

National
Competitiveness
Council



2001
Annual
Competitiveness
Report



Annual **2001**
Competitiveness
Report

December 2001



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Mr Kevin Bonner	Partner Business Insight Limited
Mr William Burgess	Managing Director & Chairman IBM Ireland Limited
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Mr Neil Ormonde	Consultant
Mr John Travers	Chief Executive Officer Forfás
Ms Jane Williams	Managing Director The Sia Group
National Competitiveness Council	Secretariat Forfás Wilton Park House Wilton Place Dublin 2 Tel: 01-607 3000 Fax: 01-607 3030 e-mail: ncc@forfas.ie Website: www.forfas.ie

Foreword by An Taoiseach



Ireland is currently facing challenges resulting from the natural slow-down of the Irish economy from historically high rates, sharpened by a down-turn in global demand and increased economic and political uncertainty worldwide. Competitiveness, the ability to win and keep business in domestic and foreign markets, has been the foundation of our recent economic success. Similarly, maintaining and improving competitiveness will be the basis on which we minimise the effects on our economy of a global slow-down and ensure that we will remain successful in the future. Accordingly, competitiveness is a key priority of Government policy.

In pursuing the tasks that the Government has mandated to it, the National Competitiveness Council undertakes its work within a broad definition of competitiveness. At its simplest, competitiveness is about the costs that enterprises face relative to their productivity. But the many factors that influence this simple equation include the skills level of the workforce, the attitude of both individuals and employers to ongoing training, the delivery of education and training, the strength of the culture of research and development, the quality of infrastructure, the regulation of markets, the efficiency and effectiveness of public administration and so on. In the current environment of global economic uncertainty and slow-down, it is essential that we focus on the full range of factors that influence competitiveness. The Government is committed to doing this, as is clear in the broad range of initiatives in the National Development Plan.

The National Competitiveness Council, which was set up in 1997 under *Partnership 2000*, plays an important role within the social partnership process. It provides a valuable input to the formation of Government policies through its work on competitiveness benchmarking, its overview of the complex range of factors that determine competitiveness, through its policy recommendations and through the follow-up it undertakes on these recommendations with Government Departments and agencies in conjunction with my Department. Through its links with business and worker representatives, with Government Departments and with the industrial development agencies, the Council is in an excellent position to communicate emerging issues for the enterprise sector and to identify obstacles to economic development as they begin to arise.

I am very pleased to introduce both *Annual Competitiveness Report 2001* and *Competitiveness Challenge 2001*. The Government will carefully consider the recommendations. I would like on my behalf and that of my colleagues in Government to thank the Council for its important work.

A handwritten signature in black ink, which appears to read 'Bertie Ahern'. The signature is fluid and cursive.

Mr Bertie Ahern, T.D.,
Taoiseach

December 2001



Preface



This year the Council is launching together its two main annual publications: *Annual Competitiveness Report 2001* and *Competitiveness Challenge 2001*.

Annual Competitiveness Report 2001 is the fourth such report published by the Council. It compares Ireland's competitiveness with that of our main trading partners using a broad range of statistical indicators from authoritative sources such as Eurostat and the OECD. For this year's report we have expanded the breadth and depth of our coverage, replacing many of the original indicators and adding new ones. We have also put new emphasis on summary indicators – both Key Indicators and Competitiveness Scores, which capture Ireland's overall performance in particular areas in a single measure. I believe that these changes make the Report more accessible and useful to readers and facilitate the emergence of clear messages about our competitiveness from the data.

Competitiveness Challenge 2001 is the Council's main policy statement for the year. The context for this contribution is that the economic climate has changed dramatically over the past months. The down-turn both in the global economy and in our own economy is sharper than expected, and the sense of political and economic uncertainty has been exacerbated by the terrible events of September 11th that took place in New York and Washington D.C. and their continuing repercussions.

Ireland's economy has performed remarkably well in recent years. Continued success in the difficult period ahead is by no means guaranteed. Competitiveness must once again move centre stage, particularly since we no longer have domestic control of the traditional economic tools of exchange rate and interest rate policy. The competitiveness of our traded goods and services sector provides the best instrument of security in maintaining and enhancing the living standards of our citizens. It is ultimately the basis of the jobs in which people are employed, the income levels they enjoy and the resources which underpin Government expenditure in areas such as education, healthcare, social welfare, and transport infrastructure.

In *Competitiveness Challenge 2001*, the Council calls for action in a number of areas. We are particularly concerned about the cost environment for enterprise, including rapidly rising employment costs, the delivery of necessary infrastructure in the areas of transport, telecommunications, energy and waste, improvement in market regulation, and increased effectiveness and efficiency in the public sector. Other areas of primary concern include investment in education/training and research and development, which are crucial to Ireland continuing the transition to a high value-added, high income economy.

In many cases, we already know what needs to be done, but have not yet managed effective delivery. Some of the Council's recommendations address this type of difficulty. As before, the Council strongly emphasises the potential of a dynamic Social Partnership process to support and maintain a competitive economy - albeit with a requirement to improve its effectiveness and respond to a rapidly changing environment. In the coming period, the challenge for the continuing relevance of the Social Partnership process lies in its capacity to ensure that the competitiveness of the enterprise sector is a touch-stone for social and economic progress.

Brian Patterson
Chairman
National Competitiveness Council

December 2001



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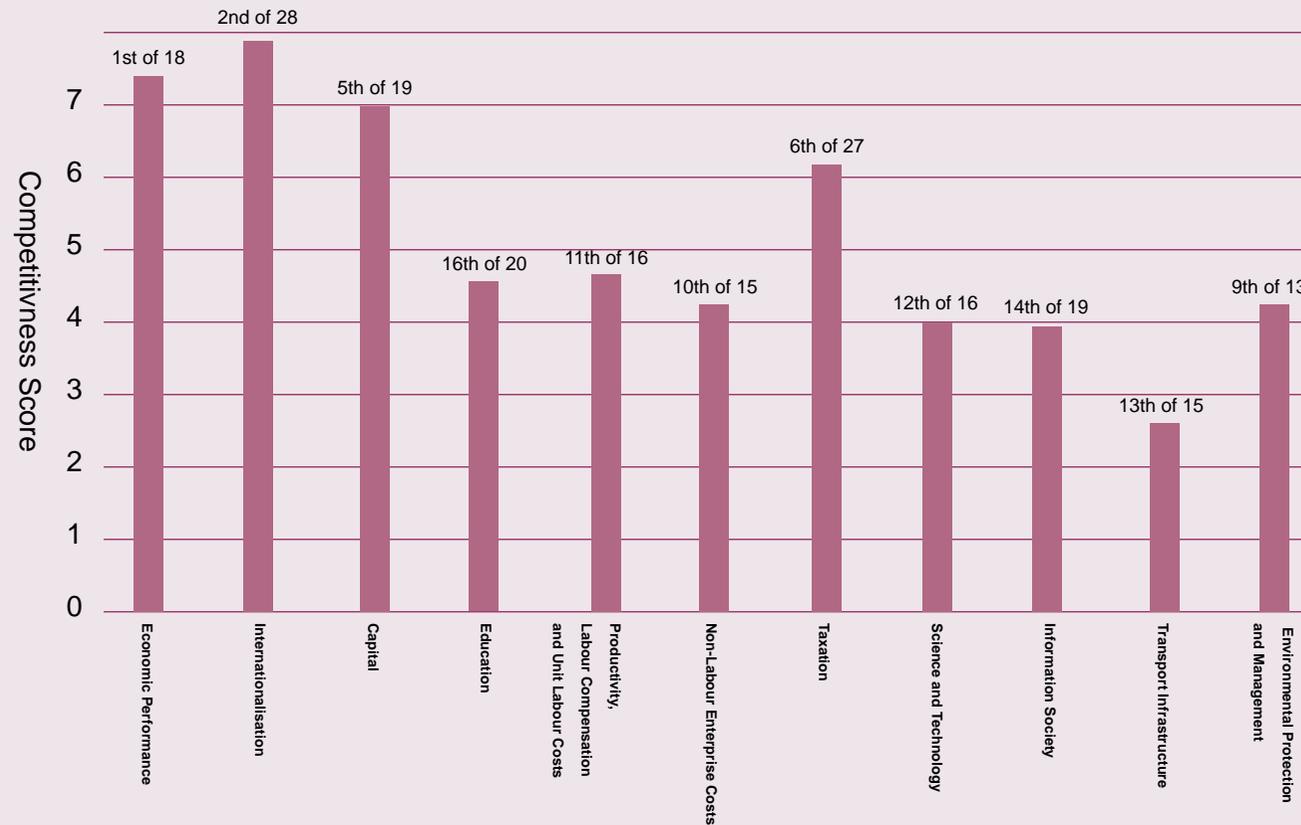
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Overview I

