CSO's External trade figures combine medical and pharmaceutical products into a single category which accounts for 19 percent of total manufactured goods exports.

R&D Activity

The Irish medical device sector's activities are concentrated on manufacturing, however, many of the major companies in the sector have developed R&D capabilities.

Other Areas

Irish owned firms are also active in the medical aids sub-sector. While, medical devices based on electronics and information technology form a major part of the sector globally, this type of activity forms only a small part of the sector in Ireland.

Growing and Future Areas of Activity

The three key trends that will impact activity in the sector in the future are:

- **Ageing:** The global population over the age of 65 is expected to exceed 800 million by 2025, up from 390 million in 1997;
- **Cost sensitivity:** This is largely driven by a consolidation of buyer power and the budget deficits experienced by public care organisations. As a result many medical device manufacturers are off-shoring activities to meet these lower cost expectations from the market; and
- **Technology and product innovation:** The main contributor to market growth at a sub-sector level will be technology and product innovation.

Potential growth areas for the sector include:

- **Increasing Use of Minimally Invasive and Non-Invasive Techniques:** Clinical practice increasingly favours interventions that do a minimum of damage during surgery, or even avoid surgery. Minimally invasive surgery can improve the health outcomes for patients. It can also greatly reduce the cost of treatment, by reducing time in surgery, significantly reducing the recovery period during which the patient has to remain in hospital;
- **Data Collection and Responsive Devices:** The medical technologies industry is at an early stage in the process of creating implantable devices that collect, record and transmit data about their own operation and measurements made on the body using integrated sensors;
- **Personalised Medicine:** Medicine tailored to the individual's genome is gradually making an impact on the sector and is predicted to be a large growth area in the future; and
- **Greater Convergences with Other Fields:** One of the key trends affecting the medical technologies sector is that of technological convergence. Historically, mechanical devices have accounted for the largest part of the medical technologies sector, with devices based on electronics and information technology accounting for the next largest part.

There is strong potential for growth in the area of health life sciences, driven by aging demographics, increases in chronic illness, better informed consumers, and a focus on health generally. Globally, the Life Sciences sector is undergoing significant change, where technological advances and convergence across the medical technologies, pharmaceutical and ICT sectors are enabling a shift towards personalised healthcare. Against this backdrop, Forfás has prepared an in

depth analysis of the opportunities and challenges to further develop the health life sciences sector in Ireland³⁴.

Competitiveness Issues and Policy Actions

Cost Competitiveness: Medical technologies companies are sensitive to cost. Even within the US, decisions on the location of operations are affected by costs, with new manufacturing operations being established in lower cost regions. High energy costs are a key concern for Irish based firms, as are local authority charges, in particular development levies and water charges. Companies are working to reduce cost through reorganisation of supply chains and enhanced automation, lean manufacturing and improved quality management.

Skills: High-level engineering and scientific skills are essential to support innovation in the sector. Skilled labour is sufficiently available for the Irish medical technologies sector, but there are specific skills shortages in the areas of quality control and regulation. Marketing and pricing skills will be required in the medium term to facilitate the sector's move towards higher value activities in Ireland. The NCC supports the implementation of the recommendations identified by the Expert Group on Future Skills Needs in its 2008 report on the sector³⁵. In particular, the Council would like to stress the importance of priority action in the following areas:

- The entry criteria for the recently developed graduate programmes in medicine has the potential to produce a supply of graduates qualified in both medicine and engineering. Medical and engineering schools need to jointly create more opportunities for clinicians in training to undertake studies and/or research in medical technology and biomedical engineering; and
- The introduction of a master's course in regulatory affairs, either targeted specifically at the medical technologies sector, or targeted jointly at medical technologies and pharmaceuticals sectors, but with a medical technologies specialisation. We recommend that it is developed in collaboration with the industry in order to ensure the relevance of course content and to encourage uptake.


The Skillsnet training for operatives in the medical technologies sector is highly regarded by firms in the industry and it is considered important that in-company training programmes are maintained.

The Irish Medical Devices Association has also highlighted a lack of skills in the areas of quality and regulation management. While Irish based firms currently have little exposure to marketing and pricing, these skills will be required in the medium term to facilitate the sector's movement towards higher value activities in Ireland.

Innovation and R&D: The 'made in Ireland' brand has been identified as an effective marketing tool by the medical technologies sector due to the high quality manufacturing and specialised expertise

³⁴ The profiles for the medical technologies and pharmaceutical sectors draw on the Forfás report on life sciences in Ireland. For more details, see Forfás, Health Life sciences in Ireland: An Enterprise Outlook, November 2009.

³⁵ Expert Group on Future Skills Needs, Future Skills Needs of the Irish Medical Devices Sector, 2008.



on offer to the sector in Ireland. Given this strong reputation, potential exists to further exploit Ireland's medical technology manufacturing capabilities and grow the strong nascent Irish owned sector. This will require a greater commitment to enhance the levels of research and development taking place in Ireland. If an Irish-based plant can capture the development and pilot stages of new devices, they will be in a strong position to become the base for full scale production of the final product. This would strengthen export and employment levels in the sector.

The Strategy for Science, Technology and Innovation highlighted the relatively low levels of translational and/or clinical research being undertaken in Ireland³⁶. The resource pressures faced by the hospital system means that research has tended to receive less time and resources. The NCC believes that it should not be seen as an either/or situation and that dedicating resources to research and its translation to products and enhanced clinical practice ultimately leads to improved healthcare for all.


Ensuring that the correct infrastructure are in place to support the sector undertaking research and development activities in Ireland will be critical to retain and increase the levels of medical technology manufacturing currently carried out in Ireland. A key element of this will be to streamline the clinical trials process and to place a greater emphasis on research within the Irish healthcare system.

Improvements are needed to address the significant delays being experienced by companies in establishing clinical trials in Ireland for medical technology and pharmaceutical products. The delays primarily arise from the need for to obtain ethics approval from each participating centre for multi-centre clinical investigations and the sequential review process whereby Irish Medicines Board (IMB) approval can only be sought after approval is obtained from the relevant ethics committee/s rather than in parallel. These delays could be overcome by consolidating the existing ethics committees into no more than six and streamlining the ethics approval process so that approval from one committee is sufficient to undertake trials in multiple centres. In addition reform is required to enable approval from the IMB and the relevant ethics committee to be sought simultaneously³⁷.

The current problems are compounded when convergent products are being considered as they straddle existing statutory classifications of regulated products, thereby, complicating the selection of the appropriate review and approval pathway. Industry has expressed its concern that members of ethics committees do not have the depth of expertise and regulatory experience required. The Irish Medicines Board has recently set up a specific unit to oversee and manage the regulation of converging products.

³⁶ Department of Enterprise, Trade & Employment, Strategy for Science, Technology & Innovation, 2005.

³⁷ Forfás, Ecosystem for the LifeSciences Sector, 2009.



The availability of digitised patient information and a sustainable national biobanking resource is a critical enabler for the shift towards personalised healthcare³⁸. It is essential that Ireland develops a national approach to biobanking and that all Irish research centres and hospitals adopt standardised biobanking practices as a matter of priority. Once a national biobank is established, the NCC recommends that consideration be given to Ireland's involvement in European biobanking initiatives, such as the biobanking and biomolecular resources research infrastructure, which aims to network biobanks across the EU.


The availability of a large “wet laboratory space” for companies to migrate to after being hosted within higher level institutions is also considered critical for the development of the sector in Ireland. In Europe, national or regional authorities are often responsible for the provision of these spaces as they are regarded as a key infrastructural investment required to allow early stage firms to develop.

A focus on ongoing innovation is essential for the industry to continue to grow. Under the current R&D tax credit system, the credit often accrues to the corporate headquarters and is therefore not captured in the accounts of the Irish plant. Reforming the operation of the tax credit so that it is applied to the cost of employment in Ireland could increase the volume of R&D activity taking place here without changing the incentives offered.

Regional Infrastructure: Given the concentration of medical device firms in the west of the country, the regional road infrastructure is a key issue for the sector. Firms have reported that the poor road conditions are leading to damaged product, increased travel times and higher costs. The completion of the interurban route from Dublin to Galway and the upgrade of the N4 (west of Mullingar) and the N5 (west of Longford) are critical for the competitiveness of the sector. To facilitate further growth of the life sciences sector the development of the western corridor is also important, particularly with regard to the Cork-Limerick (N20) and completion of Limerick-Galway (N18). This would facilitate greater linkages between the pharmaceuticals, medical technologies and ICT firms based in these regions.

Advanced Broadband Networks and Services: The area of personalised medicines and diagnostic devices offers significant opportunities to grow and develop the medical technologies sector in Ireland. These devices will enable healthcare professionals to diagnose and monitor their patients remotely. They will enable the remote administration of the appropriate drug at an appropriate dosage based on the information collected from the patients by devices. Remotely provided healthcare, however, will only be viable if a world class high speed broadband network is in place which enables large amounts of information to be sent securely in both directions between patients and their health care providers.

³⁸ Biobanks contain biological samples, such as blood, tissues or DNA, as well as associated epidemiological, clinical and research data.



Developing world class broadband networks and services in the main regional centres is critical to enable Ireland to become a destination for the development and piloting of personalised health care devices. In the longer term, as remote diagnosis and monitoring of patients becomes main stream the number of in-patient procedures will decline, which could significantly reduce public expenditure on health care. This will only be viable if high quality broadband infrastructure is in place. Ireland's limited capital budget notwithstanding, Government has a central role to play in developing Ireland's advanced broadband network.

Taxation: The medical technology sector has highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as skills, innovation, infrastructure and regulation.

3.3 Chemicals and Pharmaceuticals

Ireland has a strong international reputation and track record in the manufacture of pharmaceuticals. Chemical products, including medical and pharmaceutical products, accounted for 51 percent of manufactured exports from Ireland in 2008³⁹. The sector is of critical importance to Ireland's economic growth and development.

Currently, 13 of the world's top 15 pharmaceutical companies have manufacturing operations in Ireland⁴⁰. Although the pharmaceuticals sector is primarily made up of foreign companies, there are a small number of Irish owned medium sized pharmaceutical manufacturers. IDA and Enterprise Ireland assisted chemical and pharmaceuticals firms employ 24,000, full time workers⁴¹. Support services to the sector employ a further 24,000 people⁴².

