



*2000 Review and
2001 Outlook Statement*

January 2001

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OVERVIEW OF 2000

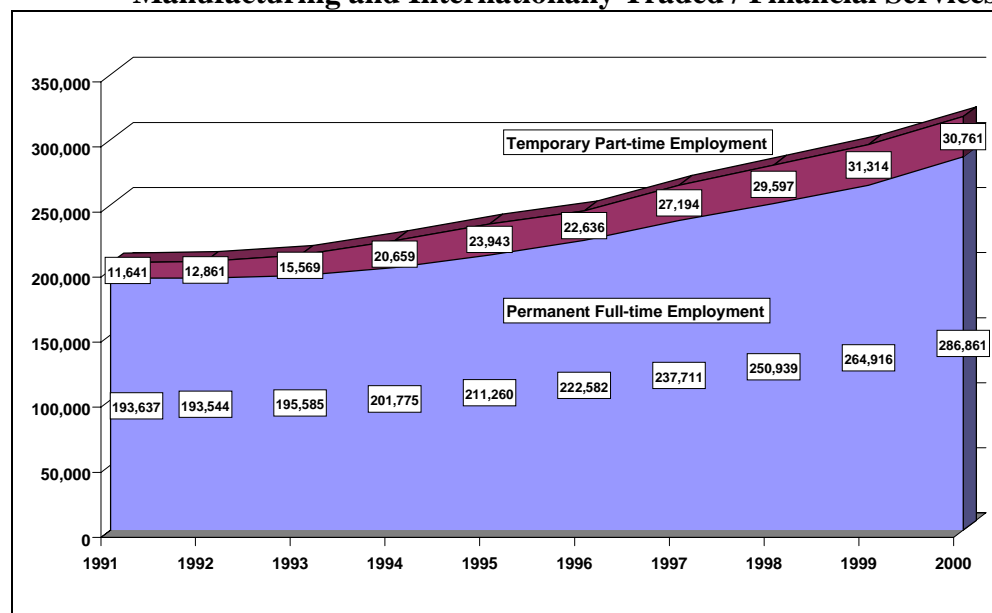
This section reviews 2000 and the main results of Forfás surveys under the following headings:

- *Economy / Employment*
- *Agency Supported Firms Spending in the Economy*
- *Corporation Tax Payments*
- *Investment in Enterprise Development*
- *Cost Per Job Sustained*
- *State Expenditure on Science and Technology*
- *Research & Development in the Higher Education Sector*

Economy / Employment Continues to Grow

GNP is estimated to have increased by 8.6 per cent¹ in real terms in 2000, making it the seventh successive year of very strong economic growth. With strong growth in demand, a depreciating euro and increasing oil prices, inflation increased by more than expected in 2000. The headline Consumer Price Index rose by an estimated 5.5 per cent compared with 1.6 per cent in 1999. Exports continue to perform strongly and are estimated to exceed IR£65 (€82.5) billion for the year 2000.

Chart 1
Trends in Permanent and Temporary Employment 1991 - 2000
Manufacturing and Internationally Traded / Financial Services



Source: Forfás Annual Employment Survey

¹ Source: Ireland - Stability Programme December 2000 Update.

Preliminary results from the Forfás Annual Employment Survey show that total employment in agency supported companies² rose by 21,400 jobs in 2000, the highest achieved to date. This consists of a rise of 22,000 in permanent employment and a marginal reduction of 600 in temporary and part-time employment. This brings the total employed in these companies, including permanent and temporary and part-time jobs, to a record high of 317,600. The reduction in temporary and part-time employment reflects a trend by some companies to offer permanent positions to temporary workers, possibly in response to the tightening labour / skills market.

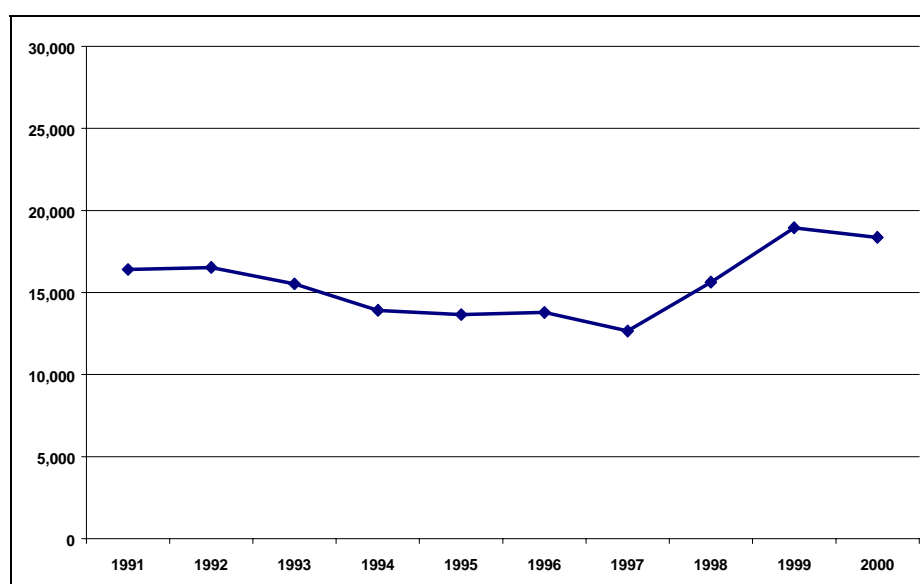
The increase in employment described above takes account of job gains and job losses. Job gains in permanent full-time employment amounted to over 40,300 in 2000, the highest level achieved over the past ten years. Irish-owned companies accounted for almost 16,200 and foreign-owned companies for 24,100, of the total job gains, the highest levels recorded over the last ten years. Internationally-traded and financial services showed the biggest percentage gains, increasing by 24 per cent to a total of 60,000 jobs in 2000 following an increase of 25 per cent in 1999.

After a two year period (1998/1999) in which job losses increased by almost 50 per cent, losses declined marginally (-3.1 per cent) in 2000 to 18,400. The job losses were mainly in labour-intensive and low-margin sectors, and reinforces the point that industry must continue to take steps to improve competitiveness and to re-orientate towards higher value-added sectors in order to achieve growth.

The main factors contributing to this record performance in 2000 were:

- A very significant increase in new permanent jobs created (+ 22.4 per cent);
- A reduction in the level of job losses compared with 1998 and 1999.

Chart 2
Trends in Job Losses in Permanent Full-Time Employment
Manufacturing and Internationally Traded / Financial Services 1991 - 2000



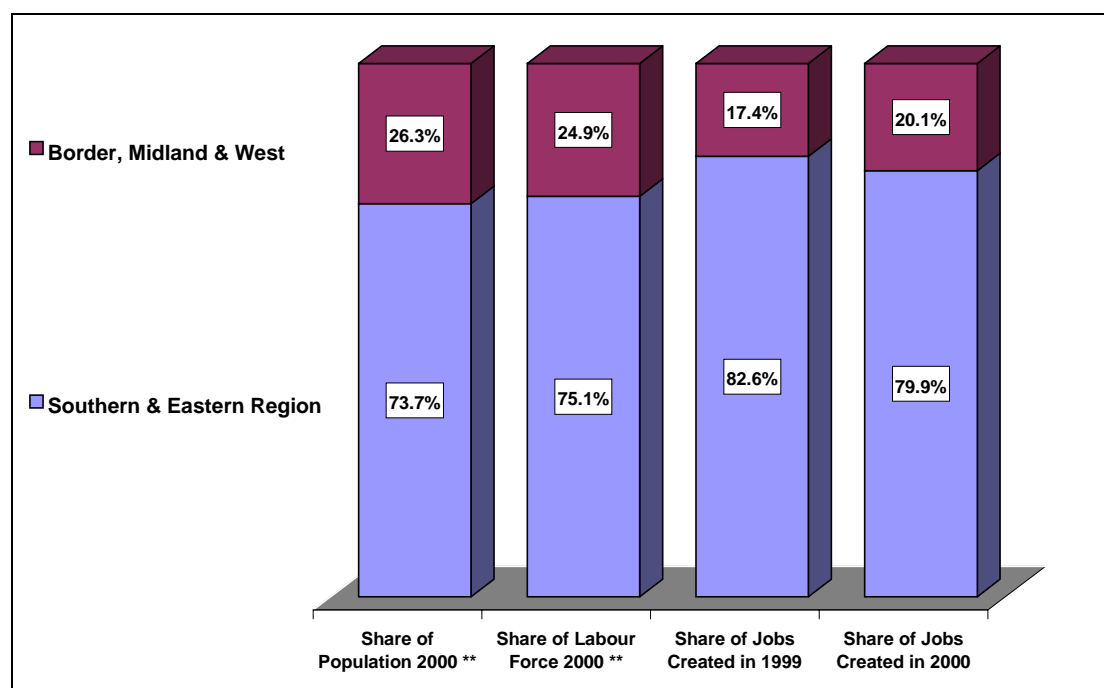
Source: Forfás Annual Employment Survey

² Data excludes companies under the remit of Shannon Development and Údarás na Gaeltachta.

It is an objective of industrial policy to bring about an improved regional distribution of employment. The Border, Midlands and West (BMW)³ region has tended in the past to perform less satisfactorily than the rest of the country in terms of increasing and sustaining employment in manufacturing and internationally-traded services.

Chart 3 shows that the BMW region accounts for 26.3 per cent of the population (aged 15+) and 24.9 per cent of the labour force. In 1999, the region accounted for 17 per cent of gross job gains in companies under the remit of IDA Ireland and Enterprise Ireland. The latest figures for 2000 show an increase on this figure with 20.1 per cent of gross job gains located in the BMW region. This trend will be monitored closely in the future to determine the impact of policies aimed at improving the regional distribution of employment.

Chart 3
Share of Gross Job Gains in Agency Supported Companies* by Region
Relative to Share of Population and Labour Force



*Source: Forfás Annual Employment Survey (Excludes Shannon Development and Údarás na Gaeltachta)

** CSO data

³ The regional divide used is the classification used by the European Union for regional aid purposes. The counties in the *Southern and Eastern* region are Dublin, Kildare, Meath, Wicklow, Carlow, Kilkenny, Waterford, Wexford, Cork, Kerry, Clare, Limerick and Tipperary. The *Border, Midland and West* region accounts for the other 13 counties.

Agency Supported Firms Continue to Increase Their Spending in the Economy - up over IR£2 (€2.7) billion

Results from the Forfás Irish Economy Expenditure (IEE) Survey show an increased level of spending in 1999 by companies engaged in manufacturing and internationally traded services activities, in line with the trend in recent years. Firms in these sectors spent over IR£25 (€32.1) billion in the economy in 1999, up over IR£2 (€2.7) billion (9.3 per cent) on 1998 in real terms.

This spending is contributing significantly to the high levels of growth and employment in the economy. Both Irish-owned (IR£12.7/€16.2 billion) and foreign-owned (IR£12.5/€15.9 billion) firms increased their spend on wages and salaries, Irish raw materials and Irish services in 1999.

The fastest growing area is internationally traded services where IEEs increased by 17.8 per cent in 1999, compared with an increase of 7.8 per cent by manufacturing establishments.