Measuring Ireland's Competitiveness among OECD Countries:

Competitiveness Scores and Ranks for 11 Competitiveness Aspects



The Competitiveness Score is based on the Key Indicators for Economic Performance (see opposite)

Competitiveness Headlines

Based on Eleven Aspects of Competitiveness

Ireland's **Competitiveness Score for Economic Performance** gives it a rank of 1st out of 18 countries. This particularly reflects very strong economic growth over the last five years continuing into 2001, rapid capital formation, rapid export growth in goods and services, positive current account balances and an extremely rapid expansion in the numbers at work.

Ireland's **Competitiveness Score for Internationalisation** gives it a rank of 2nd out of 28 countries. This reflects a high degree of trade openness and very strong export growth performance for both goods and services.

Ireland's **Competitiveness Score for Capital** gives it a rank of 5th out of 19 countries. This high rank reflects Ireland's generally good performance in this area, in particular on short-term and long-term interest rates, the rate of return on capital in the business sector, and the extent of cumulative venture capital raised.

Ireland's **Competitiveness Score for Education** gives it a rank of 16th out of 20 countries. This reflects a low level of investment in education as a proportion of GNP or GDP, low levels of absolute expenditure per student, low educational participation rates, a low level of educational attainment - particularly in regard to the proportion of the population with at least upper secondary education and a low level of literacy.

Ireland's **Competitiveness Score for Productivity, Labour Compensation and Unit Costs** gives it a rank of 11th out of 16 countries. This reflects medium level productivity, outstanding productivity growth, good to medium performance in regard to current wage levels, but rapid acceleration of both wages and unit costs.

Ireland's **Competitiveness Score for Non-Labour Enterprise Costs** gives it a rank of 10th out of 15 countries. This ranking reflects medium cost levels for most telecom services, commercial fuel and electricity (see also below), high office rents, and very high charges for mobile calls.

Ireland's **Competitiveness Score for Taxation** gives it a rank of 6th out of 27 countries. This reflects a low overall tax burden (total tax revenue as a proportion of GDP), a relatively small tax wedge between the total cost of labour to employers and employees' take-home wages, better than medium performance on marginal tax rates for personal income tax except for single people, the lowest rate of corporate taxation barring only Hungary, and a roughly average position in relation to the size of the corporate tax take as a proportion of GDP.

Ireland's **Competitiveness Score for Science and Technology** gives it a rank of 12th out of 16 countries. This fairly low rank reflects a medium level of business and gross expenditure on R&D (unfortunately the most up-to-date data in this area refer to 1997), a low share of the Government budget allocated to R&D, and medium performance in indicators of innovation outputs.

What the data do not reflect: Investment in R&D

The National Development Plan provides for a major expansion in R&D activity. Total cumulative expenditure will amount to almost £2bn, of which over £1.1bn is specifically allocated for fundamental research - £560m through the Technology Foresight Fund and £550m to be channelled through the Department of Education and Science for third level institutions. The Plan will make a significant contribution towards boosting Ireland's R&D activity and capability in the Government and higher education sectors. However, increasing R&D in the business sector is more problematic.

Ireland's **Competitiveness Score for Transport Infrastructure** gives it a rank of 14th out of 15 countries. This reflects a low density of rail infrastructure, very little rail electrification, a medium density road network and an under-developed motorway network.

What the data do not reflect: Investment in Infrastructure

The significant expenditure on infrastructure towards the end of the last decade and particularly the very considerable expenditure planned under the current National Development Plan will certainly improve the stock of transport infrastructure. Nonetheless, given the long period of under-investment, advancing our competitive position in this regard is likely to take some time. Ireland's per capita investment in transport infrastructure between 1990 and 1996 was 13th lowest out of 15 European countries. The leading country, Luxembourg, invested almost four times as much per capita over the same period.

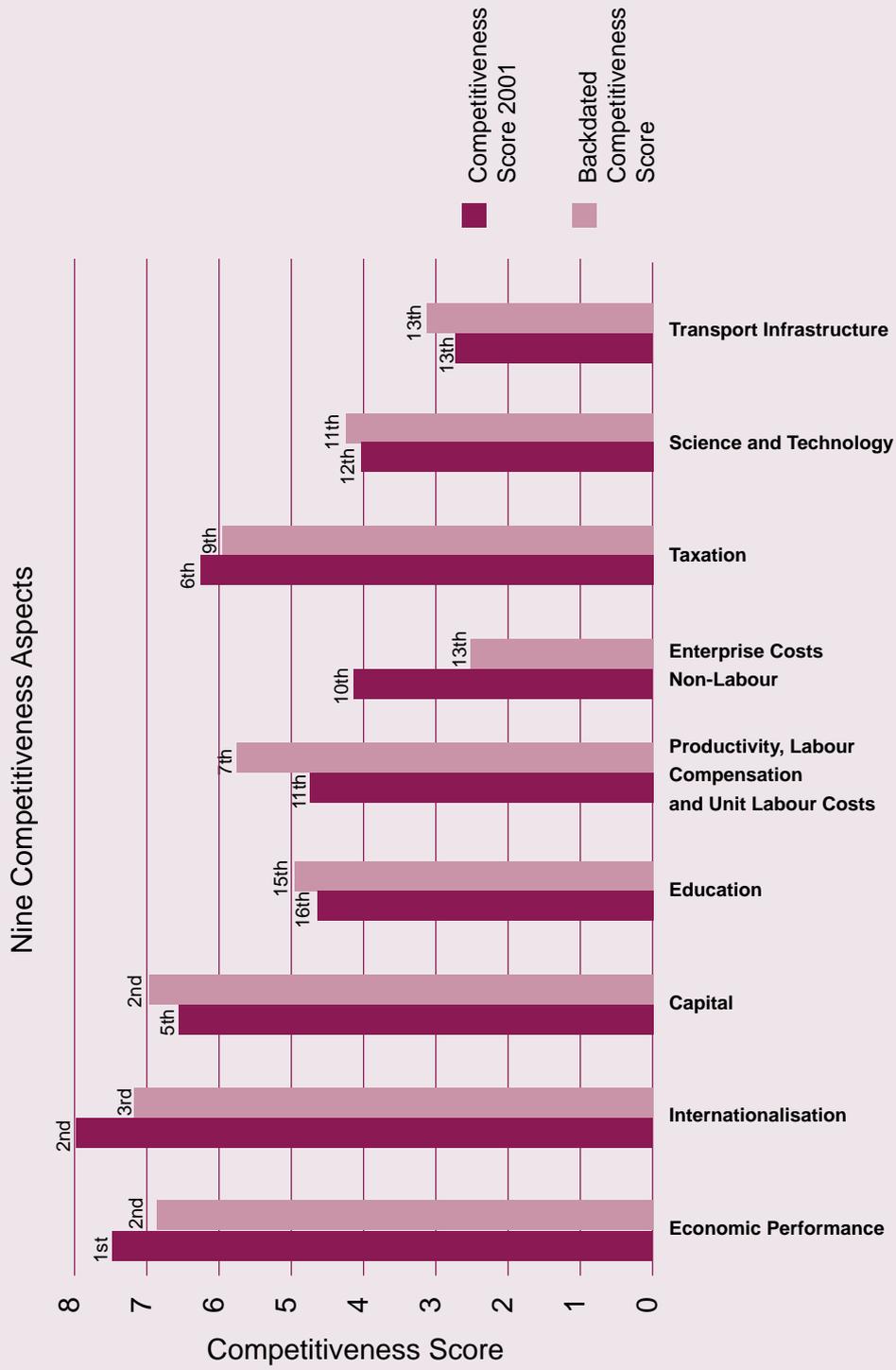
Ireland's **Competitiveness Score for Information Society** gives it a rank of 14th out of 19 countries. This relatively low rank particularly reflects very poor broadband access (DSL) in terms of lines per 100 population, low incidence of online business-to-business and business-to-consumer transactions, and a low rate of SME connection to the Internet.