The sector is relatively well-embedded in Ireland due to the high capital intensity and the regulatory implications of moving outside of the EU. Firms within the sector are concerned about possible negative reputational effects of moving to a country with a less well developed regulatory environment. Therefore much of the sector's activity tends to be in mature markets like the US and Europe. Singapore is also a significant player in terms of attracting pharmaceutical foreign direct investment. In addition, concerns over product quality and the strength of intellectual property protection law are acting as disincentives to relocate to lower cost locations.

Current Areas of Activity

Active Pharmaceutical Ingredients

In the main, foreign owned companies are involved in the production of active pharmaceutical ingredients (API) and /or formulation. In more recent years a number of companies have extended their mandates to include additional activities such as supply chain management, international financial management, shared services and headquarter activities. Supported by the development agencies and the introduction of a R&D tax credit, there has been an increase in investment in in-firm R&D, and in process R&D in particular. A number of firms are also linked into R&D initiatives being undertaken by research institutes supported by SFI (e.g. Solid State Pharmaceuticals Cluster).

The API sector in Ireland is largely concentrated on the manufacture of traditional pharmaceuticals (small molecules) that can potentially enter every cell in a patient's body, which may or may not bring about a desired effect along with some unwanted ones. They are generally derived from a chemical synthesis process and are effective in around 60 -70 percent of cases.

Seven of the world's top ten blockbuster drugs (annual sales in excess of \$1 billion) are currently produced in Ireland⁴³. Many of the firms operating in Ireland are very reliant on blockbusters that


39 CSO, External Trade, 2008.

40 PharmaChemical Ireland / IDA Ireland, Why Ireland Should be Your Location of Choice, 2007.

41 Forfás, Annual Employment Survey, 2008.

42 Irish Pharmaceuticals Healthcare Association; www.ipha.ie.

43 IDA Ireland, 2009, www.idaireland.com/business-in-ireland/life-sciences-pharmaceuti/.



have patent expirations on the horizon. In this context, the position of Ireland in the global plant network and supply chain management strategy will come under increasing pressure over the next few years.

Drug Development

The past five years have seen the emergence of the drug development segment of the Irish owned sector from a relatively low base. It is principally comprised of early stage start-up and growth stage enterprises focused on developing therapies in niche areas such as the treatment of autoimmune disorders.

Biopharmaceuticals

Biopharmaceuticals are becoming an increasingly important part of the sector's output. Unlike traditional pharmaceuticals, biopharmaceuticals (biologics / large molecules) usually target only a specific cell type leading to better efficacy and fewer side effects. They are administered by injection or infusion. Biologics are grown rather than manufactured.

Growing and Future Areas of Activity

It is estimated that €115 billion of branded drugs from the world's top 50 pharmaceutical companies will lose patent protection by 2012 and will be open to competition from generics⁴⁴. This will require that manufacturing companies based in Ireland reposition themselves within the context of their parent company strategies, and for Ireland to provide the supportive business environment to enable them to do so effectively.

New drugs will need to be developed to treat illness at an earlier stage. An ageing population will also drive growth in markets in areas such as pandemic diseases, memory, obesity, ageing, and health. The changing nature of the industry will lead to opportunities, not just in pharmaceutical/ biopharmaceutical and niche-busters, but also in areas such as molecular diagnostics, digital health, research tools and laboratory services.


The costs of drug development are increasing whilst at the same time the drug development pipeline is becoming less productive. The typical net cost of bringing a drug to market is US\$ 800 million⁴⁵. R&D makes up a major portion of this cost with approximately 25 percent of all R&D expenditure going on clinical trials. The average time to market for a new pharmaceutical product can range between five to 15 years depending on the type of drug and its status compared to between three and five years for a medical device⁴⁶.

Only a small proportion of drugs entering clinical testing successfully complete the clinical trial process. Furthermore, the US Food and Drugs Administration (FDA) approved only 19 new drugs in

44 Datamonitor, Current & Future Trends and Strategic Issues facing Pharma, March 2008.

45 Tufts Center for the Study of Drug Development, 2003.

46 Datamonitor, Current & Future Trends and Strategic Issues facing Pharma, March 2008 and consultation process.



2007, the fewest in 24 years⁴⁷. In many cases the failure of a drug to gain approval does not happen until late in the process at which time massive investment has been committed to large scale clinical trials. Due to safety concerns, late trial failures and product recalls from both newly launched and more mature products, there are increasing concerns for the industry. Unexpected adverse medical effects are increasing and can have an immediate negative impact on some of the major companies.

Repurposing of Medicines: Given the cost and failure rate associated with developing new drugs and bringing them to market, a trend has emerged for firms (particularly smaller firms in niche areas of the sector) to repurpose an existing drug. This involves redesigning an existing drug or a failed drug for use in the treatment of a different disease or medical condition. This type of activity often requires a large degree of interaction between large multinationals and small Irish owned firms and is dependent on effective intellectual property regulation. There is potential for Irish firms to work with locally-based multinationals in the area of repurposing.

Personalised Medicines: One of the major potential growth areas is personalised medicines. Until recently, physicians generally treated patients via a 'one size fits all' approach. However with medical imaging, molecular diagnostics, predictive modelling, informatics, artificial intelligence and algorithms that can apply specific data to individual disorders, medicine is gaining the capacity not to move towards personalised medicine.


Personalised medicine will be based on new and improved tools to predict or identify individual reactions to interventions. Diagnostics will become a more important part of the pharmaceutical/ biopharmaceutical sector. Personalised, predictive and preventive medicine (3 P's) will eventually revolutionise the health care system. For pharmaceutical and biopharmaceutical companies the transformation to the three Ps will take time and present many challenges and significant opportunities. Convergence between pharmaceutical/ biopharmaceutical, medical technologies and ICT will facilitate a new landscape in medical care.

Competitiveness Issues and Policy Actions

The main challenge facing the industry globally is the imminent expiry of patents and insufficient levels of new products successfully emerging from companies costly research and development pipelines. Competitiveness issues facing chemicals and pharmaceuticals companies based in Ireland are discussed below.

Taxation: The chemicals and pharmaceuticals sector has highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as skills, innovation and regulation.

⁴⁷ Datamonitor, The Pharmaceutical Industry, March 2008.



Regulation: The manner in which the Regulation Evaluation Authorisation and Restriction of Chemical Substances (REACH) Directive is applied in Ireland will have direct implications on the competitiveness of Ireland as a location for the chemicals sector. There is a perception that the implementation in Ireland of EU legislation such as the REACH Directive goes beyond the standard requirements and places Irish based firms at a disadvantage. There is also a concern that Irish regulatory authorities may not always give sufficient recognition to the competitiveness implications of the legislation they develop and enforce.

Identifying best practice in the application of EU legislation (e.g. the REACH directive) by other member states will help ensure that the implementation of EU legislation in Ireland does not present a competitive disadvantage to Irish firms. The NCC recommends that relevant Government departments, agencies and sector representative groups monitor the application of EU legislation elsewhere to ensure that the Irish interpretation and implementation, while meeting the required standard, does not place an unnecessary or excessive burden on the Irish chemicals and pharmaceuticals sector.


Skills: The future areas of growth in the sector, particularly in personalised healthcare, will require not only depth and expertise in core disciplines, but also the ability of individuals to work in a multi-disciplinary environment, and/or to complement their core skills with other disciplines. The sector has identified the need for higher level institutions to include modules that enable graduates to gain a broader based experience through greater exposure to other disciplines including other areas of science and health but also business.

There are calls from the sector for highly skilled PhD graduates that have industry experience and capacity in the area of applied research. Skills in the areas of intellectual property (valuations, negotiations), regulation (increasingly relevant to combination products and personalised medicines), and informatics and analytics are critical for the sector.

The NCC recommends as a priority the introduction of a masters course in regulatory affairs, either targeted specifically at each of the chemical and pharmaceuticals sector, or targeted jointly at medical technologies and chemicals / pharmaceuticals sectors, but allowing for specialisation. We recommend that it be developed in collaboration with the industry in order to ensure the relevance of course content and to encourage uptake.

Innovation and R&D: A key priority for the sector in Ireland is to continue to increase the level of process development R&D activity from a relatively low level in most companies to a key strategic activity by developing closer links between the Irish based plants which are predominantly manufacturing focused and the corporate R&D centres.

As in the case with the medical technologies sector, ensuring that the correct infrastructure is in place to support the sector to undertake research and development activities in Ireland will be critical to retain and grow the levels of pharmaceutical manufacturing currently carried out in



Ireland. A key element of this will be to streamline the clinical trials process and to place a greater emphasis on research within the Irish healthcare system⁴⁸. Key actions in this area include:

- Consolidation of the existing ethics committees to no more than six, attached to the core research hospitals. This consolidation would allow for skills and expertise to develop based on volume of activities.
- Streamline the ethics approvals process so that approval from one committee is sufficient to undertake trials in multiple centres and enable approval from the Irish Medicines Board and the relevant ethics committee to be sought simultaneously.

Enhancing the research capabilities of the healthcare system to enable Ireland to become a competitive destination for the development and clinical trialling of pharmaceuticals is a priority for this sector. It will also provide Ireland with the opportunity to develop competencies in niche areas of healthcare, enabling the export of health care services.

Cost Competitiveness: Cost competitiveness is a growing concern for the sector, particularly labour, land and property, energy and waste costs, and local authority charges.

⁴⁸ Forfás, Health LifeSciences in Ireland: An Enterprise Outlook, November 2009.

3.4 ICT Manufacturing and Services

Traditionally, the sector was relatively easy to categorise and was defined along clear lines. Multinational firms in Ireland were largely concentrated in the area of hardware manufacturing and associated support services. Irish owned firms were concentrated in the software sub-sector. However, in recent years there has been a fundamental shift in the way items are produced, distributed and consumed leading to considerable blurring of these lines. The convergence of computing, communications, content, and consumer electronics is the overriding significant influence on the global ICT industry and is creating many opportunities for growth in the sector.