	1999			% Change over 1998
	Irish-Owned Firms IR£ M	+ Foreign Owned IR£ M	= TOTAL IR£ M	%
Total Sales	17,009	40,624	57,633	21.9
Total Irish Economy Expenditures	12,740	12,533	25,273	9.3
Of which:				11.8
Wages & Salaries	2,981	3,349	6,330	
Irish Raw Materials	6,678	4,283	10,961	10.9
Irish Services	2,048	4,045	6,093	2.8
Profits*	1,083	856	1,939	13.2
IEE % Sales	74.9	31.0	43.9	-10.2

Euro Conversion

	1999			% Change over 1999
	Irish-Owned Firms €M	+ Foreign Owned €M	= TOTAL €M	%
Total Sales	21,597	51,582	73,179	21.9
Total Irish Economy Expenditures	16,176	15,914	32,090	9.3
Of which:				11.8
Wages & Salaries	3,785	4,252	8,037	
Irish Raw Materials	8,479	5,438	13,918	10.9
Irish Services	2,600	5,136	7,736	2.8
Profits*	1,375	1,087	2,462	13.2
IEE % Sales	74.9	31.0	43.9	-10.2

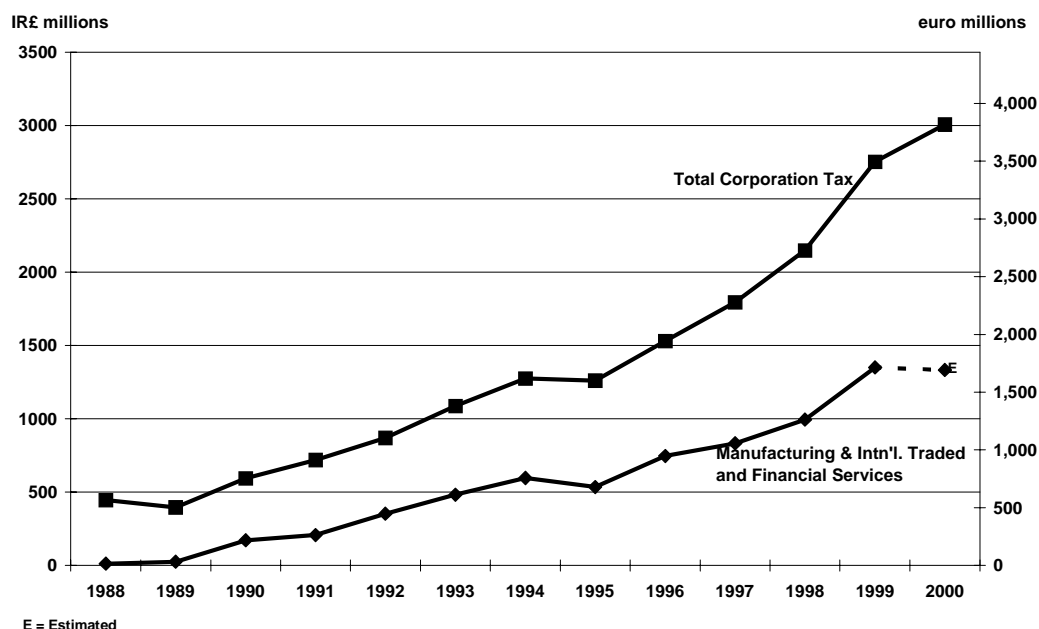
* All Irish Industry profits and corporation tax paid by overseas firms

Substantial Rise in Corporation Tax Payments

In addition to their expenditure in the economy, manufacturing, internationally traded and financial services companies provide a very significant direct return to the exchequer by way of corporation tax payments.

- The total corporation tax take is estimated at IR£3,007 (€3,818) million in 2000⁴. This represents a rise of 587 per cent in real terms in the period 1988 to 2000 (17.4 per cent per annum).
- Corporation tax paid at the 10% rate by manufacturing and internationally-traded and financial services companies, according to a survey by Forfás is estimated at IR£1,333 (€1,693) million in 2000, equivalent to 44 per cent of total corporation tax receipts.
- Budget 2001 continued the momentum to achieve a standard rate of corporation tax for trading income of 12.5 per cent by the year 2003. The standard rate for trading income was reduced to 20 per cent from 1 January 2001 and a rate of 12½% will apply to companies with a trading income not exceeding IR£200,000 (€253,948) from the same date. This means that only just over 13 per cent of companies liable for tax will now pay corporation tax at the standard rate. However, the figures in Chart 4 below show that lower corporation tax rates have been followed by a higher corporation tax yield.

Chart 4
Corporation Tax Payments
(Constant Prices)



* Source: Forfás Corporation Tax Survey

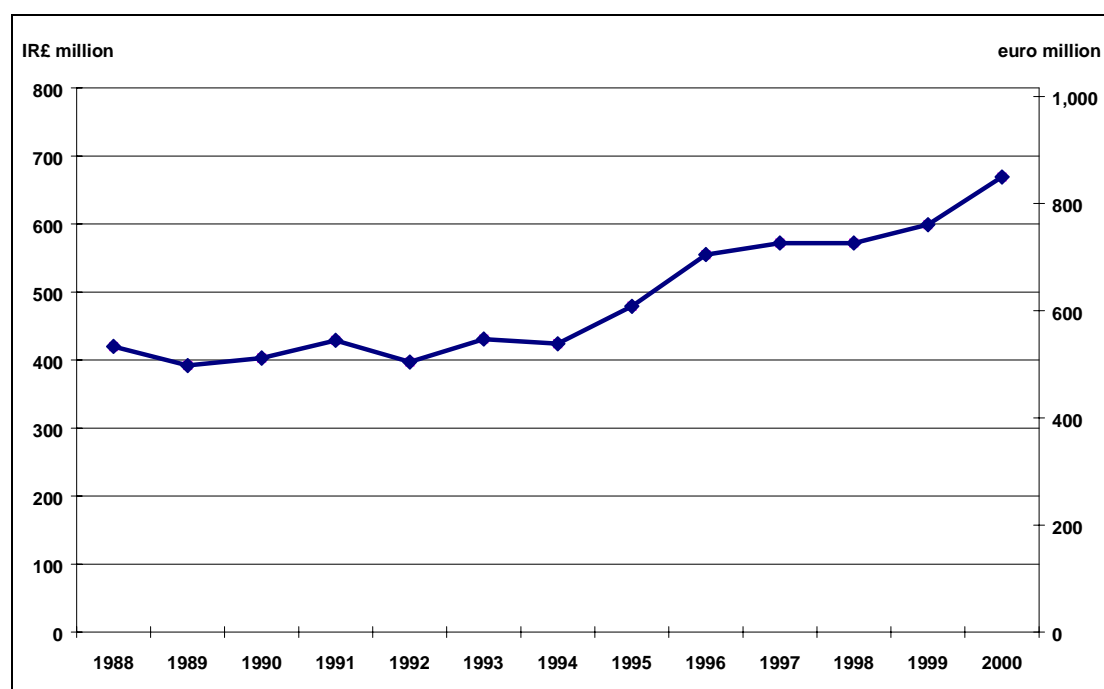
⁴ Source: End December 2000 Exchequer Returns.

Increased Investment in Enterprise Development

Forfás undertakes an annual analysis of State investment to promote the development of the enterprise sector and create employment in Ireland. The latest estimate indicates that:

- The gross cost of support in real terms to the enterprise sector in the form of direct expenditure (all costs of operating the development agencies, financial supports etc) was approximately IR£599.4 (€761.1) million in 1999, and is estimated at IR£669.3 (€849.9) million for 2000. This represents a rise of 59 per cent in real terms over the period 1988-2000;
- Over the same period, 1988 to 2000, growth in gross Government expenditure (current plus capital) of 86 per cent in real terms was recorded. The growth in GNP in real terms over this period was 140 per cent;
- There has been a swing from fixed-asset related supports to other forms of support such as R&D, equity investment, employment grants and supports aimed at upgrading the business capability of firms. In 1988 fixed asset supports accounted for 46.5 per cent of total direct expenditure. By 1999 the percentage had fallen to 35 per cent.

Chart 5
State Expenditure on Enterprise Development
 (Constant Prices)

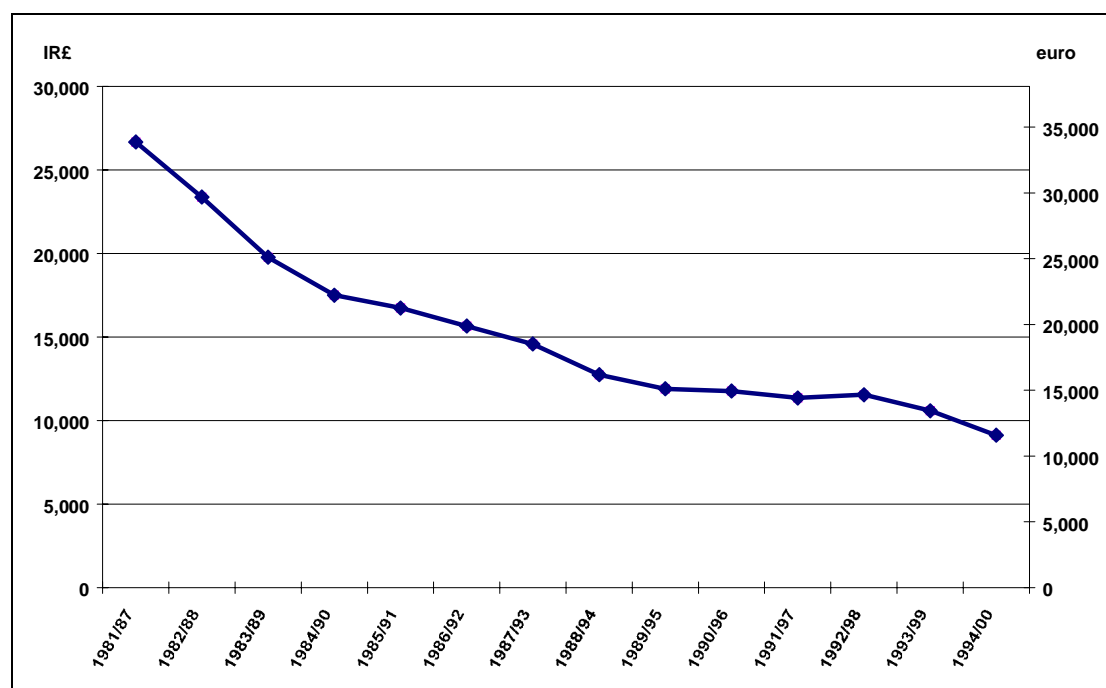


Source: Forfás: *Financial Support by Government for the Development of Enterprise in Ireland*

Cost Per Job Sustained⁵ – Lowest Level Ever Recorded

The average cost per job sustained over a seven year period in agency supported companies amounted to approximately IR£9,124 (€1,585) in 2000, the lowest level recorded. The trend is shown in Chart 6 below. This is due to a number of factors including the improved value for money approach to projects pursued by the agencies, a significant increase in the return to Enterprise Ireland from its equity shareholdings, the continued growth of internationally traded services projects where investment costs are generally lower than manufacturing projects, and the favourable economic environment for enterprise development.

Chart 6
Trends in Cost Per Job Sustained
(Constant Prices)



Source: Forfás

State Expenditure on Science and Technology Increases by Twenty Per Cent

The Forfás annual publication *State Expenditure on Science and Technology* shows that Government allocations to scientific and technological activities in 2000 amounted to IR£1,100 (€1,397) million, an increase of IR£187.4 (€238) million or 20.5 per cent over the 1999 level.

⁵ Data excludes companies under the remit of Shannon Development and Údarás na Gaeltachta. The cost per job is calculated by taking into account all direct Enterprise Ireland and IDA Ireland expenditure to all firms in the period of calculation. Only jobs created during, and sustained to the end of, each seven year period are credited in the calculations.

All of the increase is accounted for by public funds (Exchequer + EU), which rose from IR£749 (€51) million in 1999 to an allocation of IR£934 (€1,186) million in 2000; the balance of IR£166 (€11) million arises from income earned from the activities of the departments and agencies.

	Total Public Allocation		
	<i>IR£'000</i>	<i>€'000</i>	<i>% Total</i>
Taoiseach	470	597	0.05%
Finance	3,373	4,282	0.36%
Environment and Local Government	11,628	14,765	1.24%
Education and Science	591,250	750,733	63.30%
Marine and Natural Resources	19,771	25,104	2.12%
Arts, Heritage, Gaeltacht and the Islands	3,910	4,965	0.42%
Agriculture and Food	72,228	91,711	7.73%
Enterprise, Trade & Employment	145,723	185,029	15.60%
Public Enterprise	15,085	19,154	1.61%
Social, Community and Family Affairs	12,148	15,425	1.30%
Health and Children	18,981	24,101	2.03%
Government Offices	39,501	50,156	4.23%
Grand Total	934,067*	1,186,021*	100.00%

Source: Forfás - State Expenditure on Science and Technology, 2000

* These figures do not include 'earned income' (such as fees for technical services) which amounted to IR£166 (€11) million in 2000. The inclusion of earned income brings the total to IR£1,100 (€1,397) million.

Research and Development

For the first time this year's 'State Expenditure on Science and Technology' includes a separate volume on research and development. Altogether R&D represents about a quarter of public science and technology expenditure, and the 2000 budget allocation amounts to IR£233 (€96) million. This represents a very significant increase over the actual expenditure in 1999 of IR£148 (€88) million.