Ireland's **Competitiveness Score for Environmental Protection and Management** gives it a rank of 9th out of 13 countries. This reflects threats to the environment and aspects of management and protection rather than the state of the environment, which is generally good. This low rank is due in particular to the low proportionate amount of protected land, very intensive use of nitrogenous fertilisers, high rates of waste generation, both industrial and municipal (which includes domestic and commercial waste), and very low proportionate expenditure on pollution abatement and control.

Key Indicators

Of a total of 95 Key Indicators (listed under each Competitiveness Aspect in Section II of the report), Ireland is in the first quarter of countries in 27 per cent of the cases, in the second quarter in 29 per cent of the cases, in the 3rd quarter in 25 per cent of the cases, and in the 4th quarter in 19 per cent of the cases. On this basis, we could say that Ireland is in the second quarter of OECD countries for competitiveness overall.

Changes in Competitiveness Over Time



Changes in Ireland's Competitiveness over Time

The figure on page 5 shows the current Competitiveness Score for each of nine of the eleven Aspects compared with a backdated Competitiveness Score for the Aspect. (Due to lack of availability of required data, it was not possible to calculate backdated Competitiveness Scores for Information Society and Environmental Protection and Management.)

In general, the backdated Competitiveness Scores are not substantially different from the current ones.

In the case of **Economic Performance**, Ireland's rank improved from 2nd to 1st. This reflects Ireland's very strong recent performance with regard to employment, export and GDP growth and public finances.

In the case of **Internationalisation**, Ireland's rank improved from 3rd to 2nd. This again reflects strong export growth, as well as increased levels of outward direct investment.

In the case of **Capital**, Ireland's rank disimproved from 2nd to 5th. This reflects increases in short-term interest rates, a slight fall in returns on US investment in Ireland abroad, and a decrease in the level of stock market capitalisation as a proportion of GDP.

In the case of **Education**, Ireland's rank disimproved from 15th to 16th. This reflects a fall in expenditure on public and private educational institutions as a proportion of GNP (although expenditure in absolute terms rose).

In the case of **Productivity, Labour Compensation and Unit Labour Costs**, Ireland's rank disimproves from 7th to 11th. This reflects rapid growth in wages and unit costs.

In the case of **Non-Labour Enterprise Costs**, Ireland's rank improved from 13th to 10th. This reflects better comparative performance with regard to automotive diesel and industrial gas prices. The data do not reflect other rising costs such as higher insurance premia and higher electricity prices introduced this year.

In the case of **Taxation**, Ireland's rank improves from 9th to 6th. This reflects recent cuts in taxation. The data do not reflect the abolition, effective from this year, of the employers' PRSI ceiling.

In the case of **Science and Technology**, Ireland's rank disimproved from 11th to 12th. This reflects a slight deterioration of performance with regard to patents applied for and granted.

In the case of **Transport Infrastructure**, Ireland's rank remained 13th (although there was a slight disimprovement in Competitiveness Score).

Two Further Competitiveness Aspects: Regulatory Environment and Quality of Life

The National Competitiveness Council has identified two further Competitiveness Aspects that are not covered in detail in this Report: namely, Regulatory Environment and Quality of Life.

There are few reliable up-to-date quantitative international data with which to benchmark Ireland's **Regulatory Environment**. In April 2001, the OECD published its review *Regulatory Reform in Ireland*. The conclusion was that while much progress has been made in the 1990s, there is still room for improvement. The OECD observed that Ireland is one of the less regulated countries in terms of barriers to entry and entrepreneurship, market openness and labour markets. However weaknesses were identified in certain areas, including transport, energy, legal services, pharmacies, pubs, and a general under-emphasis of consumer interest in policy.

While the National Competitiveness Council recognises **Quality of Life** as a fundamental aspect and goal of competitiveness, it was considered that the calculation of a Competitiveness Score for quality of life would not be appropriate given the lack of availability of data and the very subjective nature of the judgements that would be required to establish such a statistic. That said, quality of life is generally good in Ireland. For example, the UN *Human Development Report* for 2001 ranked Ireland 18th out of 162 countries using its Human Development Index. The factors that can be considered to detract from quality of life in Ireland include a high level of income inequality and poverty and relatively low life expectancy for both males and females.

**Focus on Eleven Aspects
of Competitiveness**

II

Standard measures of national economic success are a natural starting point for measuring competitiveness. Under the heading Economic Performance are indicators of (i) economic output, (ii) investment and savings, (iii) export performance, (iv) current account balance, (v) inflation, interest rates and effective exchange rates, (vi) employment, and (vii) government expenditure. These indicators reflect the condition of the macro-economy. It is important to note that current economic success reflects investment and strategic decisions taken in the past. Similarly, future success is dependent on investment and strategic decisions taken in the present.