According to the OECD's Information Technology Outlook, China's ICT exports increased to US\$ 360 billion in 2007, surpassing the combined ICT exports of the EU-15 and the US. However, China's export growth slowed in 2008. The OECD predicts that the short term future for the sector is much less favourable than in recent years. With economic conditions deteriorating, recession in the OECD area and business and consumer confidence falling sharply, global projections for ICT spending has been revised sharply downwards. ICT growth in OECD countries was slower in 2008 than in 2007 at around four percent. However, the OECD forecasts that growth in the ICT sector will slow further to below zero until at least the end of 2009. Growth after 2009 will potentially be at a somewhat higher level than GDP growth as new broadband infrastructures are rolled out as part of national economic stimulus programmes, although financing new ICT investment will be a continuing challenge for businesses⁴⁹.

Prior to the current recession, the Irish ICT sector had largely recovered from the global downturn in market demand that started in 2000. Within agency-assisted firms, ICT manufacturing accounts for 26,000 full time positions and ICT services accounts for 60,000 full time positions⁵⁰. The sector has moved into higher value-added activities, and has shown strong demand for people with high-level ICT skills. However, more recently a number of multinational ICT firms located in Ireland have announced job losses. The migration of Dell's manufacturing activity from Limerick to Poland with the result of 1,900 direct job losses has been the most high profile of these. It is clear that some Irish plants are finding it increasingly difficult to compete with sister sites in other lower cost countries.

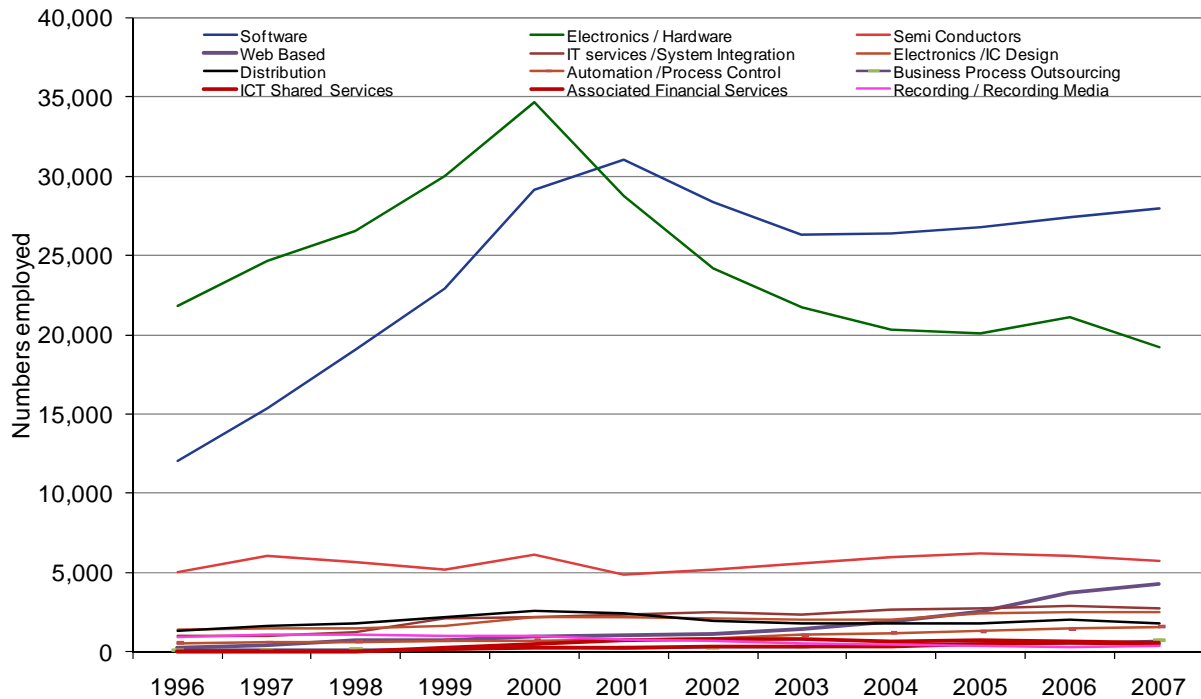
⁴⁹ OECD, Information Technology Outlook, 2008.

⁵⁰ Forfás, Annual Employment Survey, 2008.

Current Areas of Activity

The chart below shows the employment trends in the sub-sectors of the ICT sector in the decade to 2006.

Figure 11: Employment in Irish ICT Sector 1996 to 2006 by sub-sectors



Source: Expert Group on Future skills Needs, Future Requirement for High-level ICT Skills in the ICT Sector, 2008

Software Applications

Software applications have developed as a mature and significant sub-sector, mainly comprised of activities such as localisation, bespoke software and systems integration. A large proportion of software companies in Ireland are Irish owned. Their activities are based on strong software engineering skills and well developed processes for the identification, development and implementation of solutions. This sub-sector is becoming more focused on understanding and meeting customer's technology standards, and developing software that serves specific industries (e.g. financial services, healthcare, logistics education), while maintaining its capacities to provide generic software (e.g. systems utilities/tools and desktop software).

The emergence of a number of strong software subsectors in areas such as financial markets, telecommunications (including mobile) and e-Learning provide opportunities for Ireland to develop as a centre of excellence in some of these areas. There has also been an increase in the number of Irish internet based companies that are seeking to take advantage of the opportunities in Web 2.0 and 3.0 and e-commerce.

Hardware and Systems

This sub-sector, which is dominated by foreign owned companies, traditionally imported mature, proven technologies and replicated them. However, in line with global trends, the sub-sector is changing to produce more advanced emerging technologies. Irish owned companies in this sub-sector are in niche areas and will continue to need to innovate to remain competitive. In recent years a trend has emerged for low value added activities (both Irish owned and foreign owned) to be transferred out of Ireland to lower cost locations.

Support Services

In the past, Ireland was often regarded as having created a niche in the area of support services. This was based on cost competitiveness, skills availability, a suitable time zone, and the ability to efficiently support the Europe, Middle East, and Africa (EMEA) region. However the criteria have shifted with cost considerations replacing the emphasis on language, time zones, and regional support, resulting in strong competition from India and other locations.

Digital Content

Despite the downturn in the digital content sub-sector, Ireland has performed relatively well and has recorded sustained growth. There are a large number of small Irish companies in this sub-sector, but foreign owned companies account for the majority of employment. The biggest opportunities within the sector are in games, non-media applications and eLearning. It is a relatively young industry, with an existing base of competencies in terms of creative, software and localisation skills. However, the lack of local sophisticated demand in Ireland is a significant challenge for the sub-sector.

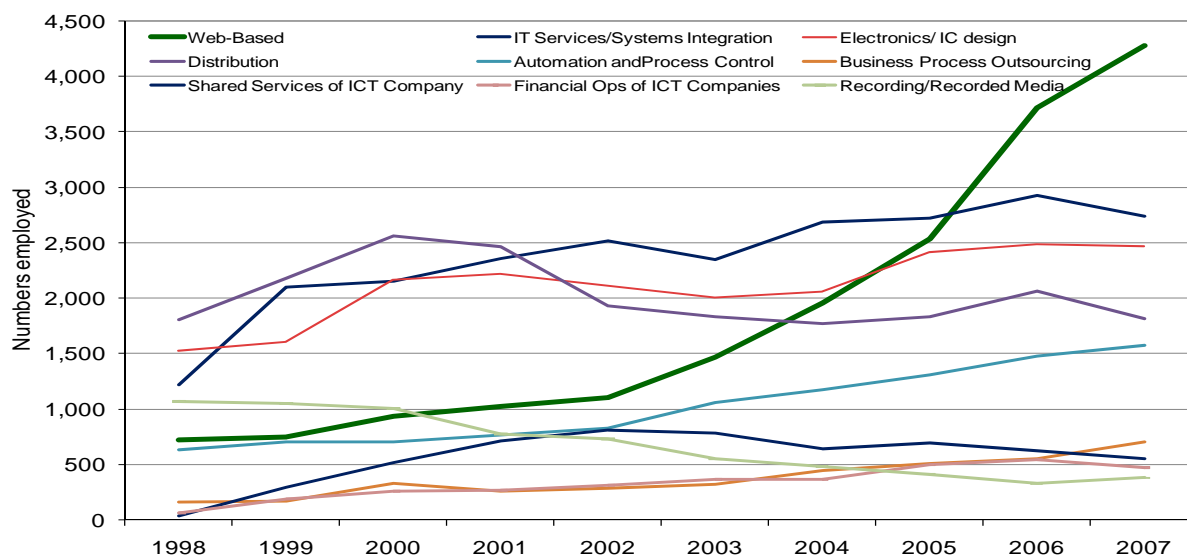
Microelectronics Design

The microelectronics design sub-sector is relatively new in Ireland and demonstrates a developing competence and an ability to move up to higher value activity. Strong linkages also exist between the sub-sector and the research centres in higher education institutions. The critical issue for this sub-sector is the availability of skills.

Future Areas of Activity

A look at the employment trends in the smaller sub-sectors of the ICT sector provides a good indication of the growth areas for the sector (Figure 10). In particular, employment in the web-based sub-sector has grown significantly since 2002.

Figure 12: Employment in Irish ICT Sector 1996 to 2007 by Smaller Subsectors



Source: Expert Group on Future Skills Needs, Future Requirement for High-level ICT Skills in the ICT Sector, 2008

- Software as a Service:** Software as a Service (SaaS) is a model of software licensing and delivery where firms provide 'on-demand' access to applications, as well as the applications' associated support and maintenance over the internet. Differences between SaaS and traditional on-site software products include ownership, location, payment and tenancy⁵¹. Buyers are recognising efficiencies in pay-per-use applications, which allow them to try out applications without having to commit to significant up-front license fees. Instead they pay for the applications based on usage and value delivered. This has significant implications for software companies who will be faced with the challenge of providing hosted/managed services, providing service level agreements, and operating a very different model of customer relationship management.

Enterprise Ireland expects that Irish software companies responding to the challenge of global market penetration will diversify their revenue models to focus more on service delivery. The market will become a mix of full SaaS companies, hybrid software and services companies as well companies using new advertising driven revenue models⁵².

- Tailored Software Solutions:** The software sub-sector is becoming more focused on understanding and meeting customer's technology standards, and developing software that serves specific industries (e.g. financial services, healthcare, logistics and education), while maintaining its capacities to provide generic software (e.g. systems utilities/tools and desktop software).

51 Furness V., The Future of Software Delivery - The opportunities and challenges of emerging software delivery models, 2009.

