



2002 Review and 2003 Outlook Statement

January 2003

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Overview of 2002

This section reviews 2002 and the main results of Forfás surveys under the following headings:

- General Economic Environment
- Employment in Agency Supported Firms
- Expenditure in Agency-Support Firms
- Corporation Tax Payments
- State Expenditure on Science & Technology
- Research & Development in the Public Sector

General Economic Environment

Domestic economic conditions remained robust throughout 2002, although activity slowed somewhat from the performance of the previous year in line with deteriorating global economic conditions. Real GDP growth looks to have eased somewhat to around 3.5-4.0 per cent on average in the year (with real GNP growth at around 3.0 per cent). While this represents a significant slowdown from 2001, growth was still running at more than twice the EU average pace of growth. Gains from net trade weakened throughout the year as export growth decelerated, although this was accompanied by a slowdown in import growth in response to the weakening domestic economy. Private consumption growth also eased – in line with slowing income gains and deteriorating confidence. This was partly offset by continued strong growth in public spending. Private investment growth remained weak throughout the year, although there was some evidence that the downturn was bottoming out.

The news from other areas of the economy was mixed. The labour market performed robustly in the face of deteriorating global economic conditions and increased uncertainty. Unemployment edged slightly higher to 4.6 per cent in the third quarter of 2002, with the increase in the labour force marginally outpacing the reduced growth in employment (all of which occurred in the non-traded sector, and mostly in public services). At the same time, rising costs and prices throughout the year further eroded Ireland's competitiveness on the international stage, resulting in job losses in those sectors exposed to international trade. Consumer price inflation looks set to finish the year at almost 5 per cent - nearly three times the EU average. On the wage front there were some signs of a deceleration in salary growth across the business sector, although many non-traded sectors of the economy, including public services, saw continued strong wage gains despite weakening economic and labour market conditions. Despite strong rises in current and capital spending and weaker than expected tax receipts, the public finances remained in surplus. The ratio of Government debt to GDP remained the second lowest across the EU.

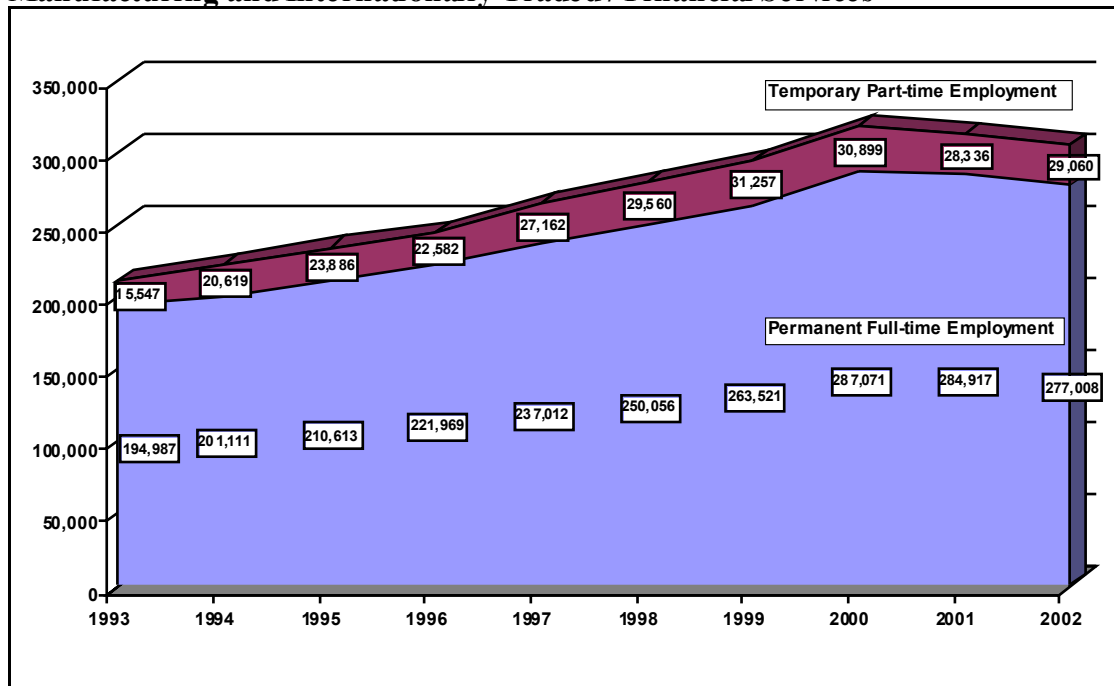
Employment in Agency-Supported Firms

While overall employment levels increased marginally, mostly as a result of job creation in the public sector and other non-traded sectors of the economy, employment in agency-supported firms in the more exposed internationally-traded manufacturing and service sectors contracted by 2.3 per cent in 2002. Employment in firms supported by IDA Ireland and Enterprise Ireland reached a ten-year peak in 2000 when 318,000 persons were employed (including those employed on a part-time basis). This total reduced to 313,000 in 2001 and reduced further to 306,000 in 2002. However, the current level of employment in these firms remains almost 50 per cent higher than it was ten years ago.

Chart 1

Trends in Permanent and Temporary Employment 1993 - 2002

Manufacturing and Internationally Traded / Financial Services



Source: Forfás, *Annual Employment Survey*

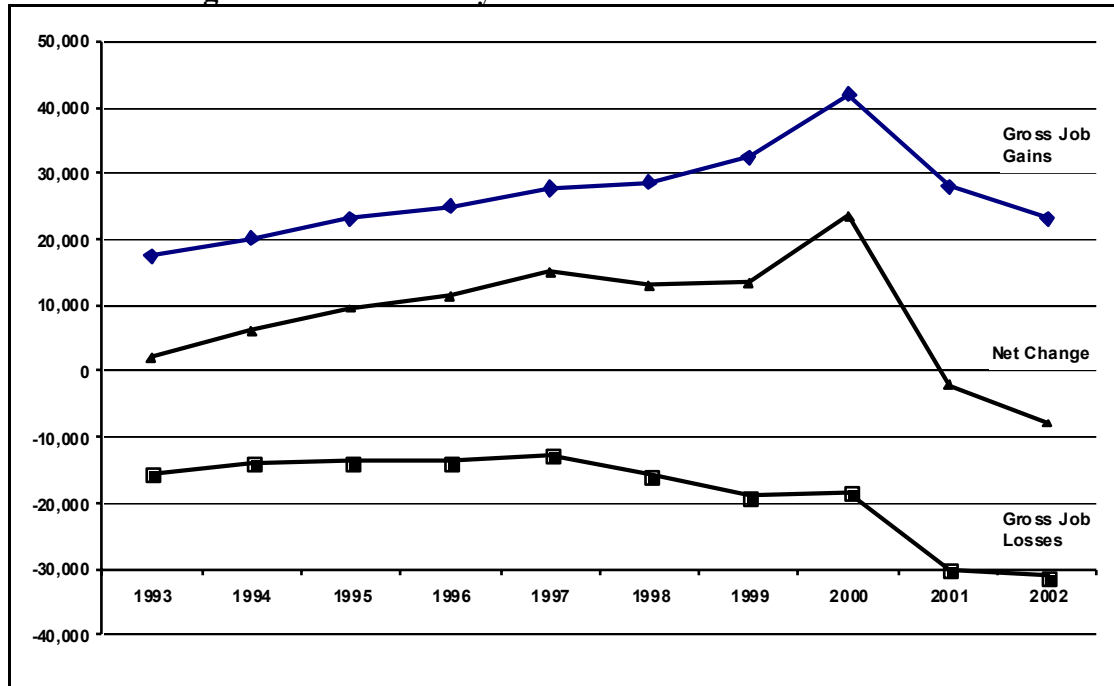
Companies under the remit of IDA Ireland and Enterprise Ireland created more than 23,000 “permanent full-time jobs” in 2002. This employment creation was outweighed by job losses of just over 31,000 bringing about a net reduction in permanent full-time jobs of 8,000 from 285,000 in 2001 to 277,000 at the end of 2002.

Among Irish-owned firms, there were approximately 12,000 jobs created and 15,000 lost - a net decrease of 3,000 from 134,000 in 2001 to 131,000 at the end of 2002. Among foreign-owned firms, there were 11,500 jobs created and 16,000 lost - a net decrease of 4,500 jobs from 150,500 in 2001 to 146,000 at the end of 2002.

Chart 2, which shows the trend in gross job gains, gross job losses and the net change in employment for the past ten years, highlights the fact that recent years have represented a marked reversal of the trend which had pertained in the 1990s.

Chart 2

**Gross Gains and Losses in Permanent Full-Time Employment
Manufacturing and Internationally Traded / Financial Services 1993 - 2002**



Source: Forfás, *Annual Employment Survey*

Jobs created out-weighed jobs lost in *financial services* (+1,100) and the *chemicals* sector (+400) while most other sectors witnessed a net decrease in employment levels. The largest decreases were in *metals & engineering/electronics* (-4,300) and *internationally-traded services/software* (-1,600).