Competitiveness Aspect
Economic Performance **1**

Economic Performance

**Competitiveness
League Table**

	Country	Score
1	Ireland	7.4
2	Finland	6.4
3	Netherlands	6.1
4	Canada	5.7
5	Denmark	5.6
6	US	5.4
7	Sweden	5.2
8	UK	5.0
9	Spain	4.8
10	Belgium	4.7
11	France	4.7
12	Austria	4.6
13	Norway	4.6
14	Portugal	4.2
15	Germany	4.1
16	Greece	3.7
17	Japan	3.5
18	Italy	2.8

Competitiveness Score: Economic Performance

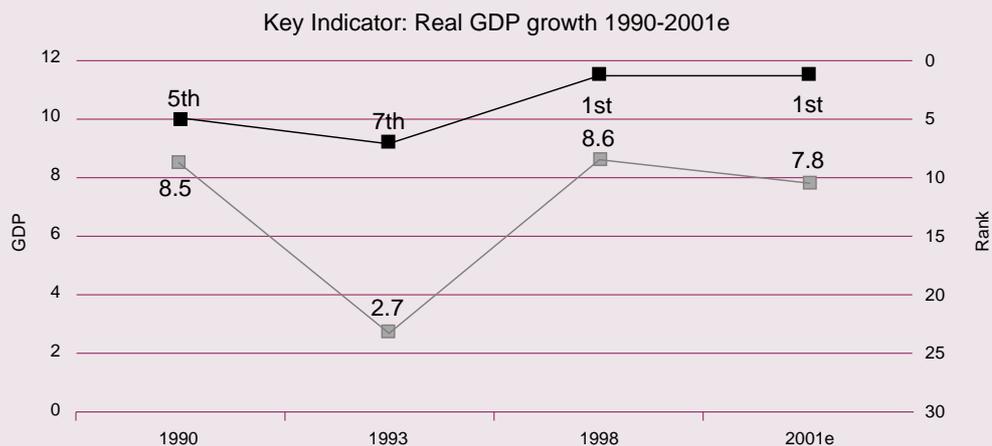


The Competitiveness Score is based on the Key Indicators for Economic Performance (see opposite)

Economic Performance

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
GDP per capita using current prices and PPPs US\$		✓			29	Luxembourg US Switzerland
Real GDP growth (%) 2001e	✓				29	Ireland Luxembourg Hungary
Real GDP growth over 5 years (1997 = 100) 2001e	✓				29	Ireland Luxembourg Mexico
Real gross fixed capital formation growth over 5 years (1998 = 100) 2001e	✓				30	Ireland Mexico Poland
Gross national saving (percentage of nominal income) 5 year average 1999		✓			20	Korea Norway The Netherlands
Export performance of total goods (merchandise) - % change 1997-1998	✓				29	Hungary Ireland Czech Republic
Export performance of commercial services - % change 1997-1998	✓				29	Ireland Poland Turkey
Current account balances (as percentage of GDP) 5 year average 2001e	✓				28	Ireland Switzerland Norway
GDP deflator change over 5 years (1997=100) 2001e				✓	29	Japan Germany Switzerland
Five year change in total employment 1994-1999	✓				28	Ireland Luxembourg Spain
Male participation rate (% population 15-64) 2000			✓		29	Iceland Switzerland Mexico
Female participation rate (% population 15-64) 2000			✓		29	Iceland Norway Sweden
Standardised unemployment rate Q2 2000		✓			23	Korea Mexico New Zealand
Current net lending or borrowing of general government as a percentage of GDP 1999e	✓				15	Finland Denmark Ireland
General government consolidated gross debt as a % of GDP		✓			15	France Luxembourg Finland

Tracking Changes in Competitiveness over Time



Source: OECD Economic Outlook June 2001

What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Economic Performance** gives it a rank of 1st out of 18 countries. This particularly reflects very strong economic growth over the last five years, rapid capital formation, rapid export growth in goods and services, positive current account balances and an extremely rapid expansion in the numbers at work over the last 5 years.
- A backdated **Competitiveness Score for Economic Performance** gives Ireland a rank of 2nd out of 16 countries. The subsequent improvement in rank reflects growth in GDP per capita, increased average gross national savings over five years, export growth in both goods and services, continued employment growth over five years as well as improvements in government finances.

- **Change over time: Focus on real GDP growth, 1990 to 2001**

The Irish economy has been among the fastest growing economies in the OECD over the past 10 years. In 1990, the real GDP growth rate was 8.5 per cent, corresponding to a rank of 5th. The rate dipped to a much slower 2.7 per cent in 1993. However, the fact that this corresponded to a rank of 7th illustrates the poor performance of the global economy at this time. The figure across shows the Irish economy growing at the fastest rate in the OECD, 8.6 per cent, in 1998. This rank of 1st has been maintained until the present time.

Output

- In terms of economic growth, Ireland out-performed all other countries in the OECD in the last five years. Output has increased by more than half in this period. This is almost four times the average amount of growth experienced by EU countries and more than three times the OECD average.
- In regard to GDP per capita, Ireland ranked 9th out of 29 countries in 1999. Of the 15 EU countries, Ireland ranked 4th. Substituting GDP per capita with GNP per capita for Ireland only, Ireland ranks 9th out of 17 countries (the EU 15, Japan and the US), using estimated data for 2000.

Investment and Savings

- Ireland is ranked 1st out of 29 countries for real gross fixed capital formation growth, both for 2001 (estimated) and for the period 1997 to 2001. In the period 1997 to 2001, Ireland has almost doubled its stock of gross fixed capital.
- Gross national saving as a percentage of nominal income (5 year average) stood at 22.9 per cent in 1999, giving Ireland a ranking of 6th out of 20 countries. Korea was ranked 1st with a rate of 33.6 per cent.

Export Performance

- For the year 1997 to 1998, Ireland was ranked 1st and 2nd respectively in export growth for goods and commercial services. (See also 'Internationalisation'.)

Current Account Balance

- Ireland's current account balance as a percentage of GDP is forecast at -0.9 per cent for 2001, corresponding to a rank of 13th out of 28 OECD countries. Over half the countries in the comparison group have negative balances. Of these, Ireland's is the second smallest. This will be the first time since 1990 that Ireland has recorded a negative balance. However, this outturn has been fully expected. High growth in incomes tends to lead to increases in imports, and the figure has been falling steadily from a peak of 2 per cent in 1996.

Inflation, Interest Rate and the Effective Exchange Rates

- Inflation in Ireland in 2001, as measured by the GDP deflator, is expected to be 4.6 per cent, which puts it amongst the highest rates in the OECD. Of 29 countries in the comparison group, only 6 will have higher inflation than Ireland in 2001.
- Ireland's effective exchange rate fell from 1995 to 2000, yielding a competitiveness gain of approximately 10 per cent. In its June 2001 *Economic Outlook*, the OECD predicted a slight increase on the 2000 level for 2001. However, with the dramatic change in global economic conditions over the past months, a stronger appreciation of the euro against sterling and the US dollar is now anticipated.

Employment

- Employment grew by 27 per cent in Ireland in the five years to 1999. This is by far the highest growth figure in the comparison group over the period in question.
- The male participation rate in Ireland for the 15-64 age cohort was 79.1 per cent in 2000, giving a ranking of 17th out of 29 countries.
- A breakdown of the male participation rate by different age cohorts shows that the Irish rate for the 15-24 cohort is above the EU average, but below the OECD average (corresponding to a rank of 15th out of 29 countries). The rate for the 25-54 cohort is marginally below both the EU and OECD averages (15th out of 29 countries), and the rate for the 55-64 cohort is above the EU and OECD averages (11th out of 29 countries).
- Female participation has been growing rapidly, but as of 2000 the figure, 55.7 per cent, still put Ireland at the bottom of the third quartile of countries, below both EU and OECD averages (21st out of 29 countries). Examining the female participation rate by different age cohorts shows above EU-average participation in the 15-24 cohort (corresponding to a rank of 15th out of 29 countries) and below EU-average participation in the 25-54 (22nd out of 29 countries) and 55-64 (18th out of 29 countries) age cohorts.
- Unemployment, including long-term unemployment, has been falling rapidly. Using the most recent international data (relating to the 2nd quarter of 2000) only 5 developed countries had lower unemployment rates than Ireland. Since that time, Ireland's standardised unemployment rate has fallen from 4.7 to 3.7 per cent (September 2001).