52 Enterprise Ireland, Software Strategy, 2008.

- **Integrated Supply Chain Solutions:** The hardware and systems sub-sector has accounted for a high proportion of the job losses in the ICT sector since 2000. Ireland must move from its current strong production and logistics, and hardware/software integration capabilities, to become a supply chain management location in the global ICT chain that produces integrated supply chain solutions. The sector must also focus on the application of mature personal computer and server technologies to the specific market segments. This will include developing capabilities in computing for specific industries (such as utility computing), the integration of security into personal computers and the implications of wireless broadband for personal computing.

- **Expand the Scope of Support Services:** Ireland has developed support services activities primarily in the back and front office operations of financial shared services centres. However, this must move beyond financial opportunities to include human resource, information services, customer service and logistics/procurement activities, based on information management capabilities.

- **Security:** Security represents a new emerging sub-sector that is essential to the key industries that use ICT. Ireland currently has a small subset of security companies within the application software sub-sector with specific competencies in security activities (e.g. firewalls, virus and tracking). The security sub-sector is expected to develop further competencies in areas such as encryption, biometrics, smart cards, cryptography and integrated security platforms, based on an integrated security environment that uses physical and virtual monitoring and surveillance.

Competitiveness Issues and Policy Actions

Cost Competitiveness: Labour costs are a particular issue for the ICT industry in Ireland. Lower level or less complex manufacturing operations as well as low end service activities such as call centres, are under increasing pressure from lower cost locations in Eastern Europe and Asia. Software activities are very labour intensive.

Advanced Broadband Networks and Services: Access to high quality, resilient and competitively priced next generation broadband in key regional centres is critical to enable the sector to retain the current levels of activity and to enable the sector to move to higher value added activities. In particular, SaaS requires world class broadband infrastructure to ensure that firms can provide their clients with on-demand services and ongoing updates to applications.

ICT acts as an enabler to all other sectors. Increasingly, ICT solutions are supplied online and require high bandwidth high quality broadband. The NCC believes that the development of an advanced broadband network servicing the NSS gateways and hubs is a critical investment to ensure the long term competitiveness not only of the ICT sector but of the wider economy. Ireland's limited capital budget notwithstanding, Government has a central role to play in developing Ireland's advanced broadband network.

Skills: ICT Ireland has expressed concerns about Ireland's ability to provide the volume and quality of skills required by the sector. In its review of the sector, the Expert Group on Future Skills Needs highlighted the need to increase the projected domestic supply of high-skilled computing and electronic engineering graduates to meet future demand⁵³. Because of the need to bridge the gap in high-level ICT skills, inward migration - already a significant part of the skills supply - will continue to be an important source if the skills supply into the future. There is also a particular shortage of people with very high levels of technical skills and companies in this sector are facing difficulties in recruiting people with the necessary combination of technical and business skills and expertise.

The NCC supports the recommendations proposed by the Expert Group on Future Skills Needs in their 2008 report on the sector⁵⁴. In particular, the Council would like to stress the importance of policy action in the following areas highlighted in that report:

- Enhance the number of high skilled graduates in the ICT area by creating bursaries for achieving over 500 points in their Leaving Certificate and entering into a computing and engineering degree courses and by proactively encouraging high-skilled overseas ICT students to study and work in Ireland; and
- Produce more graduates with domain-specific knowledge to meet the needs of software companies that develop products for specific sectors within the market. This will require higher education institutes to modify existing programmes to include modules that develop expertise and understanding of sectors in which the Irish software industry has a strong presence such as banking and telecommunications.


Given the high cost base in Ireland, if the Irish software sector is to continue to grow and develop strong technical skills that allow us to be the designers of applications rather than the coders of the products will be required. This skill set must include knowledge of the most up to date processes, tools and methodologies to manage the new product lifecycles that will emerge as part of SaaS.

- **Innovation and R&D:** Given the need for the Irish ICT sector to move to higher value activity, it is important that Ireland remains an attractive location for R&D investment. Further potential exists to make Ireland a more attractive location for the purchase and management of intangible assets (e.g. intellectual property, brands, software, and copyright). Under the current R&D tax credit system, the credit often accrues to the corporate headquarters and is therefore not captured in the accounts of the Irish plant. Reforming the operation of the tax credit so that it is applied to the cost of employment in Ireland could increase the volume of R&D activity taking place here without changing the incentives offered.

Access to Finance: The software sub-sector has a large number of Irish owned firms. According to industry representatives many of these are affected by a lack of access to finance and venture

⁵³ Expert Group on Future skills Needs, Future Requirement for High-level ICT Skills in the ICT Sector, 2008.

⁵⁴ Ibid.



capital. A recent review of the Irish software sector by international consultants, IDC, highlighted that the availability of a balanced funding environment combining private investment, local and international venture capital and appropriate debt financing was critical to the future of Irish software firms⁵⁵. Software firms also need greater access to angel funding. Continued Government support through Enterprise Ireland working with the venture capital sector to develop new funds and attract investors from abroad is vital to ensure venture capital funding is available to support new businesses.

ICT sector connectivity: Ireland has a unique ICT ecosystem which could be mobilised to enhance the competitiveness of Ireland as a location for investment by multinational firms and support the software sector.

Enterprise Ireland's 'Best Connected' strategy seeks to establish a set of relationships between different elements/players in the ecosystem - such as channel partners, outsource developers, research institutions, investors, multinationals and technology sources. The enterprise development agencies are playing a role in establishing these relationships, however, establishing meaningful, ongoing connections between the various players will require significant effort by all institutions and agencies to ensure Ireland can maximise the potential competitive advantage such relationships offer. The NCC recommends that the enterprise agencies seek to facilitate Irish owned ICT firms becoming global suppliers to multinationals based here through collaborative efforts.

Taxation: The ICT sector has highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as advanced broadband infrastructure and services, skills and innovation.

⁵⁵ Enterprise Ireland and IDC, Best Connected - New Software Economy Plan, 2009.

3.5 International Financial Services

The development of the international financial services sector was one of the most prominent success stories of Ireland economic development over the past two decades. A number of factors contributed to the sector's growth including Government prioritisation, a supportive fiscal and regulatory environment, a relatively favourable cost structure, political and economic stability, the availability of an educated workforce and the development of an international zone with supporting services.

The rapid slowdown in the global economy and the ongoing international financial crisis has placed considerable pressure on the sector. The prevailing characteristics of the sector are uncertainty and instability, although there have been some signs of a return to confidence within the sector. A recent survey of 75 global international financial service centres found confidence had returned to levels last achieved prior to the collapse of Lehmann Brothers. However, the survey found that Dublin was among only three locations to have recorded a decline in its ranking between March and September 2009, from tenth position to twenty-third⁵⁶.

According to the 2009 Finance Dublin Yearbook, employment in the IFSC fell by 0.6 percent to 24,906 in 2008. While employment in IFSC-based banks (10,729) fell by four percent over the course of the year, there was an eight percent increase in the numbers employed in insurance (3,526) and a marginal increase in fund administration (10,651) in the same period. However, financial services exports declined by 7.2 percent in value terms in 2008⁵⁷. There has also been a 21 percent fall in the net asset value of funds administered in Ireland in the six months since September 2008⁵⁸.

Current Areas of Activity

The term 'international financial services' is an umbrella term which is typically used to describe the three areas of banking and capital markets, investment management and insurance. Figure 13 provides a summary of the principal components of each of these areas as well as the key industry enablers.

Banking and Capital Markets

Investment banking and capital market activities includes trading debt, equities, fixed income, funds, foreign exchange, commodity and derivative instruments and the origination of equity finance.

A number of factors have helped to draw an increased number of companies to Ireland in the banking and capital markets sector. Incentives for locating in Ireland include the competitive corporate tax rate, no withholding tax exemptions on most interest and dividend payments and

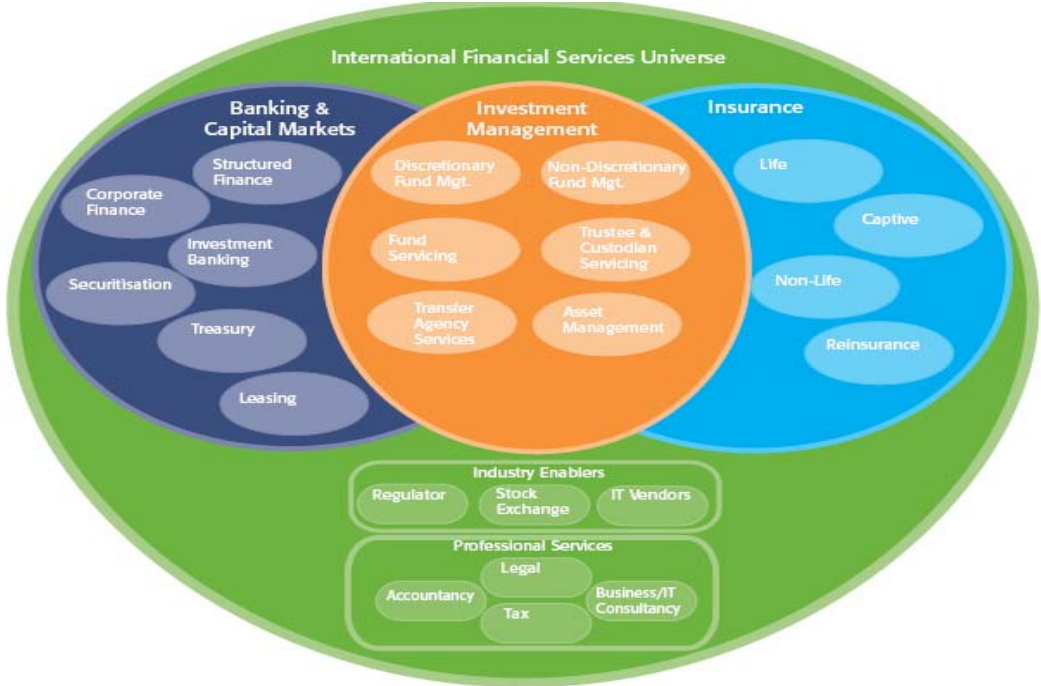
⁵⁶ City of London, Global Financial Services Index, September, 2009. The survey ranks international financial service centres across the key areas of people, business environment, market access and infrastructure.

⁵⁷ NCC, Getting Fit Again, 2009.

⁵⁸ Irish Funds Industry Association, 2009.

access to Ireland’s double taxation treaty network. Ireland has developed a critical mass of banking institutions, with half of the world’s top 50 banking institutions present here⁵⁹. Within this area, Ireland has developed specific capacities in debt products and securitisation and in aircraft leasing.