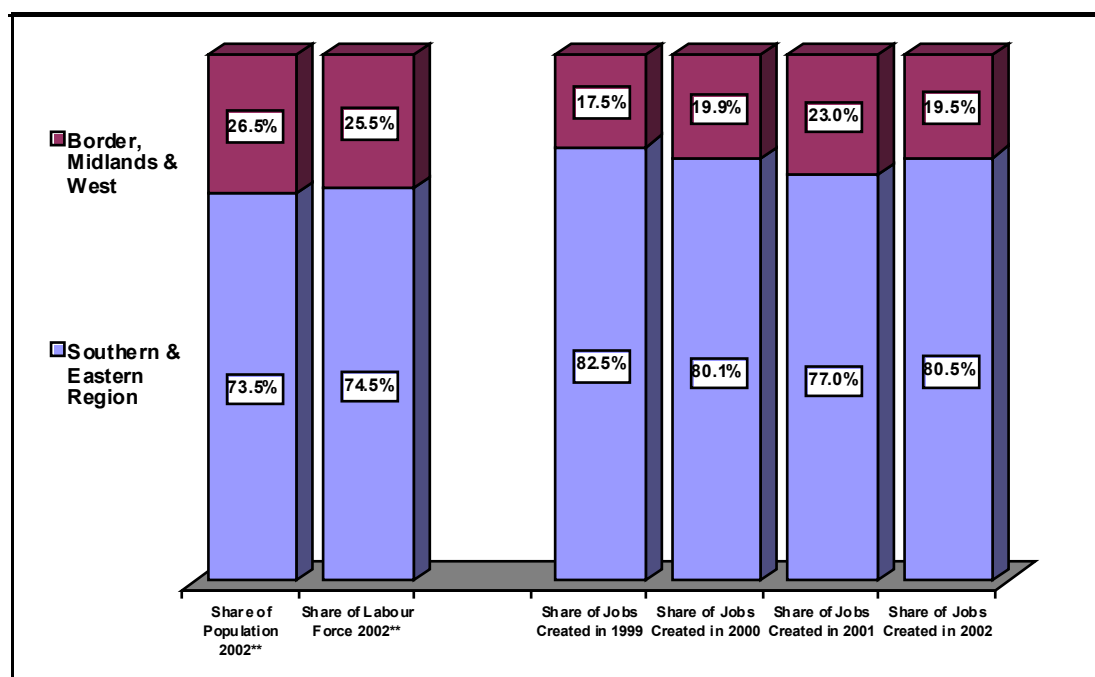
On a regional basis, most regions experienced the same pattern in 2002, with job losses exceeding job gains. Dublin accounted for almost half of the overall net decrease in permanent full-time jobs. This is accounted for by a particular exposure to the sectors which witnessed the greatest net decrease in employment (electronics, software etc.).

Of the jobs created in 2002, Chart 3 shows that almost 20 per cent were located in the Border, Midlands and West (BMW) region¹ and 80 per cent in the rest of the country. This is broadly in line with the share of population and labour force in the BMW region. The proportion of job gains that accrued to the region in 2002 represents a slight decline on the 23 per cent figure that pertained in the previous year.

¹ 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.

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* (Excl. Shannon Development and Údarás na Gaeltachta)
 ** CSO data

Expenditure of Agency Supported Firms

Data relating to the direct expenditure of agency-supported companies in 2001 were compiled by Forfás and the agencies concerned (IDA Ireland, Enterprise Ireland, Shannon Development and Údarás na Gaeltachta) during 2002. These data highlight the contribution made by agency-supported companies to the economy by way of their direct expenditure on *payroll costs*, *Irish raw materials* and *services purchased in Ireland*.

Table 1 Direct Expenditure of Agency Supported Firms in the Irish Economy

		Irish-owned Firms		Foreign-owned Firms		All Firms		Change
		2000	2001	2000	2001	2000	2001	
Sales	€m	21,579	23,965	66,205	72,102	87,784	96,067	9.4%
Payroll Costs	€m	3,837	4,309	5,470	6,120	9,307	10,429	12.1%
Irish Raw Materials	€m	7,589	8,358	6,107	6,474	13,696	14,832	8.3%
Services bought in Ireland	€m	2,562	2,805	5,338	5,985	7,900	8,790	11.3%
Direct Expenditure in the Economy	€m	13,988	15,472	16,915	18,579	30,903	34,051	10.2%
Direct Expenditure as % Sales	%	64.8	64.6	25.5	25.8	35.2	35.4	

Source: Forfás, *Annual Business Survey of Economic Impact 2001*

The overall output of firms in manufacturing and internationally-traded services and their expenditure in the economy continued to increase in 2001, although at a lower rate than in previous years. The overall sales of all manufacturing and internationally-traded services companies increased by 9.4 per cent in 2001 (compared to 19.4 per cent recorded in the previous year's survey) while direct expenditure in the economy increased by 10.2 per cent (compared to 16.8 per cent recorded in the previous year's survey).

Direct expenditure by these firms in the economy totalled €34 billion in 2001, made up of payroll costs (€10.4 billion), raw materials purchases (€14.8 billion) and expenditure on Irish services of €8.8 billion. Irish-owned companies accounted for €15.5 billion (46 per cent) of this direct expenditure with raw material inputs accounting for the largest share – this is driven largely by the food and drink sector which purchases most of its raw material inputs domestically. Foreign-owned companies spent €18.6 billion directly in the economy and this is spread quite evenly across the three categories of payroll costs, raw materials purchases and services purchased in Ireland.

Corporation Tax Payments

In addition to their expenditure in the economy, manufacturing and 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 yield from all sources was €4.8 billion in 2002², an increase of 10.3 per cent in real terms on the previous year. The most recent data in respect of the corporation tax payments of agency-supported companies in manufacturing and internationally-traded services relate to 2001. These show that agency-supported firms accounted for €2.4 billion (57 per cent) of the €4.2 billion total corporation tax take in that year.

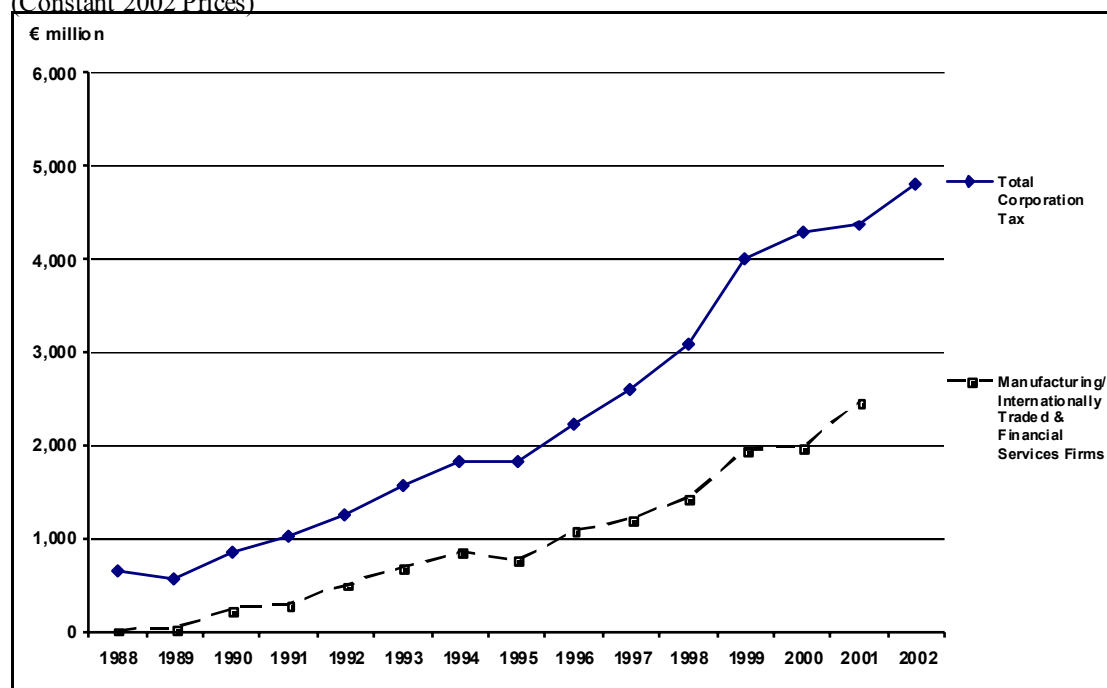
Companies in the chemicals/pharmaceuticals sector accounted for €783 million (33 per cent) of the €2.4 billion, financial services companies linked to the IFSC³ accounted for just over €600 million (25 per cent) and other internationally-traded services companies (software etc.) accounted for €430 million of the total.

² Source: Exchequer Returns for 2002 – Department of Finance

³ International Financial Services Centre

Chart 4 Corporation Tax Payments

(Constant 2002 Prices)



Source: Forfás, *Corporation Tax Survey*

Chart 4 highlights the fact that the increasing corporation tax yield over the last decade has been driven to a large degree by the payments made by manufacturing and internationally-traded services companies paying tax in general at the 10 per cent rate.

State Expenditure on Science & Technology

The Forfás annual publication, *State Expenditure on Science & Technology*, shows that Government allocations to scientific and technological activities in 2001 amounted to €1,760 million, an increase of €399.3 million, or 29.4 per cent over 2000 outturn levels. This is mainly accounted for by an increase in public funds (Exchequer plus EU), which rose by 35 per cent million in 2001 to €1,565 million. The balance of €195 million arises from income earned from the activities of the government departments and agencies.

Table 2: State Expenditure on Science & Technology by Gov. Department– 2001

	Total Public Funds (€m)		
	2000 Outturn	2001 Allocation	% change
Education and Science	743.3	927.6	25%
Enterprise, Trade & Employment	138.3	177.0	28%
Public Enterprise	44.0	124.3	182%
Agriculture and Food	98.3	118.4	20%
Government Offices	53.2	85.3	61%
Marine and Natural Resources	27.9	39.3	41%
Social, Community and Family Affairs	8.0	33.6	319%
Health and Children	23.3	29.0	24%
Environment and Local Government	12.2	15.2	24%
Arts, Heritage, Gaeltacht and the Islands	5.6	8.2	46%
Finance	4.7	6.0	28%
Taoiseach	0.6	0.7	22%
Total	1159.5	1564.7	35%

Source: Forfás, *State Expenditure on Science & Technology 2001*

Table 2 above illustrates the share of the total public allocation for 2000 and 2001 accounted for by government departments. In 2001, almost 60 per cent of the total public allocation can be attributed to the Department of Education & Science, followed by the Department of Enterprise, Trade & Employment (11 per cent) and the Department of Public Enterprise (8 per cent).