Government Expenditure

- At 35 per cent in 1998 (the estimated figure for 2000 is 33 per cent) Irish government spending was the lowest in the EU as a percentage of GDP. Of the comparison group, only US government expenditure, at 32 per cent, accounted for a lower proportion of national income in the year in question. In Sweden, the government spent 58 per cent of GDP in 1998.
- Current net lending/borrowing as a percentage of GDP was 2 per cent in Ireland in 1999, the most recent year for which international data are available. This corresponded to a rank of 3rd out of the 15 EU countries. In 2000, the figure for Ireland was 4.5 per cent, and the forecast figure for 2001 is 3.3 per cent.
- The level of Irish government (or national) debt has fallen substantially during the nineties, from 93 per cent of GDP in 1990 to 47 per cent in 1999, which is 5th lowest of the 15 EU countries in the comparison group.

Recent Developments

Output

- GNP growth for 2001 is currently forecast at 6.0 per cent in real terms by the ESRI. The forecasts for 2002 and 2003 depend on how negative a view is taken of conditions in the global economy and range from 1.8 to 5.4 per cent for 2002 and 4.2 to 4.4 per cent for 2003. Economic growth had been slowing anyway due to domestic capacity constraints, particularly in the labour market, and the recent outbreak of Foot and Mouth Disease. However, the downturn in the global economy, particularly post-September 2001, has sharpened the fall-off in growth.

Inflation

- Consumer Price Index growth peaked at 7 per cent in November 2000 and taking the year as a whole (annual average basis) rose by 5.6 per cent. The inflation rate for 2001 is expected to be lower. While inflation increased between January and April 2001, primarily due to drink, food and transport price increases, the last five months (May to September) have seen successive falls. As of September 2001, the inflation rate stands at 4.6 per cent.

Effective Exchange Rate

- Throughout 2000, the euro continued an almost constant downward trend against most other major international currencies. By the end of 2000, the nominal effective exchange rate for the euro was down 13 per cent from its change-over level. In recent months, however, the euro has been appreciating in value against the dollar.
- With the Irish pound replaced by the euro, the Central Bank no longer publishes an effective exchange rate for the former. However, as of spring 2001 it is publishing new 'trade-weighted competitiveness indicators', which essentially replace the effective exchange rate for the Irish pound. The trade-weighted competitiveness indicators (TWCIs) are calculated using a common methodology and data set provided by the European Central Bank. There are three indicators: a nominal TWCI; and two real TWCIs, one deflated by consumer prices and the other by producer prices. The nominal TWCI as at 5th October 2001 was slightly (less than one per cent) lower than at the start of 2001.

Employment

- Employment in the Irish economy grew on average by 4.7 per cent last year. Over this period the rate of growth slowed from 6.1 per cent in the first quarter to 3.8 per cent in the fourth. Employment growth in the year to May 2001 was 2.7 per cent. As mentioned above, the standardised seasonally-adjusted unemployment rate stood at 3.7 per cent in September 2001.

Government

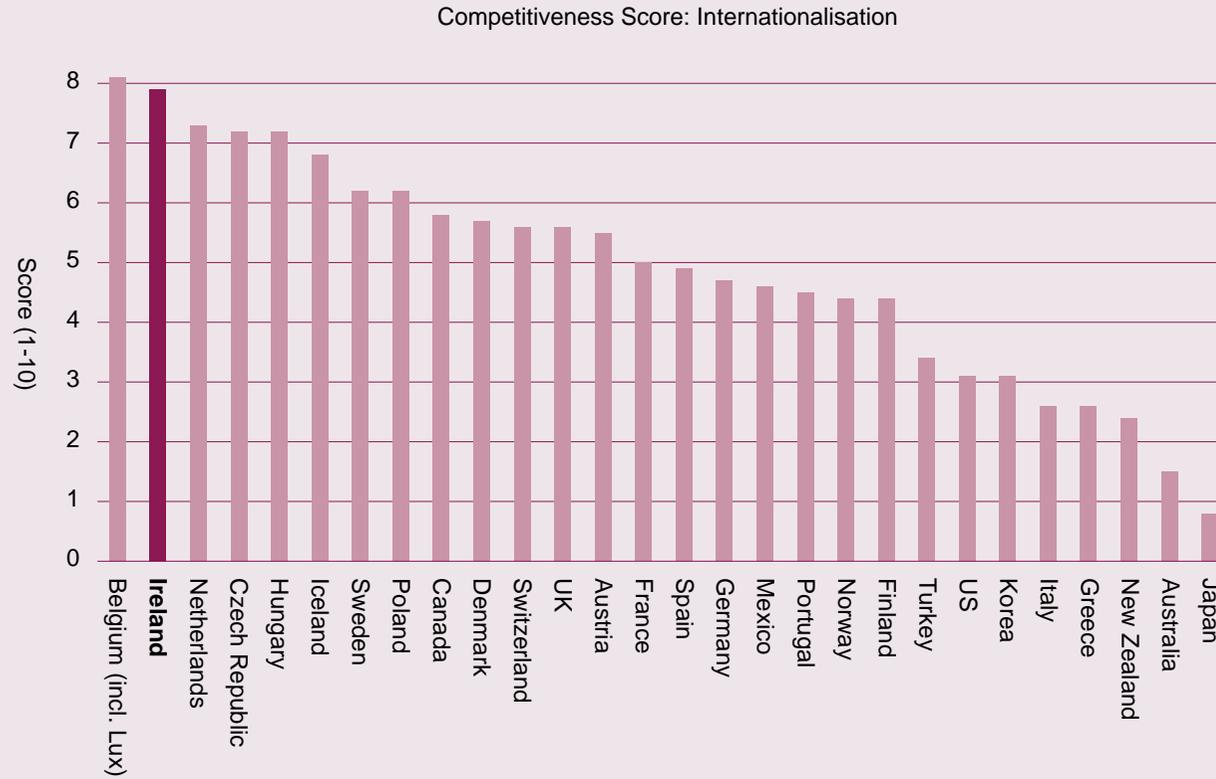
- The general government surplus for 2000 was 4.5 per cent of GDP. The Department of Finance currently estimates that the surplus for 2001 will be 3.3 per cent. General government debt as a proportion of GDP has continued to fall rapidly: as per the Department of Finance, the figure at end-2000 was 38.6 per cent and the forecast for end-2001 is 34.2 per cent. Taxation revenue growth is now slowing considerably. Revenue receipts to end-July 2001 were 5.6 per cent ahead of the same period last year, but well behind the budget target of 12.5 per cent growth for the year as a whole. By comparison, taxation revenue grew by 15.8 per cent in 2000. Net current public expenditure is forecast by the ESRI to grow by 15.8 per cent in 2001.

Under the heading Internationalisation are three sets of indicators, covering (i) trade openness, (ii) trade performance and diversification, and (iii) foreign direct investment. Trade is a fundamental driver of economic growth. In the case of a small economy with limited natural resources such as Ireland's, international trade is particularly important. In recent years, with increased trade liberalisation, rapid changes in industrial organisation due to advancing technology, and free movement of capital, the internationalisation of an economy has become even more crucial as a competitiveness issue. In Ireland's case, inward foreign direct investment has been a major determinant of economic growth, both directly and through benefits to the indigenous sector.