The levels of R&D performed in the various Government Departments and their agencies is not the same as the total amounts they fund. An individual Department or

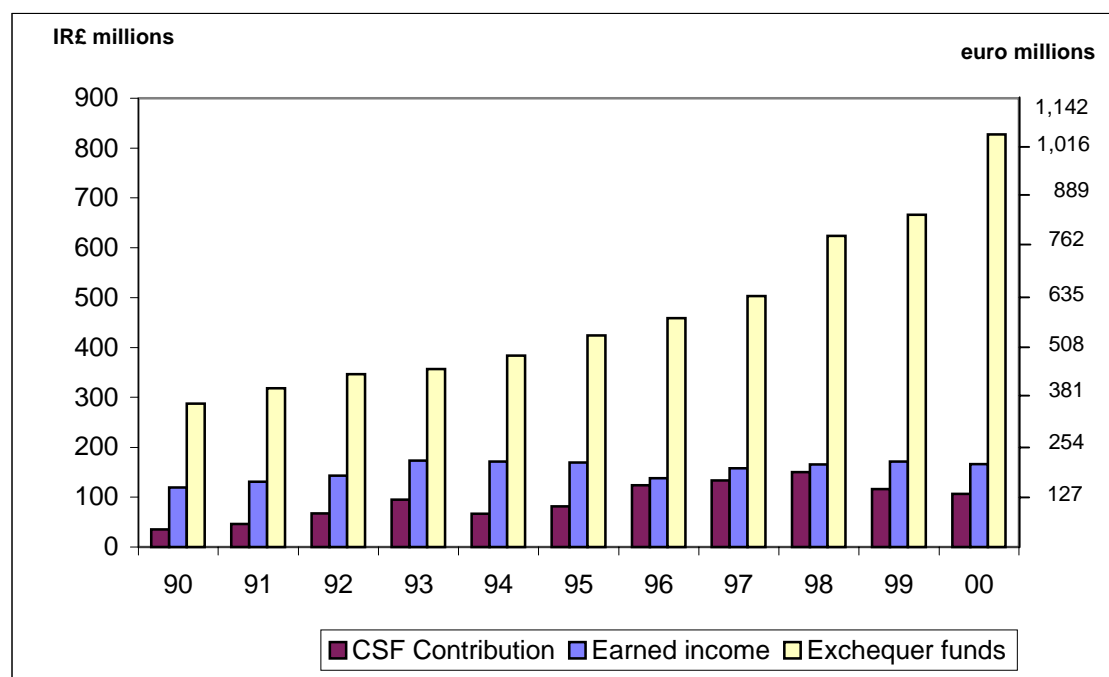
its agencies might perform little or no R&D themselves while providing funding to other performers in either the public or private sectors.

In terms of public *funding*, the Departments and their agencies are allocating IR£233 (€96) million to R&D in 2000, up from IR£148 (€88) million in 1999. Major increases include an allocation of IR£30 (€38) million by the Department of Education & Science to the Higher Education Authority for research in the third level institutions.

The allocation for *performance* of R&D in 2000 is IR£53.9 (€68) million, up from IR£50.3 (€64) million last year. This figure includes IR£11.4 (€14) million which is earned income so that the public funds invested in R&D performed in the public sector amount to IR£42 million (€53 million) in 2000.

Chart 7 illustrates the trends in funding in the recent past.

Chart 7
Distribution of Government Supported S&T by Sources of Funds
(2000 prices)



Source: Forfás State Expenditure on Science & Technology, 2000

Research & Development in the Higher Education Sector Continues to Increase

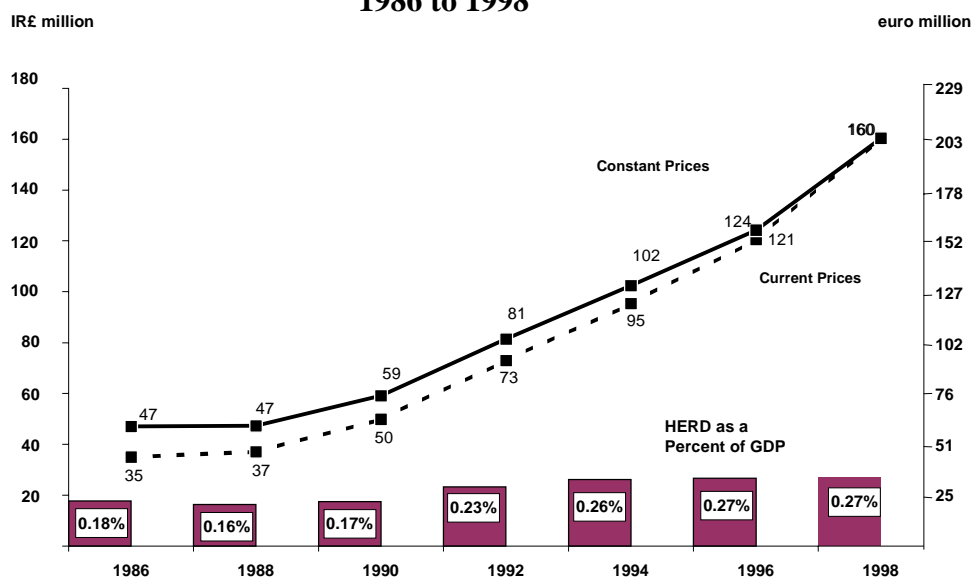
The Forfás *Survey of Research in the Higher Education Sector* shows that expenditure on research amounted to IR£160 (€203) million in 1998 up from IR£121 (€154) million in 1996 and IR£73 (€93) million in 1992. The sector is defined as the universities and the institutes of technology, including the Programmes in Advanced Technologies (in the universities) and the Technology Centres in the Institutes of Technology. This survey comes too early to identify changes associated with major

new funding initiatives for Irish research, namely the Programme for Research in Third Level Institutions and the Technology Foresight Fund.

Among the major findings of the survey are the following:

- Expenditure on research in the higher education sector (HERD) amounted to 0.27 per cent of GDP in 1998 (0.31 per cent of GNP), compared to the OECD average of 0.37 per cent of GDP.
- Although all fields of science experienced real increases in expenditure in the six-year period to 1998, there were significant developments in the natural sciences and the social sciences. Expenditure on research in the natural sciences increased in real terms by IR£24.1 (€30.6) million between 1992 and 1998 and social sciences research increased by IR£20.7 (€26.3) million over the six-year period.
- Research in the Institutes of Technology doubled between 1996 and 1998, to IR£10.6 (€13.5) million but still accounts for less than seven per cent of HERD.
- Total number of HE researchers (full-time equivalent) was 2,425 in 1998, or 1.5 per thousand of the labour force compared to an EU average figure of 1.8. This compares with a total of 1,886 researchers or 1.37 per thousand of labour force in 1992, and 2,066 researchers or 1.4 per thousand of labour force in 1996.
- The major source of funding for HE research is from public funding which accounts for 66 per cent of the total funding. This is made up of the research component of the block grant to the colleges for their current and capital expenditure (43 per cent of total) and direct government grants administered by various Government Departments and agencies (23 per cent of total).
- Other major sources of funding are EU programmes (16 per cent), Irish business (seven per cent) and foreign sources (three per cent). The contribution of Irish business to HE research remains around seven per cent of total funding. Internationally comparable data indicate that Ireland is slightly above average in this measure.

Chart 8
Higher Education Expenditure on Research & Development
1986 to 1998



Source: Forfás Survey of Research in the Higher Education Sector 1998

MAJOR ISSUES FOR 2001

Some of the issues which will be important for economic development and therefore for Forfás in 2001 are considered in this section under the following headings:

- *Future of Enterprise Development*
- *Competitiveness*
- *Regulation & Competition*
- *Science Foundation Ireland*
- *European Research Area*
- *Trade*
- *Regional Development & Infrastructure*
- *Electricity*
- *Future Skills Needs*
- *Telecommunications & e-Business*
- *EMU*

Future of Enterprise Development

By any standards the Irish economy has been transformed with the last six years of strong economic growth. High growth rates have reduced many of the country's traditional economic problems, namely high unemployment, involuntary emigration, and spiralling government debt. The industrial sector has been the major driver of this recent growth by achieving sustained and significant growth in output, exports and employment at a rate well above that of any of the world's developed economies.

However, as a small, open economy, Ireland is more exposed than most economies to changes in the international environment. While the external economic environment has been relatively benign for the past decade, this cannot be assumed for the future. The degree of moderation of growth of the US economy and the extent of recovery of euro-zone economies present the most uncertainty. Growing infrastructural bottlenecks are becoming apparent within the economy. Similarly, with a slowing of the natural increase in the labour force and the reduction in the rate of unemployment, a sustained increase in net migration will be needed to meet labour and skills shortages and prevent excessive wage inflation. To date, the strength of the economy, low interest rates and the weak euro have shielded the economy from the full effects of these factors.

Liberalisation and the growing use of advanced information and communications technology are accelerating the trend towards globalisation. Over 160,000 people in Ireland are employed in sectors such as software, electronics, and food and chemicals that are strongly impacted by such changes. E-business will affect all sectors of the economy and the emergence of global value-chains will continue to see more lower value-adding, lower skill activities moving to lower cost locations, such as the emerging economies of Central and Eastern Europe. As these countries join the EU, competition will intensify for both trade and investment. The jobs required to replace them must be in knowledge-intensive sectors such as e-Business, which call for a highly skilled, creative and flexible workforce. Enlargement of the EU and the

introduction of the euro will also provide significant opportunities to the enterprise sector in Ireland.

While growth and employment has been strong in all regions, some regions have witnessed over-concentration of development leading to environmental degradation and higher locational costs for both businesses and workers. The successful completion of the National Spatial Strategy⁶, and the identification and elimination of key bottlenecks through the implementation of the National Development Plan, 2000-2006 are required to develop competitive regional-based enterprises.

The challenge for enterprise policy and the enterprise promotion agencies is to continue to adjust policies and activities to support a dynamic in the enterprise sector for self-sustaining growth in the knowledge-based global economy. As the rate of growth in labour supply slows, greater productivity will be required if moderate growth rates are to be sustained in to the future. The report *Enterprise 2010 – A New Strategy for the Promotion of Enterprise in Ireland in the 21st Century*, published in 2000 cover these issues in detail and is summarised later in the report under Forfás Activities in 2000.

Productivity growth (output per person employed) will have to come from both shifts in employment towards higher value added activity and from increasing the productivity of existing employees in all sectors of the economy. While employment growth will continue to be an important objective for the development agencies over the next decade, more importantly, the agencies will increasingly target a sustained increase in productivity growth in the internationally traded sector.

If the overall national target of three per cent productivity growth is to be achieved, productivity growth of approximately seven per cent per annum in the internationally-traded sector which is in line with recent performance, and productivity growth of approximately two per cent per year in local services and public administration, which is double recent performance, will be required.

The report advocates policies to ensure the enterprise sector remains the main engine of economic growth over the next decade.

To achieve this, it will be necessary to

- Acceleration of the shift towards high-growth, high-tech, high-productivity activities and a shift from production-type activities to services-type activities;
- A gradual shift in employment to higher value-added sectors;
- An increase in labour productivity in existing firms;
- A continuous upgrading of the educational skills profile of the workforce;
- A deepening of the R&D base of R&D performing firms;
- Reversing the trend of concentration of economic activities in major urban centres to achieve more balanced spatial development;

⁶ Work on designing the National Spatial Strategy is now well advanced. A scoping and background research phase has each been completed and phase three involving the preparation of detailed policy papers has commenced. Completion of a final report is anticipated for the end of 2001. This report is expected to provide a new framework for strategic spatial planning in Ireland.

- A shift in development agency assistance from "capacity" support for employment creation and fixed asset investment to "capability" support in areas such as human resource development, R&D, marketing and market development within an overall business development framework articulated by each firm which receives Government support.

These targets can only be achieved in tandem with improvements in the overall business environment. Such improvements include:

- Undertaking a comprehensive programme of regulatory reform, especially in the areas of business services and public transport;
- Improving the funding opportunities available to SMEs and emerging high technology companies by encouraging greater competition in the banking market, and increased technology appraisal capability in the investment community;
- Maintaining continued control of Government expenditure to keep the burden of taxation as low as possible;
- Supporting a greater commitment to Research and Development and technological innovation by the enterprise sector;
- Investing in dramatically improved infrastructure, especially roads, transport systems, environmental services, broadband telecommunications, air services and energy;
- The formulation of a national spatial strategy;
- Engaging in necessary institutional reform and, in particular, in the area of the planning physical process to ensure effective implementation of infrastructure projects.

All of these activities have a potentially positive impact on the potential productivity performance of enterprise. However, effective implementation will require sustained commitment and a further significant development of the management and delivery capacity of the public administrative system in Ireland.

Competitiveness

Competitiveness between countries depends not so much on how those countries compete with each other, per se, but on how the firms located in them can compete on global markets. Thus it is a question of the economic environment of each country, the institutional and infrastructural framework that forms the basis for company-level competition. Firms require inputs of skilled workers, up-to-the-minute technology, finance and services if they are to produce their output. Also, they need to be able to act freely in a competitive market if they are to sell their output successfully. A purely free market is not the ultimate goal of competitiveness policy.

Competitiveness is also affected by exchange rate movements, which have the effect of changing the relative costs of production compared to other countries and thus the relative prices of goods and services on international markets. These effects have been notable in Ireland in the last year in particular, with the weakness of the euro compared to other currencies, including the US dollar and sterling. Thus, for instance, enterprises exporting principally to the UK have been more competitive on this

market, while Irish enterprises depending on materials sourced from outside the euro zone have seen an increase in their costs.