Research and Development in the Public Sector

Altogether, research and development (R&D) represents about a quarter of public science & technology expenditure and the 2001 budget allocation amounted to €342 million. This represents a very significant increase of €98 million over the actual expenditure in 2000 of €244 million (see Table 3).

Table 3: Public Funding of R&D, 2000-2001 (€m)

	2000 Outturn	2001 Allocation
Exchequer	175.78	285.09
EU	68.28	56.74
Total Public	244.06	341.84
Earned income	76.88	75.07
Total	320.95	416.90

Source: Forfás, *State Expenditure on Science & Technology (2000 & 2001 publications)*

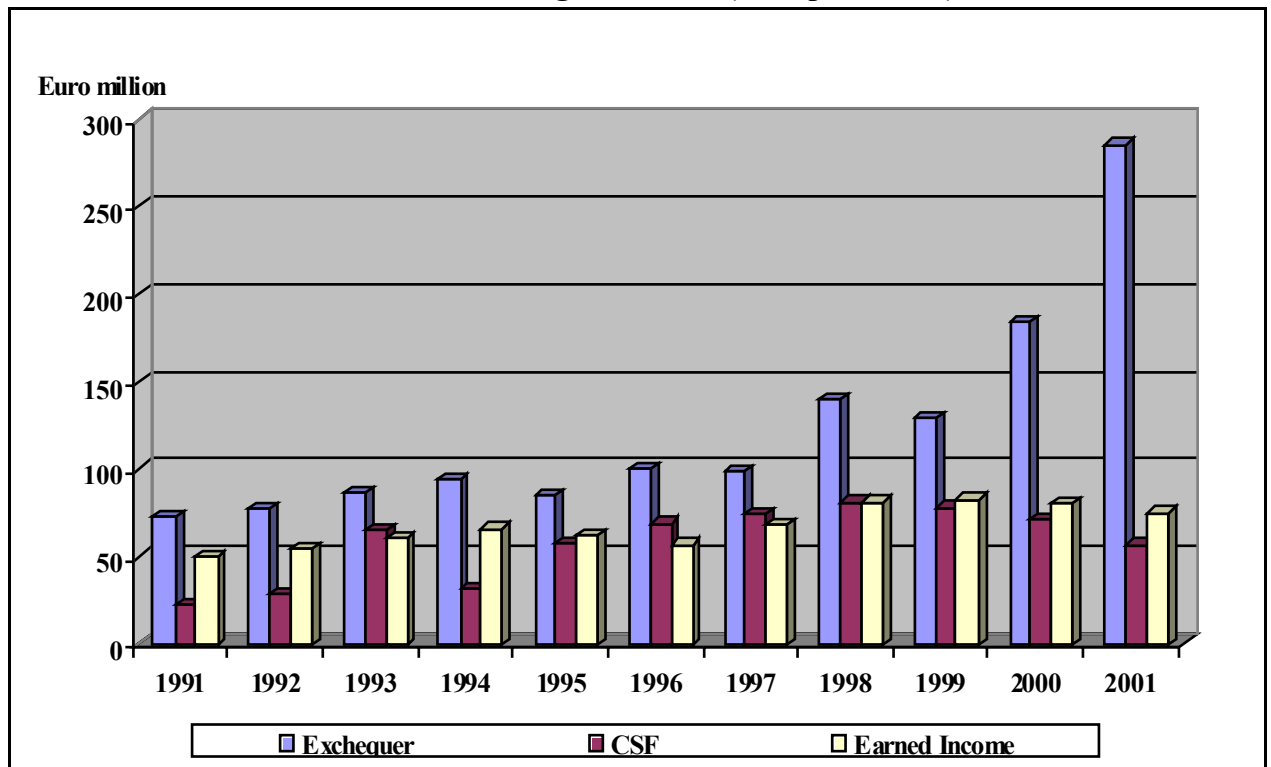
The major contributors to this increased funding are:

- Department of Education & Science: €39.1 million
- Department of Enterprise, Trade & Employment: €28.0 million
- Department of Public Enterprise: €10.6 million

Other significant increases are in the Department of Agriculture, Food & Rural Development (€7.5 million) and the Department of the Marine & Natural Resources (€7.5 million).

Chart 5 depicts the sources of funds for total public R&D expenditure over the past decade. The most notable aspect is the fact that exchequer funding has significantly increased its percentage of the total funding from 50 per cent in 1991 to 68 per cent in 2001, which is an increase in real terms of €212 million (292 per cent) since 1991. This represents an annual growth rate of 14.6 per cent change over the last decade in exchequer funding. The contribution of EU Community Support Framework programmes has decreased in real terms from €81 million in 1998 to €57 million in 2001.

Chart 5: Sources of Total R&D Funding 1991-2001 (2001 prices, €m)



Source: Forfás, *State Expenditure on Science & Technology, 2001*

Gross Domestic Expenditure on Research & Development (GERD), 1999

Data on gross expenditure on research and development (GERD) for Ireland are drawn from Forfás surveys for the three sectors that constitute the national R&D system:

- Business expenditure on research and development (BERD);
- Higher-education expenditure on research and development (HERD); and
- Government expenditure on research and development (GOVERD).

Table 4 below shows the trend from 1991 to 1999.

Table 4: Total expenditure on Research and Development, 1991-1999

	1991 €m	1993 €m	1995 €m	1997 €m	1999 €m
BERD	223.2	343.4	470.1	612.4	783.6
HERD	81.6	106.9	137.1	178.4	269.4
GOVERD	40.6	51.5	60.2	65.4	63.9
GERD (€m)	345.4	501.8	667.4	856.2	1,116.9

Source: Forfás (various surveys)

Gross expenditure on R&D continued to grow in aggregate terms between 1997 and 1999 (due to biannual timing of the surveys, 1999 is the latest available data for BERD and HERD). Total GERD amounted to €1,117 million in 1999 up from €856 million in 1997. There has been an upward trend in gross expenditure on R&D in real terms over the period 1991 through to 1999. The annual rate of growth over this time was 15.8 per cent. For the period 1997 to 1999 growth was at a rate of 14.2 per cent per annum.

Table 5: Gross expenditure on R&D as a percentage of GNP, GDP, 1991- 1999

	1991	1993	1995	1997	1999
GERD (€m)	345	502	667	856	1,117
GERD as a % GNP	1.07	1.30	1.43	1.45	1.47
GERD as a % GDP	0.92	1.16	1.27	1.28	1.25
EU Average	1.98	1.92	1.81	1.80	1.86
OECD Average	2.32	2.25	2.11	2.16	2.21

Source: Forfás (various surveys)

Table 5 illustrates the growth of gross expenditure on research and development as a percentage of gross national product (GNP). GERD as a percentage of GNP has seen a steady increase since 1991. Given the rapid growth in GNP over this period, this is a solid achievement. At the same time, progress needs to be monitored for some years as Ireland remains significantly below the EU and OECD averages on this indicator.

Major Issues for 2003

1. Building for the Future

The Irish economy has performed exceptionally well over the past decade, with growth rates between two and three times those of other leading EU and OECD countries. GNP per capita in Ireland increased from 74 per cent of the EU average in 1993 to 103 per cent by 2001. However, the global economy is evolving rapidly, and Ireland's approach to economic development must evolve with it. Rapid advances in science and technology, together with huge reductions in the cost of processing and sharing information and increasing global competition as a result of lower barriers to trade and investment, are forcing countries all over the world to re-evaluate their economic management and enterprise promotion strategies.

Moreover, Ireland is no longer a low cost location, and international competition for investment and jobs is intense. Where once our development was driven by inexpensive labour, high levels of foreign investment and fast employment growth, Ireland's future competitiveness, standard of living and economic development will increasingly require us to build on the knowledge, experience and skills of our workforce and our valuable base of modern business (ICT, life sciences, food, traded services etc) in ways that lead to an innovation-intensive economy.

During 2003 Forfás will work with the Department of Enterprise, Trade & Employment and the enterprise development agencies to formulate and promote public policies designed to deliver a uniquely competitive business environment tailored to suit the needs of targeted industries and to continue the transition to an innovation intensive economy. Key activities in this regard will include:

1.1 Medium-Term Enterprise Planning and "Strategic" Business Clusters

Shaping Our Future - A Strategy for Enterprise in Ireland in the 21st Century was published by Forfás in May 1996. Its aim was to promote a strategic view of enterprise in Ireland, to help the economy, the industrial base and the wider services sector to expand and to meet the challenges facing Ireland in the 21st century. This publication was followed three years later, in January 2000, by *Enterprise 2010 – A New Strategy for the Promotion of Enterprise in Ireland in the 21st Century*. This report set out a comprehensive analysis and set of policy proposals for the development of the internationally-traded enterprise sector, and analysed the implications for enterprise development of the extremely high levels of economic growth at that time.

Global and national economic circumstances have changed radically since the publication of *Enterprise 2010*. It is now necessary to turn our focus to the issues that arise for industrial and economic policy in the context of full employment, a broad and successful base of modern internationally trading business, a global economic slow-down and increasing competition arising from EU enlargement and trade liberalisation under the auspices of the World Trade Organisation. The introduction of a single low rate of corporate tax (12.5 per cent) for all trading companies, as well as the continuing fragmentation of the supply chain in many industries because of

lower transport costs and falling barriers to trade, also present new opportunities for overseas and indigenous companies in Ireland to undertake activities that might previously have been taxed at a higher rate.