Competitiveness Aspect
Internationalisation **2**

Internationalisation

Competitiveness League Table		
	Country	Score
1	Belgium (incl. Lux)	8.1
2	Ireland	7.9
3	Netherlands	7.3
4	Czech Republic	7.2
5	Hungary	7.2
6	Iceland	6.8
7	Sweden	6.2
8	Poland	6.2
9	Canada	5.8
10	Denmark	5.7
11	Switzerland	5.6
12	UK	5.6
13	Austria	5.5
14	France	5.0
15	Spain	4.9
16	Germany	4.7
17	Mexico	4.6
18	Portugal	4.5
19	Norway	4.4
20	Finland	4.4
21	Turkey	3.4
22	US	3.1
23	Korea	3.1
24	Italy	2.6
25	Greece	2.6
26	New Zealand	2.4
27	Australia	1.5
28	Japan	0.8

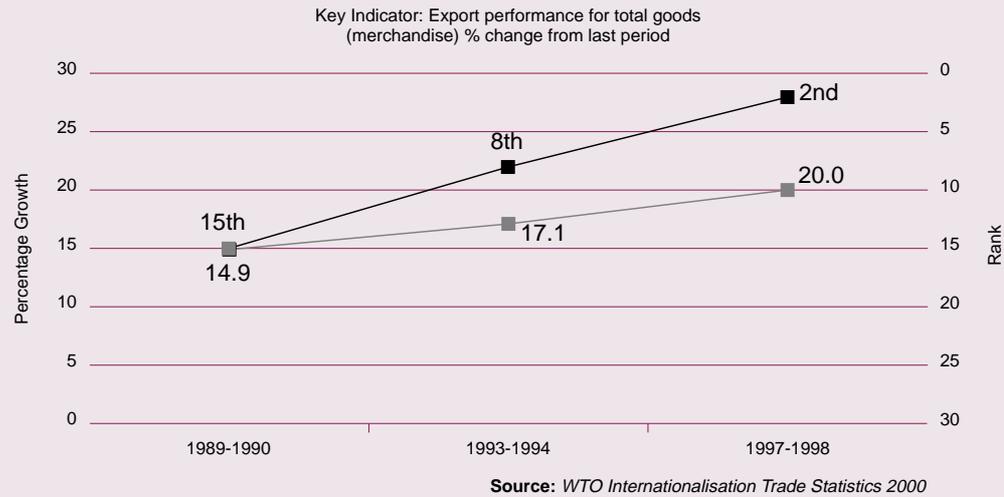


The Competitiveness Score is based on the Key Indicators for Internationalisation (see opposite)

Internationalisation

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Trade openness: exports + imports (of goods and services)/GDP 1999	✓				29	Luxembourg Ireland Belgium
Export performance of total goods (merchandise): percentage change 1997-1998	✓				29	Hungary Ireland Czech Republic
Export performance of commercial services: percentage change from last period 1997-1998	✓				29	Ireland Poland Turkey
Foreign direct investment inflow flow as a percentage of GDP (GNP for Ireland) 1999		✓			28	Sweden Czech Republic The Netherlands
Foreign direct investment outflow stock as a percentage of GDP (GNP for Ireland) 1999		✓			29	The Netherlands Switzerland Belgium

Tracking Changes in Competitiveness over Time



What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Internationalisation** gives it a rank of 2nd out of 28 countries. This reflects a high degree of trade openness and very strong export growth performance for both goods and services.
 - A backdated Competitiveness Score for Internationalisation gives Ireland a rank of 3rd out of 27 countries.
-
- **Change over time: Focus on export performance for total goods**
Not only did Ireland's strong performance in the export of goods continue over the 1990s, but the rate of growth increased across the decade. From 1989 to 1990, the growth rate was almost 15 per cent, giving a ranking of 15th out of 29 countries. From 1997-1998, the growth rate was 20 per cent, giving a ranking of 2nd in the comparison group. Export growth has since fallen (see below) in response to the downturn in global demand.

Trade Openness

- Using total trade as a proportion of GDP as a measure of trade openness, Ireland ranks 2nd out of the 29 countries in the comparison group.

Export and Import Performance

- Real exports of goods and services have been forecast by the OECD (June 2001) to grow by almost 12 per cent from 2000 to 2001, which is 4th highest in the comparison group. However, given the worsening of the downturn in the global economy, and particularly in the ICT sector, since this forecast was made, the ultimate outturn will almost certainly be lower. Imports are forecast to grow by 13 per cent over the same period, which is 3rd highest in the OECD. Overall, both exports and imports have more than doubled, in real terms, over the five years from 1997. This is more than twice the rate of increase experienced in the OECD as a whole.
- Due to a discontinuity in the data set, internationally comparable trade growth rates broken down into imports and exports of goods and services are not available for 1998 to 1999. With the 2000 data yet to be published, we must therefore rely on 1997 to 1998 data for comparison purposes. These data show Irish exports and imports of commercial services each growing at the fastest rate in the OECD, with exports of goods growing at the 2nd fastest rate in the OECD, following Hungary, and imports of goods growing at the 4th fastest rate, behind Iceland, Hungary and Mexico.

Trade Diversification

- Irish manufacturing exports and imports were each 2nd most concentrated by sector in the OECD in 1998 (i.e. our trading activity was concentrated in a few types of goods). In the same year, trade by country was somewhat less concentrated: our exports were 12th most concentrated by country; and our imports were 5th most concentrated by country.

Foreign Direct Investment (FDI)

- FDI inflow for 1999 was 3.6 per cent of GNP, giving Ireland a ranking of 11th out of 28 countries (GDP was used for all other countries). The top-performing countries under this indicator are Sweden, the Czech Republic, the Netherlands, and Belgium.
- The existing stock of FDI inflow was valued at 48.4 per cent of GDP in 1999, approximately 19 percentage points greater than the EU average, giving Ireland a ranking of 4th out of 29 countries, following Belgium, the Netherlands, and New Zealand.
- In regard to the stock of FDI outflows, Ireland ranks 14th out of 29 countries, with a figure of 19.5 per cent of GNP, compared to 79.9 per cent in the case of the Netherlands, which is ranked 1st. (Again, GDP was used for all other countries in the comparison group.)

The focus under this heading is on financial capital. Linking the owners of capital with firms and entrepreneurs, who earn a return on the capital thereby increasing society's resources, is a fundamental operating principle of the market economy. The better this mechanism operates, the more competitive the economy. Or to put it another way: the maintenance and development of a successful enterprise sector is deeply reliant upon the availability of adequate supplies of finance from alternative sources, provided efficiently and at competitive cost levels. Under the heading Capital are four sets of indicators, covering (i) the cost of capital, (ii) the return to capital, (iii) venture capital, and (iv) the stock market.