The National Competitiveness Council has identified a number of competitiveness priorities. The benefit of this is to maintain a clear focus on areas in which action is required. Priorities for action are based on expert discussion and analysis and can change as need arises. Currently, the areas of skills provision, transport infrastructure (including public transport), competition and regulation (including telecoms and electricity), and the environment are among those requiring immediate attention. The National Competitiveness Council brings its influence to bear on these issues through its published recommendations and discussions with Government departments and Ministers.

The National Competitiveness Council believes that social partnership has been a factor of enormous importance in Ireland's recent surge of economic growth, both in term of releasing productive capacity and in terms of ensuring that the fruits of economic success are distributed throughout society.

Other issues which will be focused on from competitiveness perspective in 2001 include the world of the small business, inflation, and fulfilling Ireland's commitments under the Kyoto Protocol. The National Competitiveness Council will publish its annual international benchmarking exercise – the Annual Competitiveness Report and also the Competitiveness Challenge document, highlighting particular action which needs to be taken to maintain and enhance Ireland's competitiveness.

Regulation and Competition

Regulatory reform has now moved high on the policy agenda of many countries. Through regulatory reform markets can be made more efficient, providing consumers with a wider choice of goods and services at a lower cost. Regulatory reform can ensure a simplified and stable environment for enterprise, enabling investment decisions to be taken with more certainty and facilitating operational decisions. Through regulatory reform, administrative procedures are simplified, and the interaction between individual businesses and Government becomes more efficient. In turn, Government policy reflects more quickly the needs of enterprise and the changing pressures of globalisation. A further important theme in regulatory reform is the need to ensure increased competition and consumer focus in industries that, because of their network nature, make market entry difficult, such as electricity, telecommunications and transport. These industries, traditionally state owned, are being privatised in Ireland, and in other countries, raising new issues for policy and the need to ensure low prices and high quality when constraints still exist on full competition. Regulatory reform also embraces the question of government itself: the ability of administrative systems to identify problems to determine policy responses, and to ensure high quality and speedy implementation.

Considerable progress has been made in Ireland on a number of fronts in the broad area of regulatory reform, including the development of the Competition Authority and the setting up of regulators in telecommunications, electricity and aviation. New regulators are also in preparation for the security industry and for financial services.

The Taoiseach's action programme on regulatory reform, together with the strategic management initiative in the civil service, represent significant steps forward.

Forfás has been closely involved in the development of policy in this field, and has, inter alia, developed the NCC statement on regulatory reform, published in July 2000, as well as encouraging and supporting the major initiative now underway on the part of the OECD, who are conducting a review of regulatory reform requirements in Ireland at the request of the Government. This study is expected to be completed in the first half of 2001. It will constitute a comprehensive overview of regulatory reform requirements in Ireland, and covers Government capacities, market openness, and sectoral issues, among others. Forfás work will concentrate on further investigation of issues identified and emerging from the OECD study, with a particular emphasis on sectoral issues and on issues of Government's capacity to accommodate changing policy requirements and to implement initiatives needed in the regulatory field to ensure sustained competitiveness.

Science Foundation Ireland

In 2001 Forfás will complete the launch of Science Foundation Ireland with the appointment of the Director General and key technical and administrative staff. The momentum developed in 2000 will be further developed with the announcement of new initiatives aimed at establishing Ireland as a centre of research excellence in niche areas of Biotechnology and Information and Communications Technology (ICT).

In February 2000, in a response to the recommendations of the ICSTI Technology Foresight Report, the Government decided to establish a Foundation to administer a Technology Foresight Fund providing up to IR£560 (€711) million over the seven-year period of the National Development Plan (2000-2006). The investment would be in excellence in basic research, particularly in niche areas of ICT and Biotechnology, to drive economic competitiveness in the longer term.

Science Foundation Ireland, the *National Foundation for Excellence in Scientific Research*, was subsequently established under the Forfás legislation, to administer the Fund.

The momentum set by the first international Call for Proposals by SFI in 2000 will be maintained. The Call seeks to fund a small number of internationally recognised outstanding experts drawn from the Irish or international research committees. In the first quarter of 2001, the result of the Call will be decided by international peer review using postal reviews, assessment committees and finally the judgement of the Board. Following on this, there will be negotiations with the successful Principal Investigators.

The first Call is aimed at establishing an international reputation of the new Foundation for outstanding research excellence in niche areas of Biotechnology and basic Research at an international level in a research area that is fundamental to the advancement of science in Biotechnology and ICT. They will also have demonstrated an ability to lead and manage a world class research team. The programme of work

proposed must demonstrate the potential to make a major contribution in the chosen area.

In February, the first of a number of major new initiatives will be put before the two high level advisory panels one in Biotechnology and one in ICT. These draft new initiatives which have been developed in close cooperation with IDA Ireland and Enterprise Ireland will focus on developing for Ireland a reputation in basic research in selected areas of relevance to economic development.

Work on a baseline study on publicly supported research in Ireland in ICT and Biotechnology is being carried out. This will facilitate a future evaluation of the contribution made by SFI.

In excess of 80 proposals were received from researchers from Ireland and abroad. It is anticipated that the peer review process will be completed and that initial awards will be made in early 2001.

Preparations are under way, with the assistance of national and international experts, and the enterprise development agencies, for important new initiatives, which will be announced in the first quarter of 2001.

European Research Area

“Research activities at national and Union level must be better integrated and co-ordinated to make them as efficient and innovative as possible, and to ensure that Europe offers attractive prospects to its best brains.”

With these words, the Lisbon European Council of March 2000 gave the green light to a new approach - the development of a European Research Area. This approach is intended to do much more than simply allow national and Community policies run in parallel. The objective is to go beyond the present structure of '15 + 1' elements, which results in the fragmentation of Europe's research effort, to a more coherent implementation of the actions of Member States at the national level and of the European Union within the Framework Programme for Research and Development.

The European Research Area is about creating a climate of top research throughout Europe based on common approaches and objectives. Ireland, as party to the Lisbon Summit Conclusions, will be involved in the development of measures to improve the mobility and training of researchers. Ireland will also be involved in the benchmarking of national research policies in relation to the following themes : human resources in RTD; public and private investment in RTD; scientific and technological productivity; impact of RTD on economic competitiveness and employment.

Trade

As negotiations on trade liberalisation at the World Trade Organisation are unlikely to restart until mid-2001, a window of opportunity exists to re-examine Ireland's international trade priorities from an enterprise perspective. In conjunction with the

Department of Enterprise, Trade and Employment, IDA and Enterprise Ireland, Forfás is planning a jointly run web-based industry consultation process to determine the priorities of Irish industry in the new round. It is planned to initiate the consultation process in February 2001 with its completion scheduled for May 2001. Other WTO-related priorities include the need to examine likely end-scenarios of the upcoming round of WTO negotiations, and to assess the implications of each scenario for industrial policy and for enterprise activities in Ireland.

The share of trade in commercial services in total global trade, as well as in Irish trade, is rising steadily. Further liberalisation of services trade, together with the proliferation of advanced information and communications technologies will likely reinforce the “internationalisation” of global service industries over the coming years. Ireland is in a strong position to tap into the growing global market in tradable services. In 2001, Forfás will examine the forces driving the internationalisation of the services sectors throughout the world, and identify the policy response required to ensure that Ireland derives the maximum benefit from this process.

Outward direct investment (ODI) is often the most efficient delivery mechanism for overseas sales of many business, professional, and technical goods and services. As the Irish economy becomes more advanced, outward direct investment flows will increase, and may eventually overtake inward direct investment flows into Ireland. It will be important to establish a process to monitor the scale and character of outward direct investment flows, and to continually monitor the impact that ODI has on the Irish economy. Other important trade-related projects for 2001 will include a study on the impact of EMU and EU Enlargement on Irish trade patterns, an assessment of the export performance of Irish indigenous industry and e-Business and trade. The International Trade and Investment Report 2001 will be published in June.

Regional Development and Infrastructure

While the provision of improved economic infrastructure will be a long-term process, there is a need to ensure that priority is given in the allocation of resources, to those projects that will overcome weaknesses in installed infrastructure that are impacting most on the competitiveness of the enterprise sector. The completion and effective utilisation of the Forfás regional database of the economic and social infrastructures in each of the key centres in the country should be a valuable resource for this work. Populating the database with information on physical and social infrastructure plus the existing enterprise base for the largest centres will enable construction of comprehensive infrastructure profiles for these locations. The completed profiles will contribute to policy formulation with respect to enterprise location, regional development, and infrastructure investment and will be inputted to the National Spatial Strategy, currently being devised by the Department of the Environment and Local Government.

Identifying barriers to the quick and effective provision of infrastructure in the regions and devising appropriate recommended actions will also be critical. These barriers will take a variety of forms including: insufficient local demand, inadequate private investment, local opposition and planning objections, or regulatory and institutional impediments. Addressing barriers to the improved provision of adequate electricity

and gas infrastructure in the regions to meet the needs of enterprises are likely to take centre stage in the first half of the year.

Clearly, establishing what infrastructures are required and where, identifying priorities and encouraging appropriate investment, while co-ordinating this activity with the regional development strategies of the development agencies (IDA Ireland, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta) will be a key task.

Finally, effective implementation of the National Development Plan (NDP) 2000-2006 will have a very strong influence on the provision of necessary infrastructure. Positive initiatives with respect to implementation already include the creation of a special Cabinet Sub-Committee on infrastructure and public private partnerships and the publication of best practice guidelines for project delivery. Two reports from a Cross-Departmental team which supports the Cabinet Sub-Committee has documented good progress in commencing key NDP projects. In the coming year, Forfás will monitor the implementation of the NDP and especially those projects most likely to impact on enterprise development. In addition, it will also help identify barriers to implementation and recommend appropriate solutions through its participation on relevant Committees and Working Groups and as part of its work with the Department of Enterprise, Trade and Employment and the industrial development agencies.

Electricity

Work on energy requirements of Irish business and, particularly, in the case of electricity was an important issue during 2000 and further analysis and recommendations will be a key priority in 2001. The pace and scale of expansion of the economy in recent years has reduced the size of the country's electricity reserves and created a requirement for new power stations and expansion and improvement of the transmission and distribution infrastructure. As a result, Forfás held a series of meetings with the ESB, the Transmission System Operator (now known as EirGrid), the Department of Public Enterprise (DPE) and the development agencies to assess the implications for the enterprise sector and regional development. Accelerating the planning, upgrading and development of the transmission and distribution networks in the country, in particular in the BMW region is critical to the enterprise promotion efforts of the development agencies in the regions.

Future Skills Needs

Skills and particularly the availability of high-tech skills are being universally seen as the key drivers of growth in developed economies. The Expert Group on Future Skills Needs was established to address exactly this issue. In 2001 the areas which it will focus on will include:

- How to encourage a higher active participation of the "over 55s" in the Irish labour-force;
- Review of the IT skills requirements in the national economy;

- The labour demand and supply in the Construction Sector and how it can meet the objectives of the National Development Plan;
- The need for the supply of researchers to fill the R&D skill requirements both in the private and academic sectors; and
- Issues associated with the overall supply and demand within the national labour market.

The Expert Group will actively pursue the recommendations in the Second Report of the Expert Group on Future Skills Needs and the recently published reports on the In-Company Training and e-Business. As the national demographics change and the decline of entrants into the 3rd level education system begins to bite there becomes an urgent need to look at alternative sources of labour supply. The Expert Group during 2001 will focus on some of these areas including targeted immigration, "over 55's" labour force participation and drop out rates (as well as the low student participation in technical subjects) at second level. This work will be critical as the international market for skilled labour becomes increasingly competitive and the demand for skills in the Irish economy rises.

Telecommunications and e-Business

Ireland's telecommunications infrastructure, service, and cost competitiveness has improved significantly relative to leading countries since liberalisation of the market two years ago. To continue the progress made to date, the key priorities for 2001 include:

- Strong emphasis on promotion of new technologies such as Third Generation Mobile, Digital Subscriber Line technology (DSL) and Digital TV services;
- Implementation of effective full physical unbundling of the local loop⁷ to drive competition in the market, further price reductions and the provision of new services (DSL);
- Acceleration of the roll-out of telecommunication infrastructure with the introduction of legislation to speed up its deployment, the development of a common set of local and planning authority guidelines, and funding under the National Development Plan in order to ensure the regions have the potential for e-Business development;
- The adoption of a strategic approach to the granting of Next Generation Mobile Licences to promote social inclusion and to bolster Ireland's competitiveness in mobile commerce;
- The introduction by operators of flat-rate Internet charges for 'always-on' high-speed access.