Forfás will work with the Department of Enterprise, Trade & Employment and the enterprise development agencies in 2003 to reinforce and/or build sustainable clusters of internationally traded services and manufacturing businesses which are knowledge intensive and have high productivity. Such “strategic” business clusters are likely to

- have a significant and growing share of global markets out of Ireland with potential for critical mass,
- capitalise on technologies where Ireland has strong capabilities and experience,
- have high value-added per head,
- have low transport and direct labour costs as a proportion of total costs.

Supporting sustainable clusters will require ongoing adaptation of the business environment, such as physical infrastructure and the regulatory system. Promoting knowledge-intensive industries must be supported, for example, by Ireland’s treatment of intellectual property.

1.2 Building Ireland’s Science, Technology & Innovation Infrastructure

Positioning innovation and technology at the centre of Irish enterprise development over the next decade will require a continuation of the rapid growth in Ireland’s investment in science, technology and innovation. Ireland’s investment in R&D is estimated at 1.21 per cent of GDP in 2001. Although this is a large increase on previous levels of expenditure, it is still significantly below that of other knowledge intensive economies, such as Sweden (3.8 per cent), Finland (3.2 per cent), Japan (3.0 per cent), USA (2.8 per cent), South Korea (2.7 per cent), Netherlands (2.1 per cent), Denmark (2.1 per cent), Taiwan (2.1 per cent) and the UK (1.9 per cent). The Member States of the EU, including Ireland, have set themselves a target of increasing research spending to 3 per cent of GDP per annum by 2010. This is more than double the current rate of Irish R&D expenditure as a percentage of GDP.

The importance attached by Government to moving towards this target and to improving Ireland’s science and technology infrastructure is reflected in the unprecedented allocations for investment in science, technology and innovation in the current National Development Plan (NDP). At €2.48 billion, budgeted spending for 2000-2006 compares with an allocation of just €0.5 billion over the period 1994-1999.

This commitment is also reflected in the announcement of increased research funding for Science Foundation Ireland (SFI) in the 2003 Budget Estimates, particularly at a time of budgetary constraint. This investment will send a strong signal to industry nationally and internationally of the Government’s long term commitment to making Ireland an attractive environment for technology driven and innovative enterprise. This commitment is necessary to build the confidence of the research and scientific communities and of industry worldwide that Ireland is committed to a strategy of developing as a knowledge and innovation-based economy.

Funding of research infrastructure in the universities under the Higher Education Authority Programme for Research in Third Level Institutions (PRTLTI) programme has been put on hold for this coming year. Every effort should be made to keep the initiatives launched under the PRTLTI on track. This investment is critically important nationally to equip our universities with the infrastructures that will enable them to expand research and the output of graduates of the quality required by the new economy.

The large increase in public investment in research presents the challenge of ensuring that these investments deliver the economic and social benefits that they are intended to achieve. This will require monitoring and reviewing cost effectiveness, efficiency and coherence in all aspects of science, technology and innovation policy formulation and implementation. A number of actions are needed in this regard, including the need to:

- further develop linkages and communication between Government Departments that formulate policy and expend funds on science, technology and innovation;
- improve structures and mechanisms to create and maintain a coherent strategic national science, technology and innovation system;
- improve arrangements to monitor and assess the impact of the science, technology and innovation investment committed under the NDP;
- increase private science, technology and innovation investment;
- design and implement an attractive regulatory and tax system for the treatment of intellectual property;
- improve the availability of venture capital for technology commercialisation;
- facilitate technology transfer between the public and private sectors;
- grow the research and technology absorptive capacity of enterprise;
- promote attractive and well-defined research career paths; and
- accelerate our participation in global science, technology and innovation partnerships, especially within the EU and North America, and elsewhere in emerging economies in Europe and Asia.

Raising the level of business expenditure on R&D is a key challenge for Irish enterprise policy in the coming year. In 2002, Forfás, in conjunction with Enterprise Ireland and IDA Ireland, submitted proposals, for consideration as part of the budget 2003 deliberations, for the introduction of an R&D tax credit designed to increase private sector R&D expenditure in Ireland. Forfás will encourage implementation of the R&D tax credit proposals in 2003 in order to ensure that Ireland is not disadvantaged as an investment location of choice.

1.3 Spatial Strategy and Physical Infrastructure

Mid-Term Review of the National Development Plan

Rapid economic growth in Ireland's main cities during the 1990s, and particularly along the eastern seaboard, outpaced the State's ability to provide the necessary economic and social infrastructure, resulting in increasing congestion and, in some cases, declining quality of life. Improving the physical infrastructure of the economy will allow easier movement of goods, services and people. The resulting efficiency and cost gains will, in turn, increase the medium-term growth potential of the

economy and the competitiveness of the internationally-trading enterprise base. The Government's priorities for investment in physical infrastructure were outlined in the National Development Plan (NDP) 2000-06.

Problems in the NDP delivery have, however, been well documented. These have been caused by planning delays, inflation in the construction industry and the recent tightness of public finances. Accordingly, the 2003 Mid Term Review of the NDP provides an important opportunity for the re-prioritising of projects for the final years of the NDP 2000-2006. Forfás will work with the Department of Enterprise, Trade & Employment, the National Competitiveness Council and the enterprise development agencies in identifying the key infrastructure priorities from an enterprise development perspective.

The National Spatial Strategy

While higher levels of investment in physical and social infrastructure will be required throughout the country, a more even spread of economic activity and population growth throughout Ireland will also be necessary for sustainable economic growth over the next decade.

The National Spatial Strategy (NSS), published by Government in November 2002, together with the National Development Plan 2000-06, sets out a policy framework for economic and infrastructure development in the regions over the next twenty years. Forfás provided significant research and other support for the Department of the Environment & Local Government in this regard. Having identified the key infrastructural requirements from the perspective of the development agencies in 2002, there should now be a collective effort by all appropriate public bodies, the development agencies, regional organisations and local communities to put the necessary infrastructure in place to maintain and promote regional development. Effective implementation of the infrastructure elements of the NSS and achievement of regional development targets by the enterprise development agencies (in terms of jobs and enterprise activity) will be mutually reinforcing.

Energy

The electricity and gas markets in Ireland are in a period of profound change. Key medium term issues include the need to:

- increase investment, as a matter of urgency, in new electricity generation capacity to meet anticipated growth in electricity demand;
- increase investment in the electricity transmission and distribution infrastructure to provide adequate and reliable power in the regions to meet future enterprise needs, and to allow new power producers to supply electricity to the national grid;
- to ensure that the required higher levels of investment in energy infrastructure is recouped by energy suppliers in a manner that minimises implications for the cost competitiveness of companies based in Ireland; and
- to ensure that the market structure and energy trading arrangements provide adequate energy supply at competitive prices.

In 2002, Forfás submitted a number of reports to Government and other relevant bodies (including the Commissioner for Energy Regulation) with recommendations on how these issues might be addressed. Over the coming year, Forfás will continue

to monitor developments in the energy arena from an enterprise development perspective and make further interventions as required.

Telecommunications

The availability of broadband communications at a competitive cost is necessary for the development in Ireland of research-intensive “new generation” industries such as digital media and biotechnology. In 2002 the Government agreed a strategy and action plan for the roll-out of broadband infrastructure over the next three to five years. This strategy will be implemented in phases, the first of which will involve the construction of metropolitan area fibre optic networks in 19 towns and cities throughout the country in conjunction with local and regional authorities. It is estimated that an investment of €60 million will be required to complete Phase I over the next 18 months.

Key issues going forward include the timely implementation of Phase I, the utilisation of the completed network by telecommunications operators to provide advanced services to final customers, and ensuring that the network can be leveraged to promote further investment in telecommunications infrastructure. These will be essential if Ireland is to achieve the objective as set out in the Government’s Broadband Strategy of being placed in the top decile among OECD countries in terms of the availability and cost of broadband communications. Forfás will continue to support and advise the Government in achieving this objective.

2. Maintaining Competitiveness and Sustaining Employment

Putting in place the foundations for the industries of the future must not be at the expense of efforts to also sustain and protect those industries already providing significant employment. This is made difficult, however, by the fact that the cost base of the Irish economy, and particularly wages, has been rising more quickly than in other economies in Europe and elsewhere. Projections from the OECD show that Ireland has higher wage levels and inflation than nearly all of our competitors. The competitiveness of Irish goods and services in many of our main export markets was further undermined by the appreciation of the euro against sterling and the dollar in 2002. Given the current global economic context and the possibility of a further euro appreciation, wage and price increases of the levels experienced in 2001-2002 are not sustainable. Unless this is addressed, new business investment and job creation may not keep pace with the relocation of labour intensive enterprise activities to lower-cost countries and this would result in increasing job losses and rising unemployment.

A major challenge for Irish enterprise policy in 2003 will, therefore, be to encourage actions that help to maintain Ireland’s national competitiveness and protect existing employment levels and enterprise activities. Together with the Department of Enterprise, Trade & Employment and the development agencies, Forfás will work to achieve a number of objectives in 2003 of short-term benefit to the competitiveness of the existing internationally traded enterprise sector in Ireland. These include:

2.1 Encouraging Sustainable Pay Growth

Pay inflation needs to be quickly moderated in line with slowing productivity growth if competitiveness, economic growth and low unemployment are to be maintained. Pay growth at firm level must be related to the ability of enterprise to absorb the costs without damaging the competitiveness position of the economy. Forfás will work to promote the recognition by all social partners of the changed economic environment, the need for rapid action, and the economic consequences of failing to restore wage competitiveness on the international stage. Equally, pay moderation must come in parallel with a slowing of other price and cost increases in order to protect living standards.

2.2 Promoting Competition in the Non-Traded Services Sectors

Improving competition in the sheltered, non-traded sectors of the economy is an important policy lever for tackling inflation. Early implementation of competition policy and regulatory recommendations arising from studies by the Competition Authority into the level of competition in certain professional services and into the level of competition in the banking and insurance sectors are likely to prove an important tool to achieve this aim.