Capital

Competitiveness League Table

	Country	Score
1	Netherlands	7.6
2	Finland	7.3
3	Switzerland	6.6
4	Sweden	6.5
5	Ireland	6.5
6	France	6.4
7	Japan	6.3
8	Spain	6.0
9	UK	5.6
10	Portugal	5.3
11	Belgium	5.2
12	Germany	5.1
13	Greece	5.1
14	Italy	5.0
15	Austria	4.4
16	Canada	4.3
17	Norway	4.0
18	New Zealand	3.6
19	Denmark	3.1

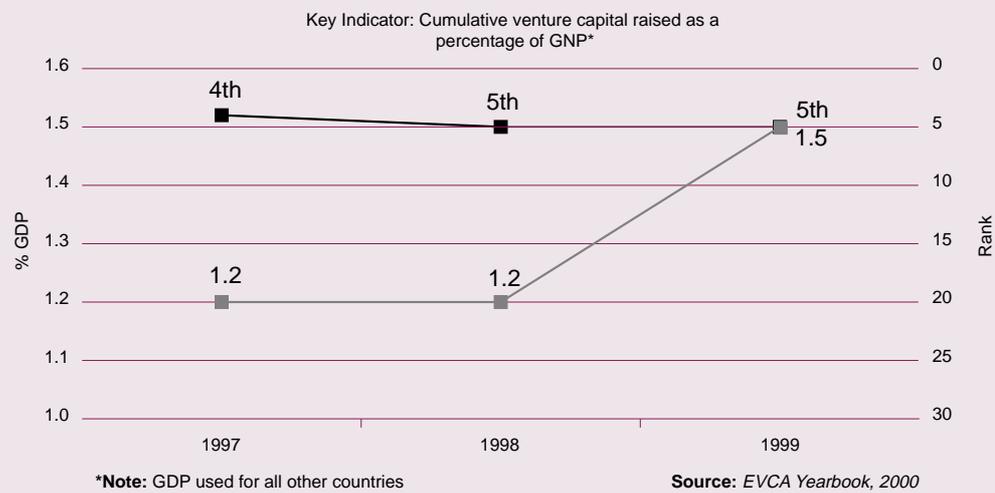


The Competitiveness Score is based on the Key Indicators for Capital (see opposite)

Capital

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Long term interest rates (%) 2001e	✓				26	Japan Switzerland Germany
Short term interest rates (%) 2001e	✓				29	Japan Switzerland Sweden
Interest rate spread – absolute (%) 1998				✓	27	Norway Canada Korea
Rate of return on capital in the business sector 1998e		✓			19	Greece New Zealand Netherlands
Average return on US investment abroad 1995-1999	✓				28	Hungary Ireland Finland
Cumulative venture capital raised as a percentage of GDP, 1999 (GNP for Ireland)	✓				17	UK Sweden Netherlands
Stock market capitalisation as a percentage of GDP, 1999			✓		30	Finland Switzerland UK

Tracking Changes in Competitiveness over Time



What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Capital** gives it a rank of 5th out of 19 countries. The high rank reflects Ireland's generally good performance in this area, in particular on short-term and long-term interest rates, the rate of return on capital in the business sector, and the extent of cumulative venture capital raised.
- A backdated **Competitiveness Score for Capital** gives Ireland a rank of 2nd out of 17 countries.
- **Change over time: Focus on cumulative venture capital raised.**
The venture capital market, an increasingly valuable source of funding for enterprise in Ireland, has continued to grow over recent years. Expressing cumulative venture capital raised as a percentage of GNP (using GDP for all other countries), an increase is seen from 1.2 per cent in 1997 to 1.5 per cent in 1999, this occurring at a time of exceptionally high economic growth. However, the competitive position nonetheless dropped slightly from a rank of 4th to 5th over the same period.

Cost of Capital

- In regard to long-term interest rates, Ireland has the 6th lowest rate in the comparison group at an estimated 5.0 per cent in 2001. Naturally, the rates of the EMU countries are almost identical. Of these, Germany's was the lowest at 4.8 per cent. Greece has the highest rate for an EMU country at 5.4 per cent.
- Taking the comparative absolute interest rate spread as a measure of the competitiveness of the Irish banking sector, the performance is poor with Ireland ranked 21st out of 27 countries. In this case, Ireland is out-performed by some other EMU countries.

Rate of Return on Capital

- The estimated rate of return on capital in the business sector was 17 per cent in Ireland in 1998, giving a rank of 5th out of 19 countries, following Greece, New Zealand, the Netherlands, and Spain.
- Ireland is ranked 2nd out of 28 countries in regard to average returns on US investment abroad between 1995-1999. The countries ranked ahead of Ireland under this indicator are Hungary, Finland, Mexico and Norway.

Venture Capital

- Cumulative venture capital raised as a percentage of GNP (GDP is used for all other countries) stood at 1.5 per cent up to end 1999, giving Ireland a ranking of 4th out of 17 European countries.

Stock Markets

- The level of Irish stock market capitalisation as a percentage of GDP is relatively low at 46.7 per cent in 1999, giving a ranking of 22nd out of 30 countries. This measure may indicate a competitive weakness in terms of an underdeveloped role for the stock market as a source of funds for Irish enterprise. On the other hand, multinational corporations, which raise capital internationally, account for a high proportion of economic activity in Ireland, thus dwarfing the size of the stock market as a proportion of national income. (Using a GNP figure for Ireland rather than a GDP figure makes only a slight difference to Ireland's ranking under this indicator.)

Recent Developments

Venture Capital

- Recent reports from the US show venture capital investment in US companies dropping by over 60 per cent in the year to the second quarter of 2001. Persistence in the current US downturn and the current relatively stagnant condition of the global economy would naturally be expected to affect investment in Ireland.

Improving people's standard of living is the primary objective of promoting competitiveness. But the human resources of a society are also the single most important factor in determining economic output, growth and, in turn, standards of living. As noted in the previous section, inward foreign direct investment has been a major determinant of recent Irish economic growth. The factor that to a great extent attracted this inward flow of capital was the relatively high quality and relatively low cost of the human capital available in the country. As with physical resources, high levels of human capital reflect past investment, and the future endowment of human capital is dependent on investment in the present. At the micro-level, for individuals, the level of education/skills is an important determinant of employment and income outcomes. Under the heading Education are four sets of indicators, covering (i) population, (ii) education expenditure, (iii) participation in education, and (iv) educational attainment.