The adoption of information and communication technology (ICT) and e-Business became essential for many enterprises during 2000, and their continued competitiveness in 2001 will depend on how effectively they can use these technologies to build on their existing competitive advantages. Given the dynamic nature of e-Business, Ireland must continue to achieve ambitious targets if Ireland is

⁷ Local Loop Unbundling: Allows other telecommunications companies and service providers to access the former's incumbent's local network and provide services directly to the public.

to meet its objectives of becoming an 'e-Business hub'. The priorities for 2001 include:

- Encouraging the setting of clear deadlines for the implementation of e-Government policies and projects, and for progress reports to be published on a quarterly basis;
- Emphasising the need for all government procurement and forms to be capable of being completed on-line by mid-2001;
- Developing effective in-company training programs, greater emphasis on the use of ICT in second and third level education, and the wider adoption of ICT in society are necessary, if the skills shortages constraining e-Business development are to be addressed;
- Investment by enterprises in training in both technical and business skills if they are to be successful and take advantage of e-Business.
- The NCC recommended that a Cabinet Committee be appointed, supported by a high level advisor, to act as an advocate within the public administration and in society and to drive implementation of the actions required.

EMU

2001 sees the final build-up to the full changeover to the euro on 1 January 2002. With the introduction of euro notes and coins on €day (1 January 2002), 2001 is a critical year for Irish businesses and provides the final opportunity for firms to make the necessary preparations to ensure that they will be able to transact business in euro from that date. While much progress has been made, a considerable degree of complacency continues to exist and it appears likely that a significant number of businesses are likely to leave their changeover arrangements until the latter half of 2001. This in turn could lead to increased competition for key services, for the example in the area of IT and accounting and finance to assist with the changeover.

The message for the Irish business community is clear – the euro is a reality and from €day you must be prepared to operate in euro. The earlier that planning for this reality begins, the smoother and more cost effective the changeover is likely to be.

The retail sector is at the heart of a smooth changeover to the new single currency and will provide the majority of consumers with their very first experience of the euro in early January 2002. The period of dual circulation when the euro and the IR£ will circulate alongside each other will create special difficulties for retail firms in particular. They will be in the front line during the changeover process and will play a key role in facilitating acceptance of the euro among consumers. Ensuring that all retailers make the necessary preparations to ensure that the changeover will be effected smoothly and efficiently in the Irish economy will be a key task for Forfás.

FORFÁS ACTIVITIES IN 2000

The work performed by Forfás in 2000 can be classified under three headings

- Policy
- Coordination
- Monitoring & Review

During the course of the year Forfás prepared policy recommendations on a diverse range of issues influencing the development of enterprise, trade, science, technology and innovation in Ireland. Some of these recommendations were formulated in partnership with other bodies established by the Government and included *the Expert Group on Future Skills Needs*, the *Irish Council for Science, Technology & Innovation* and the *National Competitiveness Council* for each of which Forfás provided research support and secretariat. An outline of the work is provided below.

POLICY

Forfás, as part of its 2000 Work Programme prepared policy recommendations on a variety of issues including the following:

- *Enterprise Development*
- *Competitiveness*
- *Science, Technology & Innovation*
- *Trade*
- *Infrastructure Priorities in the Regions*
- *Regional Database of Infrastructure*
- *Skills*
- *e-Business*
- *Telecommunications*
- *Dynamics of the Retail Sector in Ireland*

Enterprise Development

In January Forfás published its long-term strategy for the development of the enterprise sector, '*Enterprise 2010 – A New Strategy for the Promotion of Enterprise in Ireland in the 21st Century*'. The Report concludes that with labour force and employment growth likely to slow to two per cent per annum over the next decade, productivity growth of three per cent each year will be required to sustain a GNP growth rate of five per cent per annum to 2010.

Achieving this will require the following:

- Acceleration of the shift towards high-growth, high-tech, high-productivity activities and a shift from production-type activities to services-type activities;

- A gradual shift in employment to higher value added sectors and an increase in labour productivity in existing companies;
- A deepening of the base of companies performing research and development;
- Developing more balanced spatial and regional development;
- Greater emphasis on “capability” support in areas such as human resources development, R&D, marketing and market development.

The report notes that future public policies will need to focus on upgrading the environment for business development and on supporting productivity growth as the operating environment for the enterprise sector will change over the next decade. Tight domestic labour market conditions, reduced Structural Fund support, and increasing global competition are producing new challenges. Institutions, policies and physical infrastructure need to provide a coherent and comprehensive support framework for enterprise so as to develop a high productivity, high value added economy based on world class skills, technology and production systems.

Measures required to create the right environment for enterprise to flourish include:

- A comprehensive programme of regulatory reform, including the areas of business services and public transport;
- The funding opportunities available to small and medium sized enterprises need to be improved by encouraging greater competition in the banking market;
- Continued control of Government expenditure needs to be maintained to keep the burden of taxation as low as possible;
- Alternative forms of remuneration, such as profit sharing and share option schemes, need to be developed and more widely adopted;
- A greater commitment to research, development and technological innovation by firms must be promoted and encouraged;
- Accelerated investment in high-quality, efficient infrastructure requires to be sustained over the period of the next National Development Plan;
- Institutional reform of the planning process needs to be quickly put in place to ensure effective implementation of infrastructure projects.

Turning to the promotion of enterprise development in Ireland over the next decade, Forfás made the following recommendations:

- The national budget for expenditure on enterprise development requires to be reduced in line with EU State aid guidelines, with a reduced level of promotional activity as full-employment is achieved and with improvements in the business environment in Ireland;
- The proportion of financial support for promotional purposes allocated to improving business “capabilities” of firms in indigenous industry should be increased from 40 per cent in 1998 to 65 per cent in 2003;
- Fifty per cent of all new greenfield foreign direct investment should be located in the Objective One region to achieve a greater spatial balance;
- Business expenditure on R&D needs to be increased as a percentage of GDP from 1.11 per cent at present to two per cent by 2010, with a doubling of the number of firms which undertake significant R&D activity over the period;

- Training expenditure for all enterprises as a proportion of labour costs needs to be increased to the best international practice of three per cent to five per cent by 2010.

Competitiveness

As Forfás acts as secretariat for the *National Competitiveness Council*, which reports directly to the Taoiseach, much of the work done on competitiveness has been under this heading. The 2000 editions of the Council's flagship publications, the *Annual Competitiveness Report (ACR)* and *The Competitiveness Challenge*, were published in May. The ACR provides a statistically based view of Ireland's competitive position relative to other countries, ranking Ireland's performance on 160 indicators across the competitiveness priorities. The *Challenge* presented 31 policy recommendations designed to maintain and enhance Ireland's internal competitiveness. The recommendations covered the areas of social partnership, people, costs, infrastructure, telecommunications and e-business, competition and regulation, science and technology, and public sector institutional capacity.

Other reports published by the Council in 2000 were as follows: *Proposals on Transport Infrastructure, the Planning Process and Public Transport*, which focused on tackling barriers to the implementation of projects under the National Development Plan; *Statement on Telecommunications, e-Business and the Information Society*, which, working from the explicit objective that Ireland should be an international hub for e-business, presented regulatory and policy actions required in the areas of telecommunications infrastructure and the full adoption of information and communication technologies by both private and public sectors; *Statement on Regulatory Reform*, which focused on how competitiveness potential can be released and enhanced through appropriate market regulation; and *Statement on Labour Supply and Skills*, which looked at means to increase labour supply, for example through increased female participation and immigration, and to enhance the skills base of the economy.

A group of six Assistant Secretaries, all advisors to the National Competitiveness Council, has been convened under the Chairmanship of the Department of the Taoiseach to monitor the implementation of Council recommendations. The other Departments represented are Finance, Enterprise, Trade & Employment, Public Enterprise, Environment & Local Government and Education & Science. The secretariat for this group is provided by Forfás.

Science, Technology and Innovation

In the area of Science, Technology and Innovation, Forfás is advised by the Irish Council for Science, Technology and Innovation (ICSTI). The major issues arising from the work of the Council during the year are as follows:

Council Task Forces

The Council implements its work programme through the establishment of Task Forces to deal with agreed priority topics. On completion of work on one of the

priority issues, the next priority from the remaining list is agreed and a project initiated.

In the period 1999/2000 Task Forces were established to deal with the following agreed priority issues as follows:

1. *Biotechnology* (Rapporteur: Professor Emer Colleran, National University of Ireland, Galway, former ICSTI Member).

The objective of the work of the Biotechnology Task Force was to prepare advice for the Council on policies related to modern biotechnology issues relevant to Ireland. Biotechnology is an enabling technology with implications for many areas of business and medicine that are very important to the economic growth of the Irish economy and the wellbeing of Irish society. It is a critical technology for the future. This was highlighted in a number of the Technology Foresight Panel Reports.

The *draft Report on Biotechnology* prepared by the Task Force seeks to provide a scientifically credible, impartial and clear document which identified some of the main public concerns about modern biotechnology, while highlighting potential benefits and risks of its application.

This draft Report discusses these issues of public concern, including antibiotic resistance genes and virus genes in genetically modified plants, biotechnology in food production, gene therapy, biotechnology in crop production, biotechnology for bio-remediation of contaminated sites, patents and patenting and genetic testing.

The draft is currently being commented on by external experts.

2. *Commercialisation of Publicly-Funded Research* (Chaired by Dr. Alva DeVoy, Member of ICSTI and KBC Asset Management Ltd.).

The Commercialisation of Research Task Force will submit its report entitled *Commercialisation of Publicly-Funded Research* to Council in February 2001 for ratification. The evidence is that the resources currently devoted to commercialisation of publicly-funded research are inadequate relative to the opportunities. In order to develop a positive environment for commercialisation, both a supportive framework and incentives are required.

The draft report makes recommendations aimed at improving the means, circumstances and conditions for the transfer and commercialisation of publicly-funded research activities and outcomes in higher education and public research institutions.

The Council has identified a need for Government Departments and agencies to support commercialisation, and for research institutions to give it management backing. The adequate resourcing of industrial liaison offices is essential. Training and awareness for researchers of the opportunities available are central if these

opportunities are to be taken. There are funding issues which need to be addressed, particularly for the early stages of commercialisation.

3. *Sixth EU Framework Programme of Research and Technological Development (RTD) and Demonstration: Preparation of a National Position* (Chaired by Prof. Jim Browne, Member of ICSTI and Director of CIMRU, National University of Ireland, Galway)

The Office of Science and Technology asked ICSTI to assist in the preparation of a national position in respect of the Sixth EU Framework Programme of RTD. FP6 will be implemented from 2002 to 2006. Each EU Framework Programme sets out the priorities for the EU's RTD activities usually for a period of five years. The research priorities are identified on the basis of a set of common criteria reflecting two major concerns: increasing industrial competitiveness and improving the quality of life of the EU's citizens.

Within these objectives, the Framework Programme enables organisations in Ireland, in partnership with organisations in Europe and beyond, to compete for funding for research projects for which the main selection criterion is scientific and technical excellence.

In the development of a national position for Ireland, a number of policy issues were considered. These covered enterprise competitiveness, embedding the multi-national companies, skills shortages, exposure to international RTD, networks of excellence, academic-industry linkages, alternative national funding mechanisms.

A number of areas for action were identified. These concentrated not only on those areas of ICT and Biotechnology clearly identified by Technology Foresight Ireland as key strategic and pervasive technologies for the future, but also on many other key technologies also identified by the Foresight exercise where the development of critical mass and expertise was seen to be an essential requisite to strengthen the national RTD base and to ensure sustainable competitiveness and productivity across important economic sectors. These included RTD related to the competitiveness of materials, advanced manufacturing and services; developments in areas which will contribute to the knowledge economy and the citizen; strategic technology areas for both the chemicals and pharmaceuticals sectors; research topics within the areas of food quality, safety and regulation; the exploitation of biotechnology research in the areas of genomics, bio-materials and nano materials; key technologies towards the management of energy and protection of the environment; and the continuance of socio economic studies for the mobility of people and goods already commenced in the Fifth EU Framework Programme.

The Report, which was submitted to the Office of Science and Technology in December, reflects not only the outcome of Council discussions, but also the result of consultation with the major players such as the third level colleges and selected Government agencies.

4. *Public Awareness of Science, Technology and Innovation (PASTI)* (Chaired by Mr. Colum MacDonnell (Member of ICSTI and formerly Irish Exporters' Association)).

The PASTI Task Force was established to make recommendations on policies to improve the public perception of science, technology and innovation and to help meet the needs of industry for people with science and engineering skills. At a time when science and engineering are increasingly impacting on all aspects of life, it is important that all sections of the population should have at least a minimal appreciation of the reasons for this influence. This could help to contribute towards a better understanding of some of the science-related issues which arise from time to time.

At the request of An Tánaiste, the Task Force was asked to bring forward a proposal for the establishment of a Science Centre in Ireland. The Task Force completed this work with a report to Council in July. This proposal, which was subsequently presented to the Tánaiste, recommends that the Government establish a Science Centre in Ireland comprising one major facility in Dublin and two smaller centres, one in Galway and one in Cork.

The regional centres are recommended to be complementary facilities, reflecting their local context as well as the universal principles of scientific endeavour, and not scaled-down versions of the Dublin centre.