Figure 13: International Financial Services Sector



Source: Expert Group on Future Skills Needs, International Financial Services Skills Report, 2007

Investment Management and Administration

Ireland has numerous strengths as a centre for funds administration. The attraction to Ireland of fund activities is a consequence of the UCITS (Undertaking for Collective Investment in Transferable Securities) passport allowing for distribution throughout the EU; no duty on the registration, issue or transfer of shares or units of interest; no VAT on fund management services; no withholding tax on most interest and dividend payments; and no capital gains tax on funds. Ireland and Luxembourg have experienced exceptional rates of growth as many of the larger investment management companies have selected one of these locations as part of a migration to a single-hub strategy.

In 2008 the Irish funds industry serviced over €1.5 trillion in fund assets. This was made up of €825 billion in over 4,800 Irish domiciled funds and €681 trillion in over 4,000 non-domiciled funds, which are predominantly alternative investment funds⁶⁰. There has been a 21 percent fall in the net asset value of funds administered in Ireland in the six months since September 2008 with severe consequences for revenues⁶¹.

59 www.ifsconline.ie.
 60 Irish Funds Industry Newsletter, 2008.
 61 Irish Funds Industry Association, 2009.

Insurance

Typical international insurance activities carried out here include direct-writing insurance; insurance broking; reinsurance and captive management; risk securitisations and risk derivatives; back office operations; pan-European pensions; treasury and asset financing and bank office administrations. The unilateral foreign tax credit relief on interest income from countries not in the double tax treaty network have supported such activities in Ireland. Ten of the world's top 20 insurance companies have offices in the International Financial Services Centre (IFSC) in Dublin⁶².

The Irish and UK markets are seen as particularly sophisticated in terms of unit-linked products and the experience in operating the systems and processes to support these types of products is attractive to many continental insurance providers. This has resulted in many foreign insurers channelling business through Irish operations⁶³.

The reinsurance sector has also experienced strong growth rates in recent years, spurred by the enactment of the European Reinsurance Directive in July 2006, which allowed reinsurance operations to move between member states. Ireland was the first EU member to adopt the directive and this led to investment decisions by a number of companies to select Dublin as the centre for their European business. Ireland's position as a leading centre for securitisation has also provided a boost to the reinsurance sector where bonds are being issued on the back of insurance securitisation special purpose vehicles⁶⁴.

Industry Enablers and Professional Services

As the international financial services sector in Ireland has developed, a sector specific support network has also evolved to meet the complex needs of the sector. Along with state agencies and institutions such as the financial regulator and the stock exchange, a number of Irish owned firms have emerged to provide tailored solutions to the sector, particularly in the area of financial services software. A group of largely Dublin-based firms providing professional services (accounting, legal, tax, etc) have developed niche specialisms to cater for the requirements of the sector.

The Department of the Taoiseach has a coordinating role in relation to development of the financial services sector in Ireland, in particular the IFSC. This is overseen by the IFSC Clearing House Group which includes representatives from the industrial and financial services sector and is chaired by the Secretary General of the Department of the Taoiseach.


Growing and Future Areas of Activity

Despite the state of flux caused by the current financial crisis, a number of medium to long term trends can be identified within the sector. The globalisation of the sector is set to continue to rapidly alter the structure and focus of the industry, as well as patterns of activity in terms of

⁶² Irish Financial Services Centre, www.ifsc.ie.

⁶³ Expert Group on Future Skills Needs, *The Future Skills and Research Needs of the International Financial Services Industry*, 2007.

⁶⁴ *Ibid.*



investment, product development, trading volumes and patterns. While presenting a number of threats, globalisation also offers opportunities. For example London is developing competencies in designing Sharia-compliant financial products to market in the Middle East and the growth of the middle class in both India and China will provide further potential to develop appropriate products.

The influence of the demographic change is the second trend of note as ageing populations in mature markets are placing additional pressures on pension and healthcare systems. Increasingly customers are moving from wealth accumulation (asset building) to a retirement (asset drawdown) phase of life. This environment represents an opportunity for the industry to capture assets and develop new products in the savings and life cycle wealth management areas. In developing markets, demographic change is characterised by population growth and greater affluence which provides the opportunity for growth in finance and capital growth products.

The third trend is the growth in the need for greater risk management. As financial services firms grow and become more complex the quantification and management of risk has become more difficult. In particular, managing operation risks related to customer data privacy, trading scandals and fraud prevention have become more challenging. Tied very closely to the risk management trend is the trend towards increasing regulation, particularly in light of the current financial crisis. The manner and speed, with which countries and institutions develop, interpret and implement the new regulations that will be required to rebuild trust and stability in financial systems will be key to their competitiveness in the market in the future.

The potential for growth in the environmental goods and services sector is discussed in detail below, however, there is also potential to 'green' the financial services sector. Green investment funds and carbon trading markets are growing in size and sophistication⁶⁵. Potential exists to develop a green IFSC cluster and brand incorporating green investment vehicles (e.g. investment funds of energy companies, banks and VCs), the administration of funds managed under green principles, and carbon trading and associated professional services. The NCC welcomes the recent establishment of a sub-group of the IFSC Banking and Treasury group to explore the potential opportunities available from the establishment of a green IFSC.

Competitiveness Issues and Policy Actions

Financial Crisis, Reputation and Re-Regulation: The global financial crisis is affecting the sector in many countries. However, recent difficulties in Irish commercial banks along with ongoing investigations into activities within some domestic institutions, has damaged the reputation of the sector in Ireland.

⁶⁵ In 2007, green investment funds invested \$148 billion in sustainable energy. In 2008, \$30 billion was under management in clean energy funds, with a further \$26.4 billion in funds with a significant exposure to clean energy. Analysis by New Carbon Finance highlights that the world's carbon markets grew by 84 percent in 2008 to \$118 billion. Many banks are currently developing the resources (financial and skills) to expand into carbon trading and to provide associated services (e.g. carbon auditing and offsetting services).

Putting in place the requisite regulation and providing stability to the market will require leadership both at EU level and nationally. As was seen with the European Reinsurance Directive, by acting quickly Ireland can achieve first mover advantage if it responds swiftly to the current situation. The Department of the Taoiseach's Clearing House Group has an important facilitation role to play in this regard. To ensure the future competitiveness of the sector, reform must be achieved through dialogue between the regulatory authorities and the firms operating in the sector.

Skills: While there is a large pool of labour for lower level fund management positions, the level of specialisation required in some higher skilled areas of financial services (e.g. risk management, treasury management and derivatives, mathematical and analytical skills) has led to skills shortages.

The NCC supports the implementation of the recommendations identified by the Expert Group on Future Skills Needs in their 2008 report on the sector⁶⁶. In particular, the NCC would like to stress the importance of implementing the following policy actions highlighted in that report:


- Increase the numbers of graduates and postgraduates undertaking courses and modules appropriate to the needs of the international financial services industry. The Finuas initiative, jointly funded by Government and firms within the sector, is working to address this issue through the facilitation of enterprise-led learning networks which deliver training and professional development programmes that meet specific business needs. It will be important that support for this initiative is maintained to ensure that Ireland has the necessary specialist skills to meet the increasingly sophisticated requirements of the international financial services sector; and
- Introduce improved training mechanisms to up skill new entrants to the sector. This can be done through the development of short intensive courses incorporating simulated environments, such as real-time trading floors.

Advanced Broadband Networks and Services: Taking advantage of future growth opportunities in this sector requires access to a high speed and reliable communications system. Developing advanced broadband networks and services in the main regional centres is a critical investment for future growth in the sector. Ireland's limited capital budget notwithstanding, Government has a central role to play in developing Ireland's advanced broadband network.

Innovation and R&D: Work completed by the Expert Group on Future Skills Needs found that formalised R&D functions in financial services do not appear commonplace in the sector in Ireland or internationally. The speed of change within the industry results in short timelines which are not suited to formal R&D cycles. Instead the term innovation has a greater resonance within the sector.

Cost Competitiveness: The costs of doing business, particularly labour and property costs are a key competitiveness issue for the sector.

⁶⁶ Expert Group on Future Skills Needs, The Future Skills and Research Needs of the International Financial Services Industry, 2007.



Taxation: Despite the recent increase in unemployment, bringing in talent from overseas remains necessary to fill specialised positions within the sector. Industry representatives highlighted the important role that competitive labour tax levels play in attracting and retaining highly skilled and internationally mobile workers to meet the skills requirements of this sector. The international financial services sector has also highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as advanced broadband infrastructure and services, skills and innovation.

3.6 Tourism

The economic and financial crisis has dramatically altered the shape of the global landscape for travel and tourism as liquidity dries up, commodity prices rise and consumer demand falls. Hotel occupancy rates are falling across advanced economies and there are signs of trading down in accommodation by consumers and corporate travellers. Budget hotel operators and chains with a large brand portfolio, covering different price positions, are expected to benefit from this trend.

In Ireland, following years of strong growth, the rapid and sustained downturn in the global economy affected revenue and visitor performance in 2008, particularly during the second half of the year⁶⁷. In 2008, revenue from overseas tourism fell by 3.3 percent⁶⁸. The number of overseas visitors to Ireland fell by 11.5 percent in the year to the end of March 2009⁶⁹. The number of US and Canadian visitors declined by 19.5 percent, while the number of visitors from the UK fell by 12.7 percent. The short term outlook for the sector remains challenging. Given the nature of the product offered, recession tends to have a more immediate impact upon the sector as consumers quickly seek to limit discretionary spending. According to sectoral representatives, however, once the economic upturn gets underway, the sector returns to growth more quickly than others.

Foreign earnings from tourism amounted to €4.8 billion in 2008. According to the latest Quarterly National Household Survey (Q2 2009), 119,000 people are directly employed in accommodation and food service activities, a fall of 4.5 percent on the same period in 2008. Tourism represents a larger share of employment in Ireland (6.1 percent) than in many other EU member states. According to the Irish Tourist Industry Confederation (ITIC), the total number of tourism dependent employees in 2008 was 171,000⁷⁰. As 75 percent of employment in the sector is based outside of Dublin, tourism is particularly important from a regional perspective. Firms in this sector are also predominantly Irish owned.