2.3 Accelerating Public Investment in Infrastructure

Key infrastructural projects for enterprise development, including roads and telecoms investments, should be “fast-tracked” through the planning process to ensure that economic development and competitiveness are not damaged by unnecessary delays. Provisions of the Planning and Development Act 2000 already allow for the development of Strategic Development Zones (SDZ’s) for the efficient roll-out of infrastructure for the enterprise sector. The effectiveness of these provisions should be tested by the enterprise development agencies and local authorities in building infrastructure for industry.

NDP infrastructure delivery timelines and costs in Ireland versus other countries indicate significant weaknesses in the case of Ireland. There are a number of possible reasons for this including scale of the construction industry in Ireland, presence of international contractors, size of projects offered to tender, issues in relation to planning process and appeals, design scoping etc. As part of the 2003 Mid Term Review of the NDP, the reasons for cost and time overruns should be identified and weaknesses addressed.

2.4 Improving the Infrastructure for Waste Management

The competitiveness of the Irish industrial sector is being impacted by the inadequacy of the current waste management infrastructure in Ireland. In 2003, Forfás will monitor progress on a number of key issues. The development of a national thermal treatment facility for hazardous waste remains a priority. The proposed development at Ringaskiddy is currently at an advanced stage of the planning process and could be

a valuable and badly needed piece of infrastructure. More generally, a National Waste Management Board, with the necessary executive powers to speed implementation of regional waste management plans, should be established without delay.

2.5 Delivering Broadband Communications

Demand for broadband communications, and hence the economic rationale for private investment in broadband infrastructure, would be supported by accelerating the implementation of eGovernment initiatives, including the rollout of eProcurement in the public service and the second phase of BASIS. Forfás will also be encouraging the Government to extend the Information Society Fund for a further two years to develop eGovernment services and to promote higher rates of eBusiness and ICT adoption by enterprises, as well as by society generally.

Notwithstanding the launch of DSL by Eircom and Esat in May 2002, Ireland is significantly behind leading countries in terms of the price competitiveness, coverage and take-up of broadband communications by business and domestic users. Given Ireland's objective of becoming a knowledge and innovation driven economy, it is critical that Ireland becomes one of the leaders in this sphere.

Based on the recommendations of Forfás, the NCC and others, the Minister for Communications, Marine & Natural Resources issued a policy direction to the Commission of Communications Regulation to introduce flat rate internet access services with immediate effect. The rapid introduction of affordable flat rate internet access is critical. Its introduction should provide a significant boost to the level of household internet adoption and usage in Ireland, which appears to have stagnated in Ireland in 2002.

Review of Forfás Activities in 2002

Forfás' activities in 2002 can be categorised as follows:

1. Policy advice
2. Co-ordination
3. Monitoring and review

Below we review the main activities in 2002 under each of these headings.

1. Policy

Competitiveness

In 2002, the National Competitiveness Council (NCC) considered a wide range of issues which affect Irish competitiveness, including the cost environment for enterprise, infrastructure, competition and regulation, science, technology and innovation, education and entrepreneurship. The NCC was established by Government in 1997 to advise on developments in national competitiveness and to recommend actions to Government to protect and improve Ireland's international competitiveness standing. Forfás acts as Secretariat to the NCC.

In November 2002, the NCC published the fifth Annual Competitiveness Report (ACR) and Competitiveness Challenge, which together cover the full spectrum of competitiveness issues and represent the Council's main policy statements for the year. The ACR examined Ireland's international competitiveness and in particular highlighted a number of threats to our economy. The most significant threats which the Council identified include rising costs, increasing wages, a higher than acceptable inflation rate and lower investment in infrastructure than is required. The Competitiveness Challenge then made a number of policy recommendations to tackle these issues using the analysis contained in the ACR.

Ireland's relative cost competitiveness against other main competitors deteriorated significantly in 2002, with consumer price inflation running at more than twice the EU average. Furthermore, Irish wage growth is now running ahead of our major competitors. Nominal wage costs are continuing to rise rapidly (at around three times the EU average). EU data contained in the ACR now estimates that average Irish nominal wages for full-time employees was 3.6 per cent above the EMU-12 (the Eurozone member countries) average in 2001, with average wage levels forecast to rise to 13 per cent above the EMU-12 average by 2003. The Council believes that parallel reductions in consumer price inflation and nominal wage growth are required in order to limit the risk of embedded cost inflation and the emergence of a price-wage spiral.

The NCC also made a number of submissions during the year to work being carried out by other government/public bodies. These included submissions on the EU White Paper on Transport, the Competition Authority's study into the insurance market in Ireland, the Government's "Towards Better Regulation" consultation process and to the *Task Force on Physical Sciences*. The NCC also published a number of additional reports this year, including the *Study of Comparative Consumer Product Prices in the*

Eurozone and Consumer Price Inflation in the Changeover Period (May 2002). The report found that Ireland is now estimated to be the second most expensive country in the Eurozone after Finland. In November, the NCC also published *Entrepreneurship in Ireland*, which examined the factors which motivate entrepreneurs and identified potential barriers to entrepreneurship. This work will be continued in 2003.

Infrastructure

Strong economic growth in recent years has placed significant additional pressures on many of the key infrastructures required to promote enterprise development. Forfás has worked closely with the other enterprise development agencies and relevant Government Departments to ensure that Ireland can provide a world class physical environment at the lowest possible cost to support Ireland's competitiveness. The key infrastructure-related projects undertaken by Forfás 2002 were as follows.

Energy

Building on previous work undertaken on infrastructure investment requirements and supply-demand balances in electricity and gas, Forfás undertook an assessment of the policy requirements to facilitate an efficient and competitive national energy market. This is important for sustained economic growth and for enterprise development. Ongoing liberalisation of the gas and electricity markets in Ireland has raised a number of policy issues concerning the optimal energy market structure for the country and the role of regulation in bringing this about. Following detailed consultations with the Government, the Commission for Energy Regulation (CER), Eirgrid, ESB, IBEC and others, Forfás submitted proposed reforms to the CER as an input to their ongoing review of electricity market trading arrangements in Ireland for 2005.

Forfás also completed an evaluation of the potential of the electricity transmission and distribution network to support the development of agency business parks, webworks facilities and large-scale utility intensive sites. Based on an analysis of the future electricity needs of the development agencies in 16 priority towns and their current electricity network capacities, the analysis provided by Forfás identified a number of additional investments in regional transmission networks that should be prioritised in order to allow the enterprise development agencies achieve their regional development targets and the goal of balanced regional development as set out in the National Spatial Strategy.

On-line Regional Database of Infrastructure (www.infrastructure.ie)

In order to facilitate a more efficient spatial distribution of the enterprise sector, in 2001 the Tánaiste requested Forfás to construct and maintain a database of the physical and social infrastructure in the regions to help identify the developmental capacity / potential of various locations and regions and pinpoint areas in need of improvement. With funding from the Government's Information Society Fund, the database was completed in 2002 and takes the form of an Internet-based databank of tables and maps of physical and social infrastructure and industrial development agency-supported enterprises. The database can be accessed at www.infrastructure.ie.

Waste Management

The current waste management infrastructure in Ireland is proving inadequate in treating increasing waste volumes. The competitiveness of the Irish industrial sector may be severely impacted if the current situation is not addressed. Following the Forfás publication in 2001 *Key Waste Management Issues*, the development of a national thermal treatment facility for hazardous waste remained a priority for the development agencies through 2002.

Following on from the new policy statement *Preventing and Recycling Waste: Delivering Change* issued by the Department of the Environment & Local Government (DoELG), the DoELG and Enterprise Ireland are working together to provide support for the development of the indigenous reprocessing industry. In 2002 actions have been taken to continue with the formation of both a Recycling Consultative Forum and a Market Development Group. With regard to the establishment of the National Waste Management Agency as recommended by Forfás, the nature and scope of the proposed agency is currently being reviewed by the Department of the Environment & Local Government.

Review of the Potential for the Development of “Infrastructure Corridors”

At the request of the Cross-Departmental Team on Infrastructure and Public Private Partnerships (PPPs), Forfás and IDA Ireland, together with TES Engineering consultants, examined the possibility of bundling certain types of infrastructure development and the development of infrastructure corridors. Two case studies were undertaken in 2002 to assess the potential for corridor development in Ireland.

Through an analysis of international and domestic experience, engineering assessments and interviews with relevant stakeholders in Ireland, the review indicated that a corridor approach to infrastructure provision would be both beneficial and technically feasible if the appropriate routes and lands are proactively identified and protected. This could be done through the Regional Planning Guidelines, County Development Plans and in planning for Strategic Development Zones to ensure that suitable corridors are not constrained by incompatible developments. Infrastructure corridors should become a specific land use category for incorporation in development plans, analogous to ‘special protection areas’.

To date, the draft Sligo and Mayo County Development Plans have adopted Forfás recommendations with regards infrastructure corridors and have included the infrastructure corridor provision into their respective land use strategies.

Future Water and Wastewater Infrastructure Requirements

In 2002, Forfás completed a study of 27 locations including those identified in the National Spatial Strategy as gateways and development hubs, to assess the capacity of their water and wastewater treatment infrastructures to meet the requirements of future population growth and enterprise development. The study identified nine centres of population that will require additional water treatment capacity and fourteen centres that will require additional wastewater treatment capacity. The total combined cost of providing this additional infrastructure is estimated at €238 million in current prices over the next twenty years.

An additional sum of €308 million will be required to provide water and wastewater treatment facilities to support the development of four proposed large-scale industrial sites. The large-scale sites proposal currently being developed by IDA Ireland is a long-term and strategic initiative to ensure that Ireland can offer high quality, internationally competitive, utility-intensive sites, capable of attracting and supporting companies with first class infrastructure requirements in terms of energy, telecommunications and environmental services. A number of the projects intended for these sites can have demanding water supply and wastewater treatment needs. A substantial proportion of the estimated €308 million required to provide adequate water and wastewater treatment facilities to these sites could be provided through a Public-Private-Partnership (PPP) approach.