A recurring theme in the discussions around the public's awareness of science and technology has been the issue of a Centre for the Teaching of Science. In considering this issue, the Task Force recognised that individual colleges have introduced programmes to address the issue of science education. With this in mind, the Task Force is in the process of undertaking a survey with a view to building a map of Ireland's resource pool in relation to science education.

Additional Work of ICSTI

During the year, ICSTI explored ways to enhance a new alliance between the arts and the sciences. These interactions were carried out under the aegis of a Steering Group established in Spring 1999, consisting of two members nominated by the Arts Council and two members nominated by ICSTI, assisted by members of the executive of both Councils. This work is ongoing, The Arts Council was represented by Mr. Seamus O'Conneide and Ms. Siobhán Ni Eanaigh (subsequently Ms. Jane O'Leary) and ICSTI was represented by Ms. Ann Riordan, Microsoft Ltd. and Mr. Brian Trench, Dublin City University.

Trade

The first *International Trade and Investment Report* was published by Forfás in December. The purpose of the report, produced at the request of the Department of Enterprise, Trade and Employment, is to monitor trends in Ireland's overseas trade and direct investment patterns, to place these developments in an international context, and to raise issues worthy of policy discussion. It is intended that the report will, over time, become an important reference tool for policy makers involved in

trade and direct investment issues. Publication of the report followed consultations with the Department of Enterprise, Trade and Employment, IDA Ireland, Enterprise Ireland and the other export promotional agencies.

A growing share of Irish trade is conducted with countries outside the Single European Market, and is therefore governed by multilateral agreements under the auspices of the World Trade Organisation (WTO). Upcoming trade negotiations at the WTO will, potentially, have a major impact on the Irish economy. Forfás continued to monitor developments at the WTO from the perspective of Irish industry. WTO position papers were presented on a number of issues, including E-Business and Trade. Forfás also continued to advise the Department of Enterprise, Trade and Employment on all WTO-related disputes that potentially affect industry in Ireland, particularly the U.S.-EU dispute over “Foreign Sales Corporations”.

Reducing Ireland’s trade dependence on traditional export markets is an important goal of Irish trade policy – a goal reflected in Forfás activities in 2000. Over the course of the year, studies were completed on Ireland’s trade and investment links with the following:

- Central and Eastern Europe
- China
- Latin America

The reports on Latin America and Central and Eastern Europe were considered by the Foreign Earnings Committee with a view to considering the appropriateness of Ireland’s existing export promotional arrangements in these regions.

Import market share is the proportion of a country’s total imports accounted for by a particular trading partner. For the trading partner in question, import market share is a good indicator of national competitiveness and demonstrates in a meaningful way the results of efficient production and trade delivery mechanisms. Specifically, import market share analysis can help explain whether a country’s export growth is the result of growing aggregate import demand among its trading partners, or improved competitiveness and export penetration in overseas markets. A Forfás study examined Ireland’s share of imports into four key markets (Germany, UK, Spain and Sweden) across six key exports sectors (Food & Live Animals, Beverages & Tobacco, Chemicals, Manufactured Goods, Machinery & Transport Equipment and Misc. Manufactured Articles). This showed that Ireland’s import market share increased significantly during the 1990s for manufactured products, particularly chemicals and office machinery, although there has been a fall in market share in some markets for more traditional exports, such as food and beverages.

In early 2000, Forfás began a project to examine the nature and scale of outward direct investment flows from Ireland, as well as impact of these flows on the domestic economy. This study revealed that outward direct investment (ODI) flows in 1999 were almost as large as inward non-IFSC related direct investment into Ireland. The work undertaken indicates clearly that ODI by Irish companies is, on the whole, largely beneficial to the Irish economy across a range of indicators. Following a consultation process with the Department of Enterprise, Trade and Employment and the development agencies, Forfás prepared a broad set of policy guidelines on ODI for

the Department and the development agencies. This recommended that a positive approach towards ODI be adopted in the formulation and implementation of policies and that outward investment by Irish companies be facilitated through an extension of Ireland's network of Double Taxation Treaties as well as through non-financial assistance for ODI from the enterprise development agencies.

In mid-2000, Forfás completed a study on latest developments in the internationalisation of the Irish services industry. Following on from the *Enterprise 2010 – A New Strategy for the Promotion of Enterprise in Ireland in the 21st Century* and *International Services Strategy 2007* (Enterprise Ireland) reports, this study looked at the export performance of the Irish service sector and the quality and reliability of service-sector statistics. The study highlighted the growing importance of services exports to the balance of payments, and the need for more detailed statistics on trade in services.

Infrastructure Priorities in the Regions

Infrastructure has become an important focus for policy as inadequacies in the scale and quality of economic infrastructures have begun to impinge on the effective working of the economy. The pace and extent of economic growth over the last six years has seriously exceeded the capacity of most existing infrastructures and especially those related to transportation and energy. In response, the Government has committed over IR£10 (€12.7) billion in the *National Development Plan (NDP)* for investment in roads, public transport, environmental services and energy.

Regions and centres that do not possess an adequate volume and quality of supporting infrastructure such as roads, telecommunications, electricity, water and housing will inevitably experience difficulties in expanding their enterprise base. During 2000, Forfás continued work that examines the infrastructure priorities required for enterprise development in the regions. This involved extensive consultation with the development agencies and business representatives in the regions to identify the key investments required in their infrastructure. Access infrastructures such as roads and telecommunications which impact on the exchange of goods, services and information emerged as the major priorities for regional businesses.

Significantly, *electricity* also emerged as a key regional infrastructure priority. To meet growth demand, many locations and especially in the BMW region require a substantially upgraded electricity transmission infrastructure in order to support long-term enterprise development. Forfás worked with the ESB, EirGrid, the Department of Public Enterprise (DPE) and the development agencies to identify the critical issues and made recommendations for appropriate responses. The importance of electricity is also linked to the development of gas supplies and gas transmission infrastructure. Modern electricity stations use gas for power generation and so the availability of gas in the regions to support both energy producers and industry emerged as an important concern. A report on these issues was prepared and is to be submitted to Government under the auspices of the National Competitiveness Council early in 2001.

Work on identifying regional infrastructure priorities was assisted by on-going development of the Forfás regional database project. This involves gathering

comprehensive data on physical and social infrastructures in 123 centres with population greater than 1,500, to help establish their potential to support enterprise development and identify their likely long-term infrastructure requirements. To assess the capacity to support industrial development consultations were held with the development agencies resulting in the creation of profiles of the infrastructure needs of different types of enterprise projects ranging from pharmaceuticals to e-commerce. Similar profiles of the infrastructures in towns included in the database are also being constructed as information comes to hand.

Finally, the year also included monitoring expenditure commitments on regional infrastructures under the Operational Programmes (OPs) of the NDP, private sector investments especially in telecommunications and changes in the regulatory and legislative environment likely to impact on the provision of infrastructure.

Regional Database of Infrastructure

Balanced geographical development ensures that economic prosperity is more widely distributed and addresses some of the spatially related social and political dimensions of economic development. National and regional efficiency is also served by taking steps to prevent congested development in a single or small number of regions. In order to facilitate a more efficient spatial distribution of the enterprise sector, the Tánaiste requested Forfás to construct a database of the physical and social infrastructures in the regions. This is intended to help identify the developmental capacity / potential of various locations and regions and pinpoint areas in need of improvement. The project is based on the premise that such infrastructure provides the framework conditions for economic growth, localised development and social progress.

An inter-agency steering group was established and agreed the terms of reference and the strategy for progressing the project. A draft electronic database has been constructed and incorporates several categories of social and physical infrastructure, together with appropriate indicators of their capacity and quality. Extensive contacts have been established with local authorities and providers/operators of key network infrastructure such as roads, electricity and gas, all of whom are providing data to populate the database.

Work is also being undertaken by Forfás Systems Department to design a suitable platform, which would give users immediate access to any piece of data, and to have it graphically presented using GIS mapping techniques.

A pilot project (Phase 1) to gather data for five selected centres (Galway, Ballinasloe, Castlebar, Ballina and Tuam) in the West region has been completed. The project is now being rolled out to over 100 towns throughout the country, including IDA gateway towns, Enterprise Ireland's Webworks towns and other towns of emphasis. A proposal to develop an on-line, Internet based interface to the database is also being progressed by Forfás with funding from the Taoiseach's Information Society Fund.

It is intended that the database will also contribute to the preparation of the National Spatial Strategy which is being undertaken by the Department of the Environment and Local Government, and consultations have taken place with officials in the Spatial Planning Unit in that Department on the construction of the database and the use to which it can be put.

Forfás is also working with the development agencies to co-ordinate and ensure consistency in the regional development strategies of the agencies, one with another.

Skills

Forfás has continued to support the **Expert Group on Future Skills Needs** (“**Expert Group**”) and work continued on the programme of activities agreed at its meeting in February 2000. The Expert Group and various sub-groups have been addressing a number of individual sectors and issues ranging from e-business to the construction sector.

The Expert Group on Future Skills Needs published its *Second Report* on 30th March 2000. The report is wider in scope than its predecessor and analysed the labour market in terms of the availability of labour generally and in the lower skill occupations. It also emphasised the importance of education and training to Ireland’s continued growth. While recognising that other sectors are experiencing skills shortages, the Group selected the following areas for specific study because of their importance to the economy, the severity of labour and skills shortages prevalent in the sectors and the need for longer term planning within the educational and training system:

- The main craft areas of the Construction Industry;
- Chemical and Biological Sciences;
- Researchers; and
- Information Technology

The Group also published a *Report on the Second Forum* of the Business Education and Training Partnership. The Forum, organised in partnership with the Higher Education Authority was opened by Noel Treacy, T.D., and Minister for Science, Technology and Commerce and was attended by 246 attendees representing both the private and the public sectors. Mr Micheál Martin, T.D. and Minister for Education and Science also addressed the forum. Presentations were made on the Skills Needs of the Construction Industry projections for Labour Demand and supply up to the year 2008.

The Expert Group on Future Skills Needs established a number of sub-groups to consider developments which would address the skills crisis in specific sectors. Two reports were published in August 2000 and received extensive media coverage.

E-Business

This report presents the results of research into e-Business skills, and the education and training required to ensure an adequate supply of high quality skilled employees. The report follows on the recommendation of the Forfás policy document *Report on*

E-Commerce that the Expert Group should “examine the multi-disciplinary and e-commerce skills needs of major sectors”

The report recognises that skills shortages provide the greatest threat to the adoption of e-business by firms and advocates that future skills programmes and strategies in firms should focus on providing employees with a mix of skills in business, creative and technical areas to provide a balanced skill base. Further findings of the report are that:

- managers need to fully understand the business implications of e-Business;
- skills of technical staff need to be updated and; and
- there is a major increase in the demand for designers to work on web design

The main recommendations of the report include:

- The development by Forfás, the Department of Education and Science and the HEA, of an e-Business Skills Partnership to encourage interaction between third level institutions and business;
- The promotion by the Social Partnership process of the development of third level e-Business education in the areas where specific proposals have been made by the Expert Group;
- An increased focus, by the Business Schools, on information technology and e-Business related content; and
- FÁS should take a high profile in promoting e-Business awareness to service industries.

In-Company Training

This report was prepared in parallel with a number of other studies, such as those being undertaken by IBEC and FÁS. The report focused on Companies employing under 250 people in the Construction and traditional manufacturing sectors currently subject to particular changes that have a bearing on training needs. Recommendations of the report include;

- The development, by the Department of Education and Science, IBEC and ICTU of a literacy and numeracy initiative suitable for delivery in the workplace;
- An increase in the volume of education and technological training undertaken by operative and craft level staff;
- An examination of methods to regularly survey individual company training needs; and
- The establishment of a national register of approved trainers

National Vacancy Survey

Forfás and FÁS commissioned ESRI to carry out a 1999/2000 Vacancy Survey, which was completed in 2000. The survey indicated a vacancy rate of 6.5 per cent of total labour requirements, which is a 20 per cent increase on the previous year. Other results from the survey were as follows:

- The construction sector experienced the most substantial growth in vacancies and had the highest vacancy rate, at 11 per cent;
- Five broad occupational categories accounted for two-thirds of all vacancies. These were Skilled Maintenance and Production Operatives; Personal Services, Clerical and Secretarial; Production Operatives and Sales Personnel;

- ‘Difficult to Fill’ vacancies experienced in the year preceding the survey showed an increase of seven percentage points, to 33 per cent of respondents;
- A substantial proportion of firms (55 per cent – 11 percentage points higher than the previous year) indicated that as a consequence of labour shortages, they are forced to offer wage and salary levels higher than are the norm;
- In aggregate terms, the incidence of vacancies between Dublin and the rest of the country narrowed somewhat over the period 1998/1999 to 1999/2000, in all sectors except construction, as vacancy rates outside of the Dublin area increased.