According to the 2009 World Economic Forum Travel and Tourism Competitiveness Index, Ireland ranked 18th out of the 133 countries surveyed. This represented an improvement of three places on the 2008 ranking. Looking in more detail at the index, Ireland performs particularly well on metrics of tourism infrastructure (hotel rooms, presence of car rental companies etc) and the attitude of the population towards foreign visitors. However, Ireland performs poorly with regard to internal transport infrastructure and price competitiveness⁷¹.

67 Tourism Ireland, <http://www.tourismireland.com/Home/about-us/press-releases/€47m-Global-Tourism-Marketing-Plans-Launched.aspx>.

68 CSO, Balance of International Payments, Quarter 1, 2009.

69 CSO, Tourism and Travel, Quarter 1, 2009.

70 ITIC, Competitiveness and Growth Prospects for Irish Tourism, 2009.

71 World Economic Forum, The Travel and Tourism Competitiveness Index, 2009.

Current Areas of Activity

As with all tourist destinations, a number of sub-sectors exist to cater for the variety of international and domestic visitor needs, including:

- International Carriers (air / sea);
- Internal Transport (car hire/ public transport / island ferries / tour operators);
- Hotels and Restaurants;
- Other Accommodation (self-catering / B&Bs / hostels/ camping);
- Pubs and Bars; and
- Tourism Attraction Sites.

While there are a number of multinational chains operating within the tourism sector in Ireland, the majority of firms are indigenously owned SMEs.

The value proposition for Ireland as a destination for international tourism is based largely around cultural heritage, the scenic landscape and the depth of engagement with Irish people.

Cultural Destination

One of the key attractions for tourists to Ireland is the country's unique cultural heritage. Much of the sector's attractions and activities build upon this heritage and are evident in the tourism entertainment sub-sector and the trend toward heritage accommodation. The marketing of Ireland as a tourism destination focuses heavily on the cultural aspects.

Scenic Activity Destination

The country's scenic landscape is also a key attraction for tourists to Ireland. The scenery and natural resources mean that Ireland is a prime destination for people seeking to partake in leisure activities such as walking, fishing, sailing and golf. In recent years, the sector has also seen a growth in food tourism, as visitors become more interested in learning how to prepare local cuisine.

City Short Breaks

Ireland has been very successful in recent years in attracting visitors for short-breaks to its cities, particularly Dublin. This has been facilitated by low fare air services between Ireland's key airports and a wide number of European locations. The UK market has been particularly lucrative with regard to the growth in short-break holidays in Ireland. However, the number of short breaks taken is likely to fall significantly in the short term as consumers seek to reduce discretionary spending during the recession.

Growing and Future Area of Activity

The World Travel Market Report 2008⁷² reveals consumer trends that resonate across all regions - the desire for social and environmental responsibility, social interaction, authentic travel

⁷² World Travel Market, Global Trends Report, 2008.

experiences and fair trade practices. The report predicts travel and tourism companies that adapt and integrate such business practices into their product and service offering will be best placed to succeed in medium and longer term.

The report suggests that consumers are willing to trade up for sustainability, thus it suggests that operators should let “conscientious consumption” be a driving force through the uncertain economic times ahead.

In recent years, the sector has undergone a fundamental change in distribution channels, as the internet becomes the most popular method for consumers to book holidays. According to the World Travel Trends Report 2009, 41 percent of all holidays were booked online in 2008, a 15 percent increase on the previous year⁷³.

In the shorter term, the recession is likely to result in increased pressure for value for money, a propensity towards later booking and for people to holiday closer to home. In the longer term, the World Tourism Organisation has forecast significant growth in international tourism by 2020⁷⁴. It will be important that Ireland is positioned to take advantage of this growth when it occurs.

Potential Future Growth Areas

- **Business Tourism:** While Ireland has a well developed business tourism market, this is set to develop further with the opening of The Convention Centre Dublin in September 2010.
- **Eco-Tourism:** Eco-tourism is a rapidly growing movement towards creating a greener and more ethical form of tourism worldwide. According to Fáilte Ireland, a key element of the Irish tourism sector offering is its ‘clean, green’ image⁷⁵.
- **Experiential Tourism:** There is potential for the sector to develop products which provide tourists with ‘authentic experiences’ to better meet the needs of the growing proportion of ‘culture seekers’ in the tourism market, building on Ireland’s extensive network of cultural heritage and arts offerings and attractions.
- **New Markets:** The growth of the middle classes in both China and India presents an opportunity to increase the number of tourists from these areas. However, in order to meet the needs of visitors from more diverse cultures, there will be a need to re-orientate the current product offering and make tourist visa arrangements more visitor friendly.


Competitiveness Issues and Policy Actions

Tourist Offering: The tourism sector is highly sensitive to the international economic and political environment. The depth and length of the recession in the sector’s key markets (US and the UK) will have a direct impact on its performance in the short term.

⁷³ ITB, World Travel Trends Report, 2009.

⁷⁴ World Tourism Organisation, Tourism 2020 Vision, 2001.

⁷⁵ Despite this Ireland ranks 109th of 133 countries for carbon dioxide emissions according to the World Economic Forum Travel and Tourism Competitiveness Index, 2009.



A number of global shocks such as terrorist attacks, health scares and natural disasters have affected global tourism over the past decade. The H1N1 flu pandemic presents a further threat. In addition, national incidents such as the outbreak of Foot and Mouth disease in 2001 affected the Irish tourism market. The sector is also vulnerable to increases in oil prices given the effect on air fares; over 80 percent of foreign visitors travel to Ireland by air.

Domestic and international consumer demand is likely to remain weak in the near future. While there has been significant improvement in recent years in the choice and quality of accommodation options and the range of leisure activities available, further consideration needs to be given to how the quality and choice of products and services offered to domestic and overseas visitors can be improved to deliver better value for money. The hotel and restaurant sectors are beginning to respond by offering a range of special offers and free add-ons to generate additional demand.

Cost Competitiveness: Cost competitiveness is a key determinant of Ireland's attractiveness as a holiday location for both overseas and domestic visitors. Persistent increases in costs have eroded our cost competitiveness in recent years. In 2008, only 35 percent of visitors surveyed were satisfied with "the value for money aspect" of their holiday in Ireland, a fall of five percent on the previous year⁷⁶. The annual surveys have shown relative satisfaction with regard to air fares and accommodation, however, there has been consistent dissatisfaction with other costs associated with holidaying in Ireland such as dining, entertainment and the general cost of living.

Restoring cost competitiveness is critical to make Irish tourism-related service providers more competitive and to improve our attractiveness as a tourist destination. Enhancing competition within Ireland's domestic economy is vital to improving our overall competitiveness.

Given the high labour intensity of the tourism sector, labour costs are a particular issue for the sector. According to sector representatives, labour costs account for approximately 40 percent of total costs in this sector. Utilities, particularly energy and waste, and local authority charges also form a large part of the cost base of firms in this sector. The high rate of indirect taxes in Ireland such as VAT rates and excise duty impacts directly on the cost competitiveness of holidaying in Ireland. The €10 airport departure tax also affects Ireland performance in this regard.

Excess Hotel Capacity: The number of hotel rooms in Ireland has risen significantly in recent years. The surplus in hotel accommodation has led to reduced prices for consumers. While this is to be welcomed, more attention is needed on marketing this capacity and related product offerings internationally. There is also a concern that a number of hotels built to gain tax advantages are being kept in operation solely to retain these advantages. The discounted accommodation prices offered by these hotels may create distortions in the market and result in the closure of hotels

⁷⁶ Fáilte Ireland, Visitor Attitudes Survey, 2008.

which may better meet the demands of tourists and would otherwise be viable businesses. In light of this, the NCC recommends that the Department of Finance consider the potential for allowing a change of use.

Access to Finance: One of the biggest challenges currently facing the sector's 18, 000 SMES is access to working capital, particularly given the significant reductions in tourism numbers and expenditure in the past year.

External and Internal Connectivity: Good international air and sea access coupled with effective internal connectivity is a key factor in mitigating the impact of Ireland's peripheral location and ensuring our attractiveness as a tourist destination. In view of the long lead in times for delivery of air and sea port infrastructure and services, it is important that we plan now to ensure that we are well positioned to meet the longer term needs of business, citizens and tourists and that airport operators seek to maximise the flow of international visitors using their existing facilities. As the point of entry for most foreign tourists to Ireland, ensuring the external and internal connectivity of our cities is essential. According to the World Economic Forum's Tourism and Travel index, out of 133 countries Ireland ranks 23rd in terms of external infrastructure and 48th with regard to internal infrastructure⁷⁷. Continued, focused investment in road and rail infrastructure is required to improve Ireland's internal connectivity. Road access to Ireland's main tourist destinations, particularly on the south and west coasts, needs to be improved.


Advanced Broadband Network: Given the ever increasing importance of the online market-place to the tourism sector, the ability to effectively and efficiently market and sell tourism products over the internet is vital to enable firms to retain and grow their share of existing markets and to access new markets. In addition, the ability for customers to access broadband services while holidaying is becoming an important determining factor for people when choosing their holiday destination.

Environmental Sustainability: While the growth of the green agenda within developed economies present opportunities to develop Ireland as an eco-tourism location, it also presents a challenge as consumers become more conscious of their carbon footprint and move away from unnecessary travel.

In addition to changes in consumer attitudes, environmental regulation is likely to impact significantly on the sector in the future. For example, Ireland is currently transposing the EU's Aviation Directive into Irish law, which will mean that the aviation industry will be included in the emissions trading scheme in the future⁷⁸. The directive is likely to have a larger impact on tourism numbers in peripheral island countries such as Ireland.

77 World Economic Forum, The Travel and Tourism Competitiveness Index, 2009.

78 ESRI, Airline Emissions of Carbon Dioxide in the European Trading System, 2009.



The NCC recommends that the Irish tourism sector develop and implement a strategy to position Ireland as an eco-friendly destination for tourists. The tourist agencies could continue to provide advice and encouragement to firms in the sector that will support them in becoming more environmentally friendly.

The NCC recommends that industry representative bodies and Government agencies work together to ensure the sector is prepared for any changes in environmental legislation which will impact upon the sector. We also recommend that through collaboration and a sharing of best practice all stakeholders seek to ensure that any increases in costs or negative impacts on the sector are minimised.