Telecommunications and eBusiness

Telecommunications and internet related companies in Ireland and internationally have suffered significantly during the current economic slowdown. In addition to being a key driver of growth in the Irish economy over the last decade, developments in the sector are also critical for the promotion of the broader knowledge economy and information society in Ireland.

The Government has taken a number of actions to promote the development of the knowledge economy in Ireland in 2002 including the establishment of a number of new institutional arrangements to increase co-ordination, cohesion and leadership on Information Society issues. These include the appointment of an Information Society Minister, a Cabinet Committee on the Information Society chaired by the Taoiseach and the creation of a new Information Society Commission. The most recent Government strategy for the Information Society in Ireland – *New Connections*, published in April 2002, details a range of policy actions to be undertaken in support of the Information Society in Ireland. Forfás worked closely with the Information Society Commission in 2002.

The Communications Regulation Act 2002 was passed in April. This led to the establishment of the Commission for Communications Regulation (ComReg) in December 2002, replacing the Office of the Director of Telecommunications Regulation (ODTR). Forfás has advocated in a number of reports including the *Broadband Investment in Ireland, Review of Progress and Key Policy Requirements*, published in 2002, that the introduction of flat rate internet access is critical to promoting the adoption and use of the internet and eBusiness in Ireland. Having received a mandate from the Department of the Communications, Marine & Natural Resources to introduce flat rate internet access it is hoped that ComReg will aggressively promote the introduction of flat rate internet access services in 2003.

The availability of advanced broadband technologies is critical for Ireland to develop as an eBusiness hub and for the promotion of regional development. Benchmarking analysis undertaken by Forfás continues to indicate that while significant progress has been achieved, Ireland compares poorly relative to other countries on a number of metrics monitoring the price, quality, and availability of broadband telecommunications services. Forfás has advocated the need for Government investment to accelerate the development of broadband infrastructure in advance of

demand, and has worked closely with the Department of Communications, Marine & Natural Resources to ensure that the broadband priorities of the development agencies are incorporated in the current Government broadband investment initiatives.

Given the emergence of new information and communications technologies (ICT) and the speed of e-Business development, changes are required to strengthen and improve the legal and regulatory framework. In October Forfás published *Legislating for Competitive Advantage in e-Business and Information and Communications Technologies*. Chief among the recommendations is a proposal to establish specialist technology courts (e-Courts) to adjudicate on legal disputes relating to ICT, e-Business and intellectual property and to provide a secure, certain and fast acting legal system for knowledge-intensive business.

Digital Content Industry

In November 2002, Forfás published *A Strategy for the Digital Content Industry in Ireland* which was prepared at the request of the Department of Enterprise, Trade & Employment and involved Enterprise Ireland, IDA Ireland, the Department of Enterprise, Trade & Employment and the Commission for Communications Regulation in the formulation of a co-ordinated development strategy for the industry.

Four market sectors were identified where Ireland has the potential to develop internationally recognised competitive advantage and these will be jointly targeted by Enterprise Ireland and IDA Ireland for promotion:

- e-Learning
- Wireless Services
- Digital Libraries
- Non-Media Applications

Climate Change and the Enterprise Sector

Further progress was made during the year in the development of a policy mix to reduce greenhouse gas (GHG) emissions in the industrial sector in line with the National Climate Change Strategy. Forfás recommended a combination of measures including negotiated agreements (NAs) with industry to reduce emissions and the introduction of an emissions trading system, under which companies could buy and sell emissions allocations.

The European Commission has published two key proposals on this issue, one dealing with Emissions Trading (ET) and the other outlining proposals for an EU wide energy tax. Implementation of the ET Directive would facilitate the enterprise sector to achieve a significant proportion of its targeted reductions in GHG emissions. Emissions Trading will come into force for an interim three year period, 2005 - 2008. Ireland must ensure that there is consistency within the EU in order to reduce any negative implications for Ireland of the emissions trading and energy taxation proposals from a competitiveness perspective. Already, however, the EU has made

concessions to German industry (emissions pooling that could have implications for market liquidity), and the UK is likely to benefit from an "opt out" clause.

The proposed EU-wide energy tax is to come into effect on 1 January 2004 and apply to heating fuels and electricity. The Government could exempt electricity from taxation for up to four years. The proposals would allow for exemptions and reductions to be applied to high energy users, to renewable energy and combined heat and power plants and to those firms entering negotiated agreements and ET.

In December 2002, the Minister for Finance, in the budget speech, announced plans for the introduction of a general carbon energy tax to coincide with the commencement of the pilot EU Emission Trading Scheme. It is proposed that the sectors designated in the ET Directive will be exempt from this tax.

Trade Policy

Rules set by the World Trade Organisation (WTO) are designed to improve the functioning of international markets in a fair, open and transparent manner, and are therefore of fundamental importance to small open economies such that of Ireland. Over the last fifty years, the WTO has regulated and progressively liberalised trade relations between Ireland and nearly all countries outside the EU, including the United States and most of Latin America and Asia. This has been a key factor behind Ireland's economic transformation over the last four decades. Since 1973, total Irish trade in goods and services has increased from €1.65 billion (IR£1.3 billion), equivalent to 81 per cent of GDP in that year, to €207.9 billion in 2001 (182 per cent of GDP), making Ireland one of the most open trading economies in the world relative to population and economic size.

At the 4th WTO Ministerial Meeting in Doha (Qatar) in November 2001, WTO members agreed to launch a new round of WTO negotiations aimed at addressing remaining barriers to flows of goods, services and investment between countries. In anticipation of the launch of these negotiations, in 2001 the Department of Enterprise, Trade & Employment requested Forfás to conduct an analysis the implications of the WTO negotiations for Irish enterprise policy, to lead an industry consultation process to inform Irish industry about the negotiations and to provide an opportunity to Irish companies to make submissions on the negotiations. In December 2002, drawing from economic analysis, feedback from the industry workshops and direct discussions with companies, Irish government departments and agencies, the European Commission and the WTO itself, Forfás completed its report. This identified Ireland's negotiating objectives on the key enterprise issues on the agenda of the new round of negotiations. The report, entitled *WTO Negotiating Objectives for Irish Enterprise Policy*, will be published in February 2003.

An update to the *International Trade and Investment Report 2001* was published in June and the *International Trade and Investment Report 2002* was presented to the Forfás Board in December, and will be published in early 2003. A half-year review of the global economy was carried out in July, together with an analysis of the implications for Irish enterprise development.

EU Affairs

In January 2002, Forfás made a written submission to the National Forum on Europe, which was established by the Taoiseach to examine Ireland's relationship with the EU and the implications for Ireland of EU enlargement. The submission focused on the benefits of EU membership to Ireland and set out the opportunities and challenges posed by EU enlargement, concentrating on those areas within Forfás' responsibility, including enterprise, trade and investment, science, innovation and technology.

Taxation

Forfás, in conjunction with Enterprise Ireland and IDA Ireland, submitted proposals for the introduction of an R&D tax credit for consideration as part of the budget 2003 deliberations. The proposals were designed to provide an incentive for companies to increase their expenditure on R&D in Ireland. This was considered necessary to ensure that Ireland is not disadvantaged as an investment location of choice. The level of R&D undertaken by businesses is currently low for an economy whose output and exports are dominated by high technology sectors. The proposed tax credit was designed to encourage incremental R&D expenditure above a specified baseline, without placing an unreasonable burden on the Exchequer.

Entrepreneurship

Forfás, together with the Department of Enterprise, Trade & Employment, the NCC and Enterprise Ireland, undertook research focused on identifying the motivators and eliminating the barriers to entrepreneurship that impact on the development of SMEs and the micro-enterprise sector. The study examined the key factors that drive entrepreneurs to establish successful businesses and to grow them, and made a number of recommendations for optimising the conditions for such entrepreneurs. This work will be continued in 2003.

National Science and Research Policy

The importance of investment in science, technology and innovation to Ireland's future economic and social development and well-being is well recognised by Government. This is reflected in the unprecedented allocations for investment in science, technology and innovation in the National Development Plan 2000-2006, of €2.5 billion, compared with an allocation of €500 million over the period 1994-1999.

Ireland has made significant and rapid progress in increasing public research investment over recent years; it now faces the challenge of ensuring that these investments deliver the economic and social benefits they are intended to achieve. In order to generate economic and social well-being, each of the elements of the national innovation system, and the interactions between them, must be strong and constructive. In this context, it is critical that appropriate structures and institutional arrangements are in place that continuously monitor, review and clearly demonstrate

that *cost effectiveness*, *efficiency* and *coherence* are being achieved in all aspects of science, technology and innovation policy formulation and implementation.

At the request of the Government, the Irish Council for Science, Technology & Innovation established a Commission comprising eminent people, both from Ireland and overseas, to bring forward proposals on developing an appropriate framework for an overarching national policy for research and technological development. Forfás provided the secretariat for the Commission. The Commission submitted a report, to the Tánaiste and Minister for Enterprise, Trade & Employment for consideration by Government, proposing a number of measures for improving the structures and mechanisms for the formulation and implementation of national policy for research and technological development.