These findings underlay many of the analysis and recommendations developed by the Expert Group on Future Skills Needs.

E-Business

As part of its role to encourage and monitor the implementation of the 130 recommendations set out in the Forfás report ‘*e-Commerce – The Policy Requirements*⁸’, Forfás initiated a quarterly benchmarking process to monitoring e-Business developments in Ireland and internationally. Its objective is to monitor:

- the key e-business drivers and developments internationally;
- the relative competitiveness of the business environment in Ireland for e-Business;
- the rate of adoption of e-Business in 11 key sectors of the Irish economy relative to international best practice.

The benchmarking report notes that the Government has acted quickly to a number of policy areas to contribute to the achievement of significant progress including:

- Passage of the e-Commerce Act 2000 and the Copyright Act 2000;
- Formulation of the plans for e-Government (Public Services e-Broker) and the establishment of the Reach team, with the allocation of IR£100 (€127) million over the next three years for Information Society and e-Business enabling projects in the public sector;
- Establishment of MIT Media Lab Europe and Science Foundation Ireland with a fund of IR£560 (€711) million for basic research in ICT and biotechnology areas;
- Significant growth in Support Services such as web hosting/ servers.

However, significant challenges remain, including:

- Ireland lags leader countries in overall ICT adoption;
- The e-Business skills challenge.
- a large variation exists in the adoption of e-Business across the key sectors of the economy with a two-tiered approach apparent in the adoption of e-Business by enterprises operating in Ireland. Multinationals and the larger and/or more technologically literate enterprises are moving to adopt e-Business but Irish SMEs significantly lag their larger counterparts. The issues and challenges faced by both are different.

⁸ ‘e-Commerce: The Policy Requirements’ published in July 1999

VAT on e-Business

Forfás has been actively involved in the development of a VAT regime favourable to the promotion of e-business. Under current VAT rules, digital services supplied by companies based outside the EU, to personal consumers in the EU are not subject to VAT. However, digital services supplied by EU based companies are liable to VAT at the rate applicable in the country of supply. This puts EU based companies at a competitive disadvantage. Irish-based companies would be at a particular disadvantage as the standard rate of VAT in Ireland was 21 per cent (20 per cent from 31 December 2000) compared with other EU countries such as Germany and Spain (16 per cent) and the UK (17.5 per cent).

Proposals to amend the 6th VAT Directive dealing with the supply of electronically delivered services were considered by the EU Commission in June 2000. The Commission proposals encompassed the establishment of a single place of (VAT) registration for non-EU suppliers to private consumers in the EU. However, VAT would continue to be levied at the rate applicable in the country of supply. Supplies of digital services to customers outside the EU, whether business or consumer, would not be subject to VAT. This would benefit Irish-based suppliers that currently have to pay VAT on these supplies.

A study on the issues involved was undertaken by Forfás and the agencies (IDA Ireland and Enterprise Ireland). Forfás recommended that Ireland support the early introduction of a VAT Directive on electronic services, but seek support for a favourable change in the place of supply rules to having VAT levied at the point of consumption. Some European Governments are concerned that the proposed Directive could deprive them of tax revenues and have put forward a compromise which would involve non-EU companies only registering for VAT in one EU country and the VAT being shared across Member States. This idea is similar to the concept of a 'digital distribution centre' previously proposed by Forfás. This concept entails a single place of digital distribution on VAT collection within the EU for companies, VAT being levied at the consumer level and accounted for on a country-by-country basis and the subsequent re-distribution of VAT revenues to the relevant Exchequers.

This matter is also subject to ongoing discussions at EU level and Forfás is monitoring developments. It was also recommended that, in the context of a wider review of tax strategy by Government, a reduction in the standard rate of VAT would greatly benefit the development of the B2C digital distributed content and applications sector. The standard rate of VAT was reduced to 20 per cent in Budget 2001 in response to this recommendation.

Telecommunications

During 1999 Forfás continued to benchmark the competitiveness of the telecommunications market in Ireland and to work with other Government Departments on the implementation of a number of key initiatives. Forfás also prepared and published a 'Statement on Telecommunication, e-Business and the Information Society' under the auspices of the National Competitiveness Council. The Forfás quarterly 'telecommunications benchmarking report' has noted that while the telecommunications environment in Ireland has improved significantly over 2000

for basic telephony services, ISDN and Leased Lines, key weaknesses remain especially with mobile tariffs and the roll-out of new services such as DSL.

Achieving a rapid increase in Ireland's international telecommunications connectivity has been a major priority for the industrial development agencies over the last two years. The Global Crossing project, which Forfás strongly promoted and was a member of the implementation Steering Group, has ensured that Ireland now has sufficient international connectivity to make Ireland attractive to large scale e-businesses such as data centres and co-location facilities.

Progress is being made in developing telecommunications infrastructures in areas where the market is not meeting the needs of businesses quickly. Following a review of regional broadband infrastructure needs by Forfás and the Department of Public Enterprise, the National Development Plan allocated a further IR£150 (€190.5) million investment to regional broadband networks. These funds should leverage significant additional private sector investment.

The second edition of the *'Telecommunications for e-Business: A User's Guide'*, first published in 1999 by Forfás and IBEC, included up to date maps of the existing international, and regional telecommunications infrastructures North and South and those planned to be put in place over the next year. It also explains how advanced telecommunications services can be exploited by business firms.

In 2000, Forfás continued to highlight the significant benefits that local loop unbundling is likely to have for business firms and society. Its effect in the market will be dependent on ensuring that a pro-competitive regulatory framework is in place in which new entrants, investors and the incumbent can have confidence and that the pricing framework is designed in such a way as to ensure reasonable incentives to both Eircom and new entrants. Local Loop Unbundling, effectively implemented, should ensure widespread access to broadband services and increase innovation and customer choice. It will have long term economic benefits for balanced regional development, for increasing the widespread adoption of e-business and for the promotion of the Information Society in Ireland, ensuring that the potential for improved living standards which the digital economy provides is fully realised.

The Retail Sector

Forfás undertook a review of the Dynamics of the Retail Sector in Ireland in consultation with the retail sector and suppliers and distributors in Ireland and internationally. The review analyses the changes underway in the sector and sets out that strategic and operational implications for all those involved, including consumers. It outlines the dynamics of the sector and its role in improving and sustaining competitiveness.

CO-ORDINATION

Forfás works closely with the development agencies on a variety of policy issues to ensure a coordinated approach to the development of policy. As part of its coordination role, Forfás was also involved in a variety of other areas of work during 2000 including the following:

- *Enterprise Areas Scheme*
- *Ask Ireland*
- *Awareness Programmes*
 - *EMU Business Awareness Campaign*
 - *The National Skills Awareness Campaign*
 - *The Science, Technology & Innovation Awareness Campaign*

Enterprise Area Scheme

The Enterprise Area scheme was introduced in the Finance Act 1995 to provide incentives to investors and qualifying companies locating in disadvantaged areas in Dublin, Cork and Galway in order to promote economic development in those areas. The scheme was extended in the Finance Act 1997 to locations in Dublin (Cherry Orchard and Finglas) to Rosslare Harbour and to areas adjacent to the regional airports.

To qualify for incentives, companies must be engaged in manufacturing or computer services. In the case of the regional airports, freight forwarding/logistical services were also eligible.

Enterprise Area certificates are issued by the Minister for Enterprise Trade and Employment, after consulting with the Minister for Finance, on the recommendation of Forfás in consultation with Enterprise Ireland/IDA Ireland. To date, sixty-four certificates have been issued to projects with the potential to create over 8,000 jobs in the various Enterprise Areas.

Ask Ireland

The 'Ask Ireland' website is a government website that provides a single reference point for promoting Irish trade, investment and tourism on the World Wide Web. Launched in 1999 Ask Ireland concentrates on providing a one stop portal to all information of use to people interested in buying Irish goods or services, investing in, visiting or researching Ireland.

A key distinguishing feature is the way in which key overseas-oriented departments and agencies of the State have come together to provide an interactive gateway entry point to thousands of pages of information about Ireland. This is in keeping with the key element of the Government's information society initiative and goes a long way towards meeting the Government's decision to ensure transparency in the services

provided by public institutions. A marketing campaign, commenced in October 2000 has already resulted in an increase in site visits from a wider geographic area.

The Ask Ireland Management Group, based in Forfás, continues to look at ideas to provide better linkages and to ensure maximum complementarity between existing websites of the state agencies and Government departments. Future plans include continued promotion internationally, access to a database of key contacts, site restructuring and a joint project with Enterprise Ireland to make the site more relevant to the business sector

Awareness Programmes

EMU Business Awareness Campaign

The EMU Business Awareness Campaign, which forms an integral part of the Government's National Information Programme on the euro, continued throughout 2000. The production and distribution of information to assist the business community with their preparations for the changeover to the euro continued to be an important function of the Campaign. To achieve this, the Campaign continued to work with a widely representative Consultative Committee and as specialist working groups to examine specific changeover issues for business. Specific attention was paid in the area of the retail sector in determining the needs and requirements particularly of the smaller retailer.

A number of new publications were produced and disseminated by the Campaign in 2000. The Campaign's Information Pack contained three new documents exploring the strategic options available to Irish companies, in particular SMEs, in order to take advantage of the opportunities offered by the introduction of the Euro and the formation of the euro-zone. A more comprehensive guide on the issues entitled "*Strategies for Competing in the Euro-Zone: A Guide for Irish Business*" was also produced. Ireland's Cash Changeover Plan for 2002 was also printed as a new insert for the Campaign's Information Pack, bringing the current number of documents in the Pack to 33.

Information continued to be distributed to the business community through the existing channels that have been established by the Campaign. The Campaign also continued to maintain its database of individual enquirers now totalling almost 8,000 businesses. During the year, the Campaign has circulated 4,589 copies of the Information Pack (overall total 65,483); 8,365 SME brochures (116,323 in total); 1,066 copies of the IT guide (49,799 in total); 1,781 copies of the retail guide 124,090 in total; and 1,258 copies of the document on cross-border trade (31,579 in total). In addition, four issues of the Campaign's newsletter *EuroChange* were produced. 90,000 copies of issue no. 13. (April 2000) 75,000 copies of issue no. 14 (July/August 2000) 85,000 copies of issue no. 15 (October 2000) and 90,000 copies of issue no. 16 (December 2000) were circulated to members of the Consultative Committee, the individual register and the media.

Other information activities undertaken by the Campaign in 2000 included:

- Press and radio advertising campaigns using national newspapers, business journals and specialist publications, as well as national and local radio. A special

LoCall number is advertised within these campaigns which allows callers to ring a dedicated Forfás 'euro-line' for information. More detailed information is provided on the Campaign's help line.

- Survey to monitor the extent of business preparations for the changeover.
- Special supplements on EMU organised in association with national publications and articles supplied on the topic for inclusion in EMU features of other publications.
- Stands at exhibitions and conferences as well as presentations at meetings and seminars of business, trade & professional associations.

The Loughrea Euro Town Project, which is managed as part of the overall EMU Business Awareness Campaign, was further developed and widely publicised during the year. The Project is intended as a demonstration exercise whereby the business community throughout Ireland will learn from the experiences of businesses in Loughrea as the latter change over to euro-based trading on an accelerated basis. Thirty firms are participating in the project and all are now at various stages in implementing their changeover plans. A number of firms have already switched to euro-based trading. Information on the progress of the project participants, their experiences in drawing up and implementing their changeover plans, and in identifying and dealing with the difficulties that they encountered, is posted on the project web-site, which has recently been re-designed (www.eurotown-loughrea.ie).

Science, Technology & Innovation Awareness Programme

The Science, Technology and Innovation (STI) Awareness Programme continued through 2000 with its key messages that science technology and innovation develop leading edge industry and skilled jobs, exciting career opportunities and creativity in our children. These messages are delivered to young people and their parents, industry and opinion leaders through a sustained range of activities such as:

- Science Week Ireland
- The National Innovation Awards
- The National Science & Technology Journalism Awards
- The Irish Innovation Lecture
- National Survey on Public Attitudes to Science & Technology.

In 2000, a number of exciting new activities emerged. Firstly, two major quiz competitions were launched. **Junior Scientist** runs fortnightly in the RTE Guide for 11-14 year olds and asks a range of science and technology teasers. Also a major RTE **Family Science Quiz** was run on the Pat Kenny Radio Show over two weeks in May and challenged the whole family to win an amazing sci-fi holiday to the USA.

In addition, STI went interactive, developing two new websites. www.young-ebiz.com was launched as Ireland's first paperless, e-commerce competition for 15-17 year olds. This competition runs on an All-Ireland basis with the co-operation of the RDS and the Training & Employment Agency in Northern Ireland. This competition invites students to submit a proposal and website for a new web-based business.

www.science.ie, the new interactive STI Website, aims to popularise and spreads the key messages more effectively by becoming a powerful resource about Irish science. In addition to the Programme activities features include competitions, e-bulletins,

links to other relevant sites worldwide and up-to-date information on careers and role models.