Public Investment: Ireland's key selling point for overseas visitors is its cultural heritage and natural landscapes. The protection of historical monuments, management of natural landscapes, promotion of cultural events and development of many related tourist attractions rely heavily on Government funding. Public investment and support for social, cultural, tourism and sports infrastructure and events facilitate the development of a strong brand which acts as a magnet for tourists.

Given the current pressures on the public finances, the amount of State assistance provided for both tourism infrastructure and marketing may have to be reduced. The NCC recommends that funding be prioritised to ensure that Ireland's tourist offering is not diminished. The NCC supports the recommendation of the Tourism Renewal Group to coordinate public spending on tourism related investment across other Government departments and agencies (e.g. Department of Community, Rural and Gaeltacht Affairs, the Office of Public Works, local authorities)⁷⁹.


A key element of a successful tourism sector is the development of sophisticated brands and long term marketing plans. Marketing Ireland abroad to foreign tourists is essential both in the short and longer term and the NCC recommends that every effort be made to ensure that, in light of constrained resources, this activity is carried out as effectively and efficiently as possible. In this context, the NCC believes that firms and business representative bodies within the tourism sector need to play a greater role in the external marketing of Ireland as a tourism destination.

Tourism Agencies: It is essential that the relevant stakeholders at both national and regional level work together to develop unique, comprehensive and complementary brands to ensure Ireland and its regions are attractive tourism locations⁸⁰. Currently, there are a number of agencies charged with responsibility for enhancing the tourism sector.

Tourism Ireland is the all-island tourism marketing agency established under the Good Friday Agreement by the then Bord Fáilte (now Fáilte Ireland) and the Northern Ireland Tourist Board

⁷⁹ Tourism Renewal Group, *New Horizons for Irish Tourism - Mid-Term review*, September 2009.

⁸⁰ NCC, *Our Cities: Drivers of National Competitiveness*, April 2009.



(NITB). Tourism Ireland Ltd was formally incorporated on 11th December 2000. The organisation has responsibility for the international marketing of the island of Ireland, the delivery of regional and product marketing and promotion activity on behalf of Fáilte Ireland and the NITB and the overseas office network. Fáilte Ireland focuses on the quality of the experience provided to visitors by the Irish tourism industry, overseeing training and development in the sector. Fáilte Ireland is also responsible for the marketing of domestic tourism on the island of Ireland. The NITB carries out a broadly similar role to Fáilte Ireland for the Northern Ireland tourism sector. Dublin Tourism is responsible for marketing the Dublin region as a tourism location.

In order to facilitate the development of a stronger and more cohesive branding of Ireland as a tourism destination for both international and domestic tourists, the NCC believes that the sector would benefit from a merging of tourism bodies. This would require the consent of both Governments. Focussing on the development and marketing of the tourism sector on an all-island basis would ensure greater coordination across the sector.

Taxation: It is important to recognise that consumption taxes directly affect tourism exports in a way that is unique to this sector. These taxes contribute to the cost of tourism products.

3.7 Environmental Goods and Services

The global market for environmental goods and services is vast and continues to grow quickly. While the EU had taken an early lead in developing the growth opportunities in this new and emerging sector, the US and China are catching up quickly. Ireland is well placed to capture some of the growth in niche areas and has significant capabilities in key areas such as water, electronics, software, renewable energy and waste/ recycling⁸¹.

Although difficult to define, the EGS sector in Ireland is estimated to be worth some €2.8 billion⁸². A best estimate suggests that there are more than 6,500 people directly employed in EGS companies in Ireland. It is expected that the size of the EGS sector and employment opportunities will continue to grow. The future importance of the sector for sustainable economic growth in Ireland is acknowledged in the Government's framework document, "Building Ireland's Smart Economy"⁸³.

Current Areas of Activity

There are a small number of key firms in the Irish EGS market⁸⁴. The market also has a high proportion of small and medium-sized enterprises which have established a substantial business presence over the past ten years. In addition, there a number of subsidiaries of UK and other European parent companies offering environmental consultancy services and competing in key sectors such as energy and waste management e.g. Siemens and RPS.

Growing and Future Areas of Activity

A number of drivers are facilitating growth in the EGS sector, some of which are interlinked. These include:

- Compliance with EU environmental directives and regulations;
- Rising energy and natural resource costs;
- Climate change objectives;
- Significant increases in public investment in environmental services and infrastructure (e.g. energy, waste management and water supply);
- Increases in investment in energy and environment-related research and development;
- Green public procurement;
- Green consumerism, and
- Green financial services⁸⁵.

A number of environmental sub-sectors with potential business opportunities have been identified.

The sub-sectors which are seen to have the greatest potential are:

- Renewable energies;
- Efficient energy use and management (including eco-construction);

81 This sectoral profile draws on the recently published report of the High Level Action Group on Green Enterprise, Developing the Green Economy in Ireland.

82 This figure does not include the market for environmental goods and services in building and construction materials and is therefore likely to underestimate the value of the sector to the economy.

83 Department of the Taoiseach, Building Ireland's Smart Economy - A Framework for Sustainable Economic Renewal, 2008.

84 Examples include National Toll Roads which own Greenstar, BioVerda and formerly Airtricity; One51 which owns Cedar and Techrec; DCC which owns Enva; and other key players such as Glen Dimplex and Kingspan.

85 The potential to develop a green IFSC is discussed in detail in the international financial services sector profile (Section 3.5).

- Waste Management, recovery and recycling;
- Water and wastewater treatment; and
- Environmental consultancy and services.

Competitiveness Issues and Policy Actions


The NCC welcomes the publication of the report of the Higher Level Action Group on the Green Economy, which sets out the priority actions to drive growth in the sector. In particular, the Council would like to highlight the following priority actions:

Development of Green Zones: The green economy in Ireland is highly dispersed across various sectors (e.g. ICT, engineering, finance, energy, waste, water) and across various state organisations that both drive and support the sector. The NCC believes that an environment that is conducive to the development of green enterprises can be fostered through the development of one or more green zones by retrofitting exiting business parks and premises to meet best environmental standards and that future state-led industrial site developments be designed with sustainability in mind. This would serve to build a cluster around existing enterprises and initiatives and to develop a brand that can be used to effectively market Ireland overseas.

Innovation and R&D: Environmental research and engineering solutions are central to the growth of the EGS sector. There has been limited R&D investment in the EGS sector in Ireland to date, with the exception of a few notable investments in certain sectors (such as waste and ocean energy). R&D in the Irish green sector is fragmented and is not generally at the scale necessary to be internationally competitive. Nonetheless, a growing number of companies have been successful in developing business models which have commercialised R&D-intensive technologies related to the EGS sector. Given Ireland's low base of R&D, the adoption and adaptation of such EGS technologies will continue to be important.

The challenge for Ireland is to develop a small number of world-class centres for research and development in niche green areas. As Ireland's EGS sector is starting from a lower base than a number of competitor countries, it is important that EGS-related basic and applied research targeted at specific areas of opportunity for products and services be prioritised for continued public investment. Science Foundation Ireland's remit has been recently extended to include sustainable energy and energy efficient technologies and reaching planned investment targets in this area will be important to enhance the knowledge and business potential of the EGS sector. Initiatives to encourage green-related innovation at firm level need to continue to be strengthened.

Skills: The NCC welcomes the commitment from the Expert Group on Future Skills Needs to identify the skills required to support the development of the EGS sector. Skills need to be enhanced in areas such as science, management and installation and maintenance of new environmental technologies to support the development of the EGS sector. Given the potential shortage of environmental engineering skills, conversion courses could be introduced to enable people with good basic engineering skills to work in the sector. Development of relevant expertise in key engineering disciplines such as computing, electronics, environmental, electrical and mechanical engineering are also required. We recommend that programmes which promote engineering as a career choice highlight the opportunities offered in the environmental engineering discipline.



Environmental Legislation Implementation: The recent past has seen a dramatic increase in the amount of environmental legislation. Consistent and timely enforcement and implementation of this legislation is critical for the development of the sector, as any delay will create uncertainty and undermine investment in the sector. The strategic implementation of impending EU and international environmental legislation can play an important role in developing markets for Irish owned green companies and creating first-mover advantages. In addition, regulation and public procurement regimes need to encourage new products and services.

Infrastructure Development and Regulatory Reform: A number of infrastructure developments and associated regulatory reforms are required if the EGS sub-sectors of renewable energy, waste and water are to achieve their potential. Continued development of the electricity grid in terms of improving access to the grid, increasing interconnection to the UK and potentially continental Europe is required for Ireland to realise opportunities in renewable energy.

The NCC has consistently highlighted the need for reform in the energy market in Ireland⁸⁶. In addition, the NCC has highlighted the need for specific policy actions with regard to the waste market and the provision of water services in Ireland. In particular, the waste sector requires policy and regulatory certainty to incentivise private investment in waste infrastructure. A decision on the future regulatory structure for the waste sector needs to be made quickly to clarify relative roles and responsibilities in the regulation and management of the waste sector at national, regional, and local level.

Addressing delays in the planning process which have had a negative impact on the timely delivery of key environmental infrastructure is critical. The provision of resources to fast track judicial reviews of strategic infrastructure projects needs to be prioritised.

The goal should be to achieve world class resource efficiency in the public, private and residential sectors. This will not only ensure Ireland reduces the cost of meeting our energy and water requirements and minimise the amount of waste created but will also assist Irish firms capture the potential of the rapidly growing global EGS sector.

Access to Finance: The EGS market in Ireland includes a significant number of specialised start-ups and small firms. Such firms face difficulties in accessing start-up and growth finance common to all small firms. Given this industry structure and the fact that projects in the EGS sector are characterised by high levels of uncertainty and depend on a regulatory framework, general measures (such as the Business Expansion Scheme and the HALO business angel networks) which improve seed financing and remove market failures in the access to finance for such firms continue to be important. Continued Government support through Enterprise Ireland working with the venture capital sector to develop new funds and attract investors from abroad is vital to ensure venture capital funding is available to support new businesses.

⁸⁶ NCC, Statement on Energy, October 2009.

3.8 Other Internationally Trading Services

For the purposes of this report, other internationally trading services include education, transport and business services. Opportunities and challenges for healthcare services are addressed in the medical technologies profile (Section 3.2) and digital services issues are dealt with in the ICT profile (Section 3.4).