Irish Council for Science, Technology and Innovation

The Secretariat for the Irish Council for Science, Technology and Innovation (ICSTI) is provided by Forfás. The Council advises the Government on the strategic direction of science, technology and innovation (STI) policy. Its advice encompasses all aspects of STI policy, including: primary, second and third-level education; scientific research; technology and research, development and innovation in industry; prioritisation of State spending and public awareness of STI issues. The work of the Council in 2003 concentrated on the following issues:

Measuring and Evaluating Research

In autumn 2002, ICSTI published *Measuring and Evaluating Research*. This report examined the rationale for public funding of research and the tools used to measure and assess the inputs and outputs from research. To achieve this, it reviewed the principal indicators and techniques used internationally to measure science, technology and innovation (STI) policy activities and their impacts. It provided an account of the current situation in Ireland with respect to STI indicators and their collection, as well as the application of STI evaluation tools. The Statement concluded that expertise in indicators and evaluation techniques for STI policy should be more widely embedded in public policy agencies in Ireland.

Utilising Intellectual Property for Competitive Advantage

Following the Council Statement on *Commercialisation of Research* published in February 2001, new issues were raised in relation to intellectual property from publicly funded research and linking third level research and industry.

In particular, ICSTI explored the benefits, or otherwise, of possible new guidelines or legislation for intellectual property management. ICSTI also examined best practice in other countries and, during this year, led a delegation to Denmark and Switzerland to investigate, in a more detailed manner, the practices for IP management operating in those countries. The Council is currently in the process of drafting a Statement which will include recommendations to Government for actions to support the use of intellectual property from publicly funded research. This work is scheduled for completion early in 2003.

Industrial Design and Development

A project on initiatives to strengthen the implementation of strategic design practices in industry was completed and is being prepared for publication. This work benchmarks product design and development practices in indigenous, non-food manufacturing firms and, in addition, identifies appropriate mechanisms to encourage firms to improve their strategic use of design.

European Research Area

Launched at the Lisbon European Council in March 2000, the European Research Area (ERA) initiative has become the central pillar of EU research activities. Moreover, it has very quickly become the main reference framework for discussion of research policy issues in Europe. The creation of the ERA is a key component of the strategy defined at Lisbon of making the EU the world's most competitive and dynamic knowledge-based economy by 2010. This has led to a number of different activities and is beginning to be translated into specific action in several ways. Ireland is represented by Forfás in the following ERA initiatives:

EU Framework Programme for Research, Technological Development and Demonstration (EU RTD)

The implementation and funding of the EU's research and technology development policy is done through multi-annual Framework Programmes. The Sixth Framework Programme 2002-2006 (FP6) was adopted in June 2002 with the first calls for proposals launched in December 2002. FP6 is considered as one of the major tools in the creation of the ERA.

Forfás provided policy advice to the Department of Enterprise, Trade & Employment in respect of EU RTD policy and on the negotiations of the Sixth Framework Programme. Forfás monitored Irish participation rates in EU Framework Programmes and co-ordinated the National Delegates and National Contact Points for each of the specific programmes within the Framework Programme.

Benchmarking of National Research and Development Policies

Benchmarking of research policies in Member States of the EU is viewed by the European Commission as a useful tool in the development of the European Research Area. The first cycle of benchmarking was completed in 2002. Forfás provided the Irish input to the High Level Group advising the Commission on this process.

Women & Science

The European Commission is co-ordinating a series of measures to promote women's participation in research under the *Science and Society* initiative. Within these, Forfás participates in the Helsinki Group, a policy forum for national civil servants.

Research Overheads

The Higher Education Authority (HEA) and Forfás appointed a Steering Group to address the issue of overheads (indirect costs) for research funding in third level institutions. The Steering Group comprised representation from the third-level

institutions, research funding agencies and government departments, and is chaired by Dr John Donnelly.

Whereas all nationally funded research fully covers direct costs, the indirect costs associated with research have not been assessed and do not appear to be adequately covered by existing funding arrangements. The objective of the review was to seek agreement on an approach for the funding of overheads and indirect costs in Exchequer funded research programmes and projects in third level institutions. The resulting policy framework would ensure proper and sufficient funding of research, whilst ensuring that research funds are not diverted to other activities, and that funding is not duplicated. The Group has made recommendations on a policy framework to address these issues.

European Strategy Forum on Research Infrastructures

Since April 2002, Forfás has been represented on the European Strategy Forum on Research Infrastructures (ESFRI). The Forum was set up by the Member States at the initiative of the Commission, and its mission is to provide a multidisciplinary platform open to all EU countries to monitor the needs expressed by the scientific community on an ongoing basis.

The intention is that the Forum will act as an incubator for European or multinational projects with the aim of developing new infrastructures in Europe. Its establishment is seen as “a new step in the construction of the European Research Area”, since infrastructures constitute an important element in structuring and integrating the European scientific community.

Skills

The Expert Group on Future Skills Needs was established by Government in 1997 to develop national strategies to tackle the issue of skills needs, manpower estimating, training for business and education in Ireland. Forfás provides a Secretariat to the Group. During 2002, the Expert Group and its various sub-groups addressed a number of individual sectors and issues ranging from biotechnology to the construction sector. The Group held several sectoral workshops to incorporate industry and academic input into its reports. Specific skills studies that the Group carried out included studies on the biotechnology sector, engineering skills, the food sector, the construction craft sector, construction professional skills, soft skills, and a national vacancy study of the private and public sectors.

In the context of a slow-down in employment growth, it is important to measure the extent of constraints to further expansion and development of the labour market in both the private and public sectors. The third *National Vacancy Survey* was jointly commissioned by Forfás and FÁS for the Expert Group on Futures Skills Needs, with a view to assessing the incidence, level, nature and consequences of vacancies in the private and public sectors. The report highlights the changes that have taken place in the labour market since the second national vacancy survey was undertaken in 1999/00. It charts the changes in the number of reported vacancies by sector and by

occupation, and provides information about firms experiencing difficulties in retaining staff, the extent of recruitment from abroad, perceptions of changes in skills and the regional variations of vacancies. A key finding of the report was that the vacancy rate in the private sector had fallen from six per cent to three per cent since the previous survey. The vacancy rate in the public sector was one percentage point higher at four per cent (the 1999/00 report did not include the public sector). Also, almost two thirds of the vacancies in public sector are for professional or associate professional occupations whereas most of the existing vacancies in the private sector (almost two thirds) are for jobs requiring intermediate or lower level skills.

2. Coordination

Enterprise Area Scheme

Forfás administers the Enterprise Area Scheme which 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 & Employment, following consultations with the Minister for Finance, on the recommendation of Forfás in consultation with IDA/Enterprise Ireland. To date 87 qualifying companies have been issued a total of 90 certificates. Fifty-four of these have been issued to companies located in the Dublin, 31 in Cork and two elsewhere. In total, the companies in receipt of certificates employ approximately 6,000 people in the various enterprise areas.

Awareness Programmes

The National Skills Awareness Campaign

The National Skills Awareness Campaign, which is managed by Forfás, operates under the aegis of the Expert Group on Future Skills Needs. The mission of the Campaign is to promote the work undertaken by the Expert Group and to encourage school leavers to consider careers in specific sectors. During 2002 the campaign focussed on 14 key occupations identified by the Expert Group as likely to experience skills shortages over the next few years. Amongst the activities undertaken during the year were:

- participation in major career exhibitions such as *FAS Opportunities 2002* and *The Irish Times Higher Options Conference*. A number of additional Career Evenings held in schools were also attended;
- the production and distribution of a video of the *Just the Job* TV series;

- the publication of a book entitled *Engineering as a Career*;
- the publication of an *Event Calendar* and the first issue of the *GETSET* newsletter. This was done in association with the Science, Technology, Innovation Awareness Programme (also run by Forfás – see below) and Science, Technology and Engineering Programme for Schools (STEPS) campaign, which is administered by the Institute of Engineers of Ireland;
- the *Change of Mind Campaign*: A campaign was undertaken to raise the level of awareness of potential opportunities in the ICT Sector. The campaign was co-sponsored by ICT Ireland and The Expert Group on Future Skills Needs and was aimed at encouraging leaving certificate students to avail of their Central Applications Office (CAO) Change of Mind form before the closing date of July 1 and apply for one of the many courses which provide a route to this sector.

Science, Technology & Innovation Awareness Programme

The key objective of the Science, Technology and Innovation (STI) Awareness Programme is to promote awareness and a positive perception of science, technology and innovation among:

- young people (to encourage them to view both careers in science, technology, engineering and innovation and scientific subjects in a more favourable light);
- Irish business (to stimulate them to consider technology and innovation and the associated possibilities for their companies);
- the general public (to raise their awareness of and comfort with science and technology issues);
- opinion leaders (including senior civil servants, politicians, academics, teachers and journalists); and
- the media (to encourage them to realise the importance of science, technology and innovation for Ireland, and their resulting relevance to their audiences, and to assist them in obtaining material which they can cover in an informed manner).

The core activities of the STI Awareness Programme throughout 2002 were:

- Science Week Ireland (10-17 November): The objective of Science Week Ireland is to improve the public perception of science and technology. The target audience is young people, their parents and the general public. Some 200 or more events were organised with festivals in selected larger towns and cities.
- Primary Science Day: The objective of Primary Science Day is to encourage children of primary school age to discover the fun of science, while also linking the activity to the revised primary school curriculum. The event is also sponsored by the Department of Education & Science. This year's event was held on December 3 and the theme was electricity. A kit including supporting information, worksheets and a range of classroom materials was provided to enable children gain hands-on experience of science.
- The National Innovation Awards: Over the past five years the Innovation Awards have become a recognised event in the national calendar. The objective is to both reward and encourage firms and to promote an innovative culture. The target audience is companies. In 2002 the Awards were jointly sponsored by

InterTradeIreland, Invest Northern Ireland, Forfás and the Irish Times. The 2002 award winners were as follows:

Overall Award	Ulster Carpets
Small Business Winner:	Xonen Technologies
Medium Business Joint Winner:	Connaught Electronics Ltd
Medium Business Joint Winner:	Schrader Electronics
Large Business Winner:	Ulster Carpets
New Technology Business Joint Winner:	Wilde Technologies
New Technology Business Joint Winner:	Fusion Antibodies Ltd

- The Science & Technology Journalism Awards: The objective of these awards is to recognise good writing about science and reward journalists who do most to increase the level of understandable and accessible information on science and technology to the general public. The awards ceremony will take place in Dublin in February 2003.