Forfás continued to work with the media to achieve increased coverage of science and technology issues. An example of the success of this is the extensive science schedule RTE Radio One produced for Science Week Ireland 2000.

National Skills Awareness Campaign

The National Skills Awareness Campaign continued its programme of activities during 2000 with a number of new initiatives as part of its ongoing task of encouraging school leavers to consider careers in specific sectors.

The campaign, which is managed by Forfás, operates under the aegis of the *Expert Group on Future Skills Needs*. It focuses on the software, electronics, teleservices and shared services industry sector, which involves the centralisation of back-office activities, such as accounting by multinational companies with operations throughout Europe.

The 2000 campaign activities included:

- exhibiting at all of the premier career exhibitions and conferences throughout the year;
- briefings to career guidance teachers;
- a 'traffic stoppers' campaign, which involved distributing approximately 18,500 leaflets, highlighting career opportunities in the four industry sectors, at traffic junctions in Dublin, Cork, Galway and Limerick;
- on-going publication of a number of articles in national newspapers, supplements and magazines, throughout the year.
- Sponsored six career columns in a major magazine;
- Aptitude with Attitude survey was operated on a pilot basis in November;
- Radio interviews were syndicated to key regional radio stations throughout the country over a four week period.

Through its activities during 2000, the Campaign continued to generate high and increasing interest in, and awareness of, the career opportunities available, among our target audience.

MONITORING AND REVIEW

The following were reviewed by Forfás in 2000:

- *The Research, Technology and Innovation (RTI) Initiative*
- *Evaluation of Irish Participation in 'Eureka'*

Evaluation of the Research, Technology and Innovation (RTI) Initiative

The RTI Initiative is operated by Enterprise Ireland on behalf of the Office of Science and Technology and provides grant assistance to Irish companies for product or process innovation through research and development or technology acquisition. The initiative was launched in November 1997 and final approvals were made in November 1999. Total allocations over this period amounted to almost IR£40 (€50.8) million. Financial support for RTI is provided from EU Structural Funds. The evaluation found that the RTI scheme has made a substantial and positive contribution to product and process development in the business sector. Particularly encouraging was the performance of indigenous firms in initiating R&D projects for the first time, although the same response was not reported from foreign-owned business.

Evaluation of Irish Participation in 'Eureka'

Eureka is an international programme involving 26 European countries aimed at strengthening the competitiveness of companies by fostering close-to-market collaborative R&D projects. It does not provide any funding to participants – this is a matter for national authorities. In Ireland, participating companies are eligible for funding from the industry R&D support schemes.

The evaluation covered the period 1994 to 1999, during which time IR£1.39 (€1.76) million was awarded to Irish participants. It found that Eureka is a worthwhile initiative for companies to become involved in, but only when they have reached a suitable stage in their technological development, and that there is scope for enhancing the benefits to Ireland by actions to increase the current level of participation.

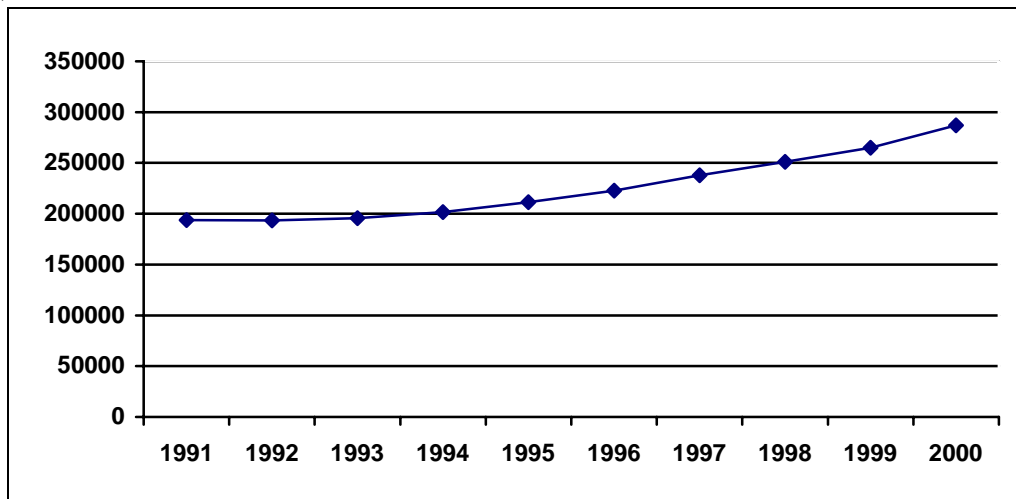
Appendix 1

Trends in Permanent Employment 1991-2000

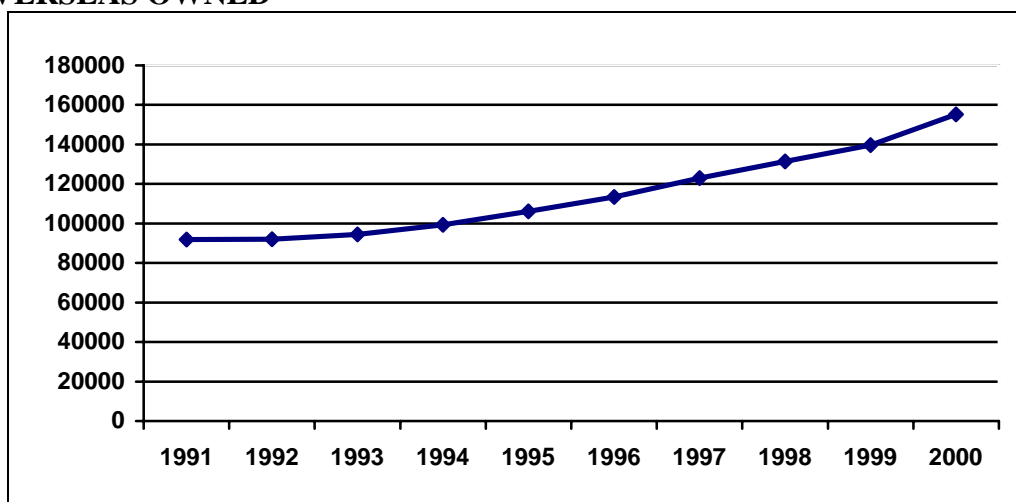
Irish and Overseas Owned Companies

Manufacturing and Internationally Traded / Financial Services

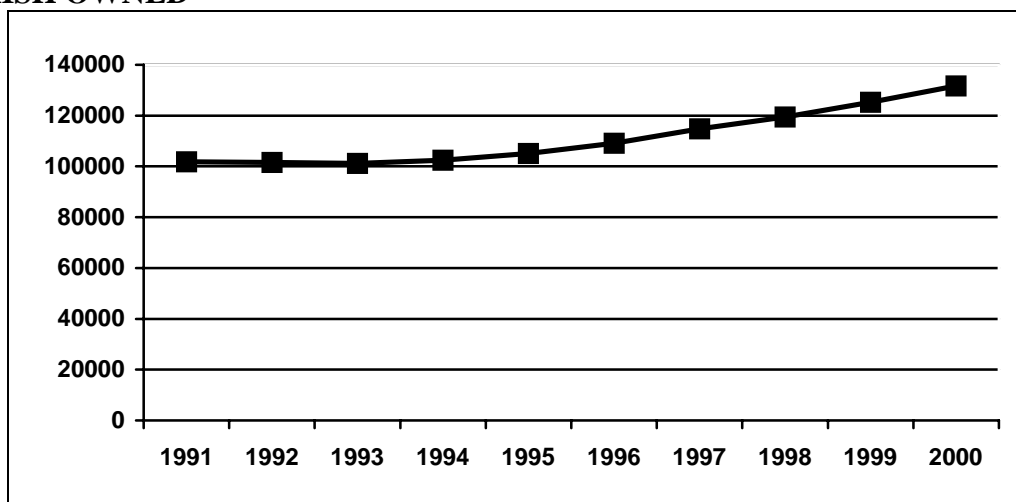
OVERALL



OVERSEAS OWNED



IRISH OWNED



Source: Forfás Annual Employment Survey

Data excludes companies under the remit of Shannon Development and Údarás na Gaeltachta.

Appendix 1 (cont'd)

Trends in Permanent Employment 1991-2000

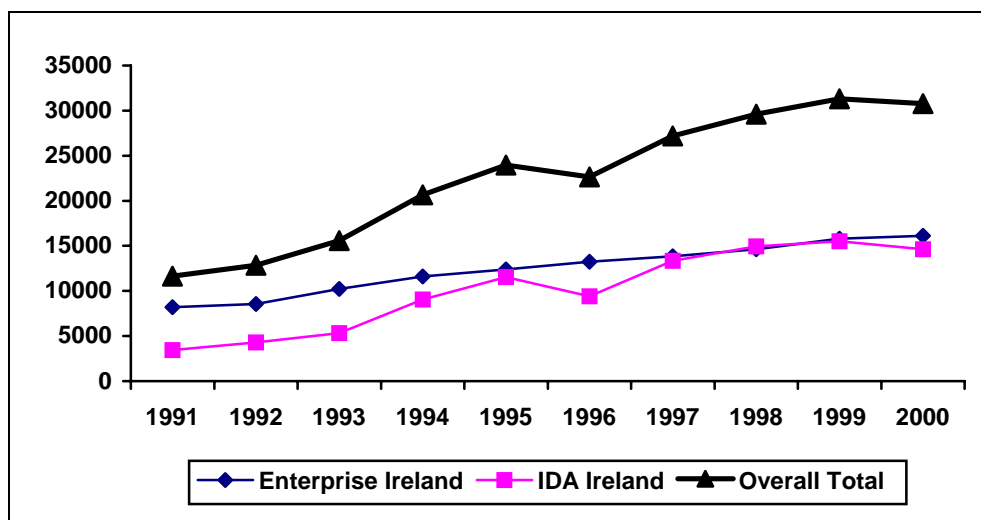
Irish and Overseas Owned Companies

Manufacturing and Internationally Traded / Financial Services

	Overseas Owned	Irish Owned	Total
1991	91,800	101,837	193,637
1992	91,963	101,581	193,544
1993	94,454	101,131	195,585
1994	99,322	102,453	201,775
1995	106,191	105,069	211,260
1996	113,447	109,135	222,582
1997	122,926	114,785	237,711
1998	131,417	119,522	250,939
1999	139,719	125,197	264,916
2000	155,157	131,704	286,861

Appendix 2

Trends in Part-Time, Temporary and Short-Term Contract Employment Enterprise Ireland* and IDA Ireland Supported Companies (1991-2000)



* Former Forbairt Client Companies

	Enterprise Ireland	IDA Ireland	Total
1991	8,195	3,446	11,641
1992	8,559	4,302	12,861
1993	10,232	5,337	15,569
1994	11,607	9,052	20,659
1995	12,400	11,543	23,943
1996	13,227	9,409	22,636
1997	13,853	13,341	27,194
1998	14,639	14,958	29,597
1999	15,785	15,529	31,314
2000	16,123	14,638	30,761

Source: Forfás Employment Survey

Appendix 3

Forfás Publications in 2000

The Dynamics of the Retail Sector in Ireland	January 2000
Enterprise 2010 – A New Strategy for Promotion of Enterprise in Ireland in the 21st Century	January 2000
Survey of Research & Development in the Business Sector 1997	February 2000
Benchmarking Science, Technology & Mathematics Education in Ireland Against International Good Practice Irish Council for Science, Technology & Innovation (ICSTI)	February 2000
Proposals on Transport Infrastructure, the Planning Process and Public Transport National Competitiveness Council (NCC)	March 2000
The Second Report of the Expert Group on Future Skills Needs	March 2000
Business Education & Training Partnership 2nd Forum, Dublin	March 2000
Management Development in the Republic of Ireland: Patterns and Trends	May 2000
Annual Competitiveness Report 2000 & The Competitiveness Challenge Report National Competitiveness Council (NCC)	May 2000
State Expenditure on Science & Technology, 1999	June 2000
Forfás Annual Report 1999	July 2000
Statement on Telecommunications, e-Business and the Information Society National Competitiveness Council (NCC)	July 2000
Statement on Regulatory Reform National Competitiveness Council (NCC)	July 2000
Annual Survey of Irish Economy Expenditures	August 2000
Report on e-Business Skills Report on In-Company Training Expert Group on Future Skills Needs	August 2000
Survey of Research in the Higher Education Sector 1998	September 2000
Statement on Labour Supply and Skills National Competitiveness Council (NCC)	September 2000
Telecommunications for e-Business: A User's Guide	November 2000
Annual Employment Survey 1999	November 2000
International Trade & Investment Report 2000	December 2000

All Forfás publications are available on our website: www.forfas.ie