Between 1980 and 2006, the global value of internationally trading services increased by a factor of seven. Ireland has clearly established itself as one of the world's leading service economies. In per capita terms, Ireland is by far the biggest exporter of services in the world. While financial services and ICT dominate Ireland's internationally trading services sector today, the liberalisation of export markets is providing other growth opportunities. Other internationally trading services accounted for approximately a third of total services exports in 2008⁸⁷. Business services is the largest of the other internationally trading services. It contributed €18.9 billion to Irish exports in 2008, which is 29 percent of total services exports; in 2000, the sub-sector's share of services exports was just 12 percent. The internationalisation of education presents significant growth opportunities for Ireland; total income of €372 million was generated by international students in the academic year 2006/07⁸⁸.

Recent technological developments have facilitated internationalisation, and have also made possible a whole range of new services. International trade has also been supported by regulatory reform and trade liberalisation. This trend is expected to accelerate in coming years, with the implementation of the EU Services Directive and parallel developments in the World Trade Organization. It is estimated that implementation of the EU Services Directive could increase trade in commercial services by as much as 30 percent⁸⁹. The changing nature of services in an increasingly globalised economy presents Irish service providers with very significant opportunities. The ESRI forecasts that by 2025, total services could account for over 70 percent of Irish exports and for nearly 80 percent of our GDP.

Growing Areas of Activity

This sector comprises three main sub-sectors:

- **Business Services:** This includes a diverse range of activities such as merchanting⁹⁰, operational leasing, legal, accounting and professional services, advertising, research and development and engineering and technical services.
- **Education:** The increasing demand for high-quality education delivered in English from overseas students presents significant growth opportunities for Ireland in terms of services exports. There are also growing markets for the online delivery of courses to students in other countries. In

87 CSO, Services Exports and Imports, December 2008.

88 NCC, Statement on Education and Training, March 2009.

89 Services Strategy Group, Catching the Wave - A Services Strategy for Ireland, 2008.

90 Merchanting is by far the largest of the business services activities - it contributed €8.4 billion to Irish exports in 2007. The CSO defines merchanting as the sales net of purchases by Irish resident enterprises of foreign goods bought from and sold to non-residents without the goods entering or leaving Ireland.

addition, foreign students can bolster Ireland's stock of human capital, improve the quality of our higher education institutions, and promote tourism and exports of Irish goods and services.

- **Transport:** Opportunities exist across all modes of transport, especially maritime and aviation. The main activities are supply chain management, headquarter functions and support services and training.

Competitiveness Issues and Policy Actions


Skills: Given the broad range of skills required by the other internationally trading services sub-sectors, the implementation of the National Skills Strategy is of crucial importance. Among the types of skills required by the sector are:

- *Generic skills:* Employees need a range of personal and interpersonal skills, such as communication and languages, team-working, customer-service, problem-solving, and planning and organising;
- *Humanities and social science skills:* Graduates in these disciplines are equipped with a range of knowledge, skills and wider competences that are particularly valued by many service sectors;
- *Science, technology and innovation skills:* Within the EU25, some 53.6 million people with third-level science and technology qualifications are employed in services sectors;
- *Hybrid technical and business skills:* Individuals who can combine discipline-specific technical knowledge with entrepreneurial skills and an ability to think creatively will be in increasing demand in the future; and
- *Mathematics:* Many internationally trading services sub-sectors require strong maths capabilities.

Innovation: Service companies currently find that support measures are not well suited or readily accessible to them. Innovation policy has concentrated on technological innovation, whereas innovation in services is very often non-technological and can take a variety of forms, including new business models/concepts, new customer/delivery interfaces and new service-product offerings. While many Irish services firms are to some extent innovative, they are constrained from more actively pursuing innovation strategies by a shortage of funds, the high costs associated with innovation, and a lack of suitably qualified personnel.

Advanced Broadband Networks and Services: The success and growth potential of many existing and emerging other internationally trading services activities are dependent on access to a highly efficient and reliable communications system. Firms must be encouraged to adopt e-business practices and to integrate appropriate ICT into all their business processes. Developing advanced broadband networks and services in the main regional centres is critical to ensure Ireland can realise the wide range of potential opportunities in this sector. Ireland's limited capital budget notwithstanding, Government has a central role to play in developing Ireland's advanced broadband network.

Trade: The Single European Market has already exposed Irish services industries to more competition from overseas. The Services Directive will push this trend further, opening up Irish



markets to competition from overseas, and opening up foreign markets to Irish service providers. The NCC recommends that Ireland embrace this initiative as a way of boosting competition and productivity. Transposition and implementation of the Services Directive is vital to exploit the growth opportunities in internationally trading services. Early completion of the World Trade Organisation negotiations on the Doha Round is also critical for future growth in the sector. The benefits to the Irish economy from reducing barriers to services exports will far outweigh the impact of greater competition for agriculture/food produce.

Cost Competitiveness: The costs of doing business, particularly labour costs, are a key competitiveness issue for the other internationally trading services sub-sectors.

Taxation: Industry representatives have highlighted the important role that competitive labour tax levels play in attracting and retaining highly skilled and internationally mobile workers to support the development of the other internationally trading sectors. The other internationally trading services sector has also highlighted the importance of a competitive corporate tax regime for continued growth in the sector in Ireland. Given the lower corporate tax rates offered by some competitor countries, however, it will be important that Ireland continues to develop its competitiveness in other areas such as advanced broadband infrastructure and services, skills and innovation.

3.9 Convergence

Cross sectoral convergence is characterised by inter-disciplinary technology, product and services development. It often involves inter-firm partnership and capitalises on the divergent skills, expertise and technologies of different disciplines and sectors, bringing them together to create new products, services and markets. These partnerships are changing the type of business, health, communications and financial products offered and the means by which they are delivered.


Convergence represents a number of opportunities for Ireland's key exporting sectors such as:

- Collaborative R&D projects: Collaborations involving players from different industry and academic perspectives. The Technology Research for Independent Living Project (TRIL) is a collaboration between Intel, Trinity College Dublin, NUI Galway and University College Dublin. This project brings the partners together to share ethnography and usability engineering, neuroscience, cognitive science, clinical modelling, wireless sensor development, hardware engineering and embedded software development to develop systems enabling the elderly to live independently.
- Joint Ventures: Two or more companies coming together to exploit converged products or services.
- Cross Sector Licensing: Using technologies from different industries to create new business opportunities. For example, the multinational ICT firm, HP, licenses Crospon, an Irish medical technology firm, to use its ink jet technology for use in trans-dermal drug delivery.
- Advanced manufacturing: high end manufacturing arising out of new converged products resulting from the activities listed above.

Ireland has a number of strengths that mean it is well positioned to exploit the opportunities presented by convergence. Convergence is facilitated by access to a range of skills and expertise and the proximity of the collaborating firms to one another. As a base for some of the world's leading multinationals and being home to numerous innovative Irish owned firms in the key convergence sectors, Ireland provides an ideal location for developing relationships and commercial partnerships between pharmaceutical, medical technologies, food, ICT and financial services companies. The growth potential of the environmental goods and services sector also provides further opportunities for cross-sectoral collaboration.

In addition, mature models for intellectual property sharing are developing in Ireland and this is complimented by a tax regime that is competitive in terms of both intellectual property and R&D tax credits. Science Foundation Ireland funding vehicles that target support at collaborative research activities (such as the Centres for Science Engineering and Technology and Strategic research Clusters) also assist in positioning Ireland as an attractive location for undertaking convergence projects.

However, Ireland's approach to developing convergence activities has been largely opportunistic. As engagement in such activities helps to embed firms in the location where it is taking place, the NCC



recommends that stakeholders become more proactive and market Ireland as a competitive location for undertaking collaborative investment projects. All-island collaboration would increase the attractiveness of the island of Ireland as a location for investment by multinational and Irish owned firms in converging products and services activities⁹¹. This would require the creation of a new dynamic within the island's research structure and community and the forming of partnerships between divergent various disciplines.

Convergence requires institutional support, resourcing and the collaboration of professionals in the different sectors to develop ideas around commercial applications. Convergence investments are collaborative in nature and require interdisciplinary research in an open research environment⁹². This includes public and private collaboration in the sharing of expertise within educational and research institutions both on an all-island basis and internationally. It will be important that higher education institutes, research institutes, enterprise development agencies and other relevant public bodies are structured appropriately to provide the requisite support services to actively pursue investments in convergence activities.

A number of changes to intellectual property regulation would assist in creating an environment that would enhance opportunities for enterprises to develop new convergent products and services. This includes treatment of taxation around intellectual property particularly with regard to maximising the commercial exploitation of latent intellectual property in multinational firms by Irish owned companies. It is crucial that firms interested in convergent collaboration understand the issues and the potential risks and rewards of the venture. The NCC recommends the introduction of intellectual property issues and basic concepts of commercialisation into relevant third level courses.

It will also be important that 'near to market' commercialisation is strengthened in Ireland. The NCC recommends that Science Foundation Ireland's Centre for Science and Engineering Technology (CSET) model be given a more commercial focus to enable them to influence entrepreneurial behaviour and to maximise the commercialisation of research outcomes.

Convergent products and services present new challenges for patent examiners as it is more difficult to accurately assess patents that rely on such divergent skills and technologies. Businesses will therefore have to spend more time sitting with examiners explaining changes in their convergent products. It is to be expected that this lead to increased costs and a longer application time for Irish and European patents⁹³. A more agile and cost effective patent application system for business would enhance Ireland's competitiveness in this area.

91 Walker G., Potential for Ireland to take Advantage of New Convergent Technologies Business Opportunities, 2009.

92 Meryl, W., Getting to Grips with Convergence Technology, Australian Academy of Technological Sciences and Engineering, 2008.

93 Mark Enshaw, Director of Patents, Murgitroyd and Co, IBEC - Meetings of Minds Conference, 2008.



3.10 Conclusions

Ireland's key exporting sectors have shown resilience in the face of global recession and will be the key drivers of Ireland's return to sustainable economic growth. It is imperative that the policy actions for Ireland's exporting sectors set out above are progressed without delay.

In addition to these sector specific policy actions, there are also critical cross cutting, national issues of cost competitiveness and productivity that need to be addressed in order to drive export growth. These issues have been highlighted in previous NCC reports and the priority actions to drive export growth will be discussed in more detail in the Annual Competitiveness Report 2009, Volume 2: Ireland's Competitiveness Challenge.



Notes