Negotiating Guidelines

Under the Industrial Development Acts, 1993 and 1998 and the powers assigned by Forfás to the development agencies, Forfás is charged with reviewing and submitting the negotiating guidelines of Enterprise Ireland and IDA Ireland to the Minister and Department of Enterprise, Trade & Employment (DETE) for approval. A key objective is to ensure in so far as possible that the guidelines of the agencies conform to national and EU legislation and are broadly consistent in their treatment of firms.

In 2002, Forfás undertook a review of the proposed 2002 negotiating guidelines for EI and IDA Ireland. It concluded that the guidelines were in compliance with national industrial development legislation and policy and EU regulations, and that the proposed guidelines of both agencies were broadly consistent in their treatment of firms.

Economic Model

The Economic Appraisal Procedure is used by the development agencies to assist them in deciding whether to provide support for potential industrial development projects. The procedure appraises the economic benefits (from wages, profits, taxes, etc) and the cost of enterprise development projects to the State (mostly grant aid). Following a review undertaken by Professor Brendan Walsh & Associates, a revised procedure was agreed and implemented in 2002. The revised Economic Appraisal Procedure was approved by Government in September 2002, and will be published by Forfás in 2003.

Regional Strategic Agendas

During 2002, implementation of both the National Development Plan (NDP) 2000-2006 and National Spatial Strategy (NSS) 2002-2020 focused renewed attention on regional policy issues in Ireland. Forfás helped to co-ordinate the approach of the development agencies in addressing this requirement by re-designing their regional strategies in an attempt to achieve a larger volume of enterprise activity in the regions.

Regional Strategic Agendas (RSAs) are strategic plans for the development of the regions in which the development agencies (IDA Ireland, Enterprise Ireland, Shannon Development, Údarás na Gaeltachta) are operating. Each RSA contains a profile of the respective region (eight in total), followed by a profile of the strengths, weaknesses, and threats of that region, together with a set of development objectives towards which the agencies will work. Key issues that need to be addressed in order to allow the enterprise development agencies to realise their regional strategic goals are the provision of critical infrastructure (roads, energy networks, waste management facilities, telecommunications), the strengthening of local educational facilities and the development of the local skills base.

The RSAs provide the agencies and their regional teams with a long term plan for the development of their target regions. They emphasise that developing the regions will require a collective effort by all appropriate public bodies, regional organisations and local communities, and that there are limits to what the enterprise development agencies can achieve by themselves.

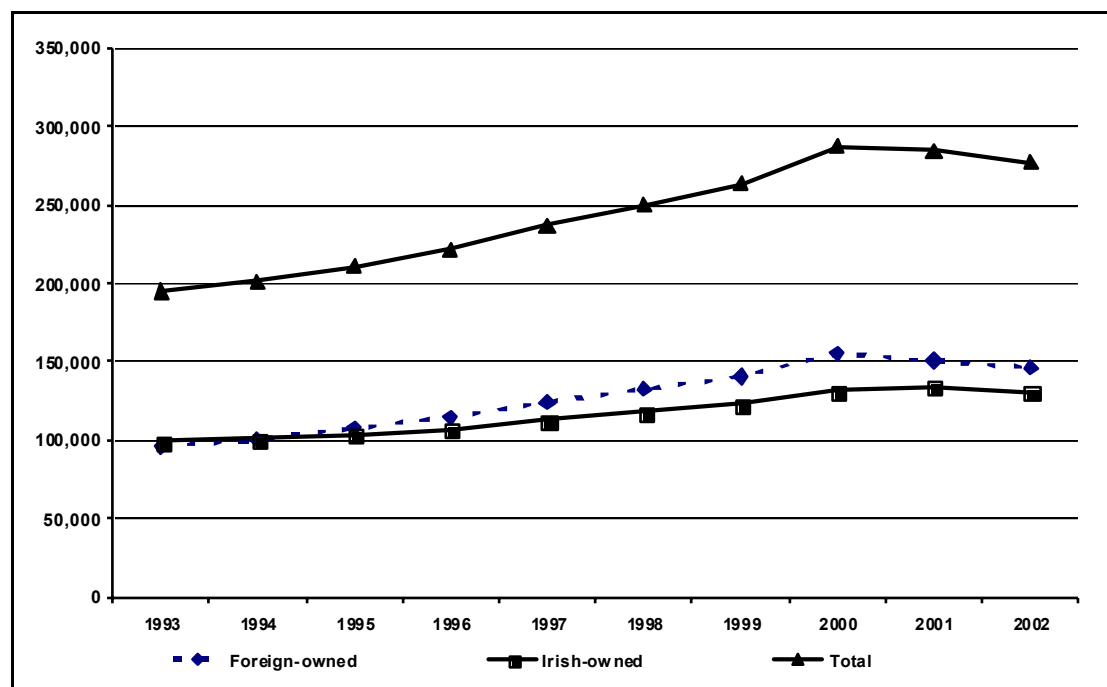
3. Monitoring & Review

Research Capabilities Study

The Government, Forfás and SFI wish to ensure that the significant investment by *Science Foundation Ireland* (SFI) of over €600 million in the period 2001-2006 in research in biotechnology and in information and communications technologies will succeed in developing a strong research capability in these areas. The activities and impacts of SFI will be monitored and evaluated over the coming years. To assist in the evaluation process a study was commissioned by Forfás to assess the baseline research situation in biotechnology and in ICT before SFI came on stream. This study commenced in mid 2001 and was completed by end 2002. It will be published early in 2003.

Appendix 1

Trends in Permanent Employment 1993-2002 Foreign-owned and Irish-owned Companies Manufacturing and Internationally Traded / Financial Services

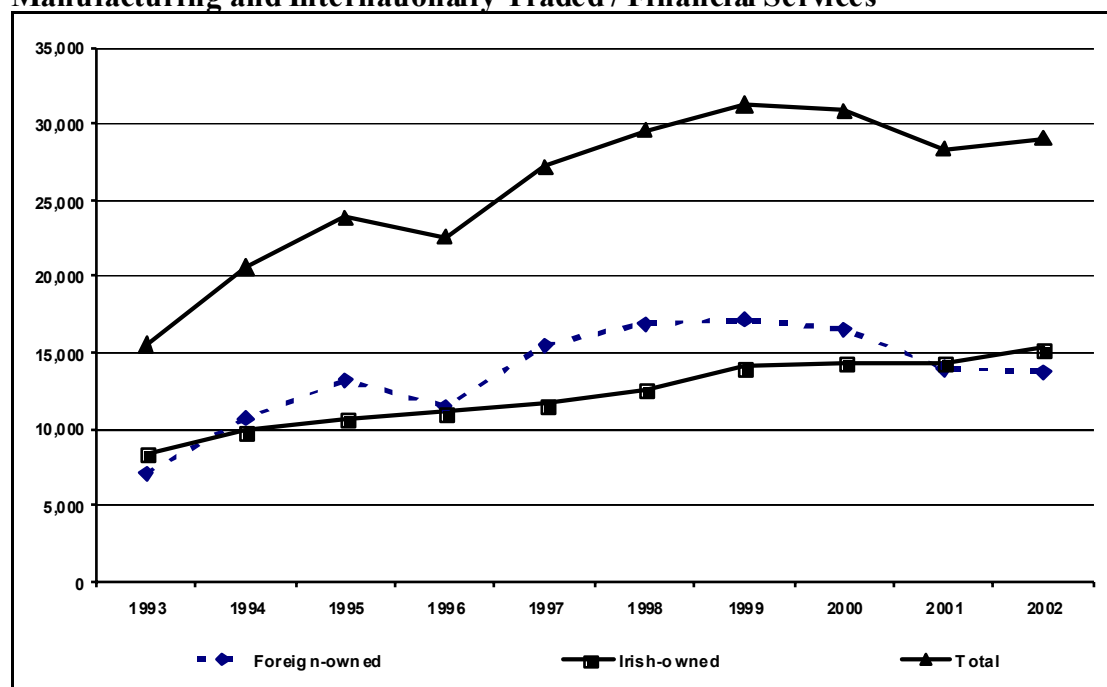


Source: *Forfás Annual Employment Survey* (Data excludes companies under the remit of Shannon Development and Údarás na Gaeltachta.)

	Foreign-Owned	Irish-owned	Total
1993	96,073	98,914	194,987
1994	100,439	100,672	201,111
1995	107,572	103,041	210,613
1996	114,641	107,328	221,969
1997	123,955	113,057	237,012
1998	132,426	117,630	250,056
1999	140,626	122,895	263,521
2000	155,280	131,791	287,071
2001	150,650	134,267	284,917
2002	146,061	130,947	277,008

Appendix 2

Trends in Part-Time, Temp. and Short-Term Contract Employment 1993-2002 Foreign-owned and Irish-owned Companies Manufacturing and Internationally Traded / Financial Services



Source: *Forfás Annual Employment Survey* (Data excludes companies under the remit of Shannon Development and Údarás na Gaeltachta.)

	Foreign-Owned	Irish-owned	Total
1993	7,102	8,445	15,547
1994	10,706	9,913	20,619
1995	13,189	10,697	23,886
1996	11,481	11,101	22,582
1997	15,528	11,634	27,162
1998	16,909	12,651	29,560
1999	17,175	14,082	31,257
2000	16,559	14,340	30,899
2001	13,976	14,360	28,336
2002	13,769	15,291	29,060