Competitiveness Aspect

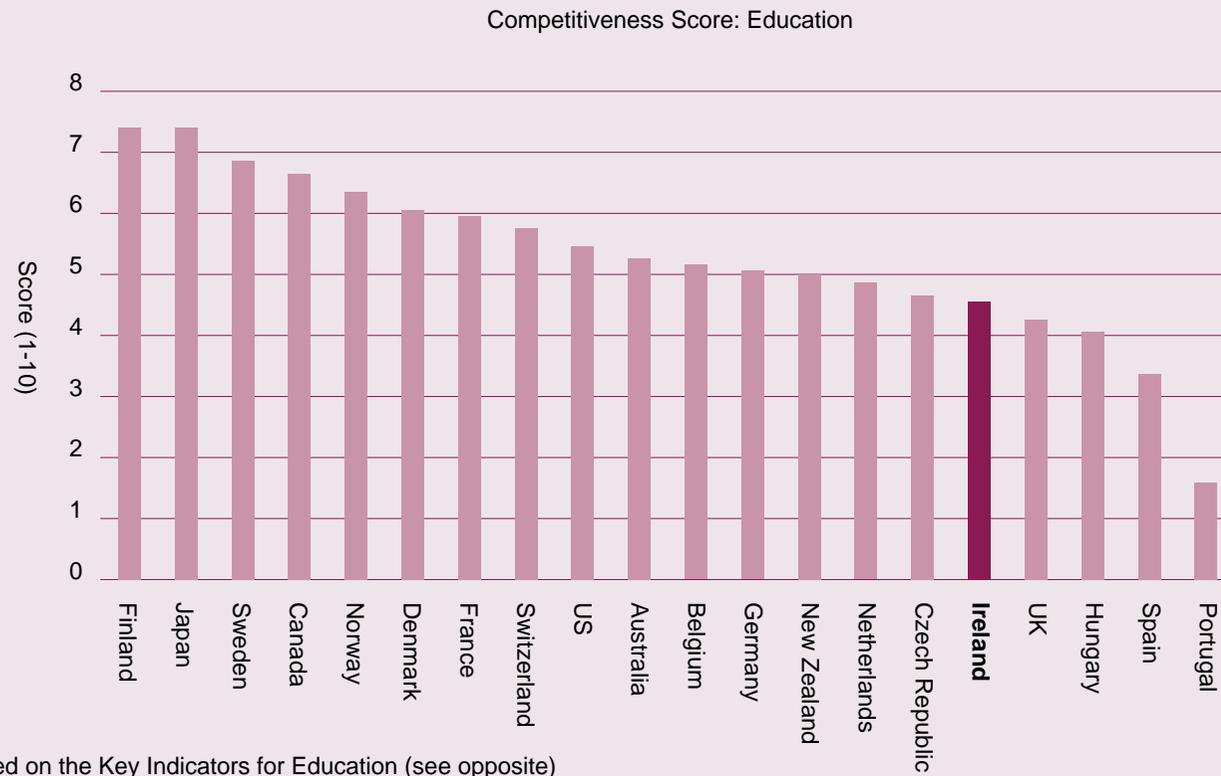
Education

4

Education

Competitiveness League Table

	Country	Score
1	Finland	7.4
2	Japan	7.4
3	Sweden	6.9
4	Canada	6.7
5	Norway	6.4
6	Denmark	6.1
7	France	5.7
8	Switzerland	5.6
9	US	5.5
10	Australia	5.2
11	Belgium	5.2
12	Germany	5.1
13	New Zealand	5.0
14	Netherlands	4.9
15	Czech Republic	4.7
16	Ireland	4.6
17	UK	4.3
18	Hungary	4.1
19	Spain	3.3
20	Portugal	1.6

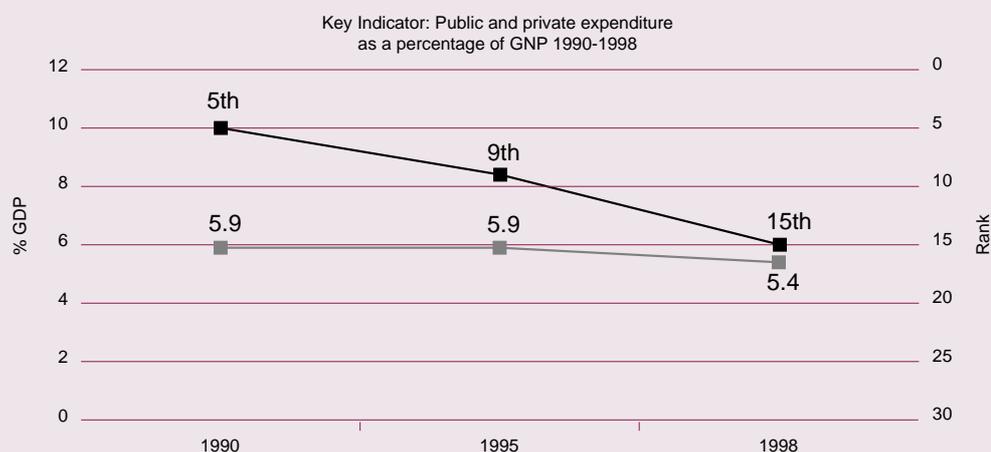


The Competitiveness Score is based on the Key Indicators for Education (see opposite)

Education

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Public and private expenditure on educational institutions as % of GDP (GNP for Ireland) 1999			✓		26	Denmark Korea Norway
Annual expenditure per student, US\$ PPPs: secondary			✓		24	Switzerland Austria US
Educational participation – age 17 (%) 1999			✓		29	Sweden Korea/ Belgium/Finland
Percentage of 25-64 participating in continuing education and training			✓		18	Finland Denmark Sweden
Mean number of hours of participation in continuing education and training	✓				16	Ireland Denmark New Zealand/ Canada
Percentage of population (25-64 years) that has at least upper secondary level education (%) 1999				✓	29	US Czech Republic Norway
Percentage of population (25-64 years) that has attained 3rd level education (%) 1999			✓		24	Canada US Finland
Percentage of population (25-34 years) that has attained 3rd level education 1999		✓			24	Canada Japan US
Average achievement in maths (age 13)		✓			23	Korea Japan Czech Republic
Average achievement in science (age 13)		✓			23	Czech Republic Japan Korea
Number of science graduates at third level per 100,000 persons in the labour force (25-34 years)	✓				19	Ireland France Finland
Percentage of the population scoring at IALS literacy level 3 or higher on the document scale (16-25 years) 1994-1995				✓	12	Sweden Netherlands Belgium

Tracking Changes in Competitiveness over Time



Note: GDP used for all countries except Ireland

Source: Education at a Glance 2001

What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Education** gives it a rank of 16th out of 20 countries. This reflects a low level of investment in education as a proportion of GNP or GDP, low levels of absolute expenditure per student, low educational participation rates, a low level of educational attainment - particularly in regard to the proportion of the population with at least upper secondary education, and a low level of literacy.
 - A backdated Competitiveness Score for Education gives Ireland a rank of 15th out of 20 countries.
-
- **Change over time: Focus on public and private expenditure on educational institutions**
Public and private expenditure on educational institutions in Ireland has not kept pace with economic growth. In 1990, expenditure on educational institutions as a proportion of GNP was 5.9 per cent, giving a ranking of 5th out of 17 countries (using GDP for all other countries). In 1998, the figure was 5.4 per cent, giving a ranking of 15th out of 26 countries.

Education Expenditure

- At present, Ireland has a young population by comparison with other European and OECD countries: 24 per cent of the population is between 5 and 19 years of age, which is the 3rd highest proportion in the comparison group and the highest in the EU.
- Despite this demographic characteristic, public and private expenditure on educational institutions as a proportion of GDP (using GNP for Ireland) is below the OECD average with Ireland ranking 15th out of 26 countries (see 'Change over time' box above). If GDP figures are used for Ireland the rank drops to 23rd. However, educational expenditure in absolute terms (and per student) has been growing rapidly in recent years, more rapidly than in most other OECD countries, particularly in relation to higher education. Ireland's performance is also more favourable in terms of the proportion of public expenditure invested in education rather than proportion of GDP/GNP.
- Annual spending per student (in US dollars adjusted for purchasing power parity) at primary and secondary levels is in or near the bottom quartile of countries in each case. The relative performance is somewhat better in the case of tertiary students where Ireland ranks 13th out of 24 countries, spending between 40 to 50 per cent per student what the two leading countries, the US and Switzerland, spend.
- With regard to the ratio of students to teaching staff, Ireland is in the lowest quartile of countries for primary schools and in the second lowest quartile for secondary schools.

Participation in Education

- The participation rate of 16 year-olds in education in Ireland was 92 per cent in 1999, giving a rank of 14th out of 29 countries. In the same year, the participation rate for 17 year-olds was 81 per cent, giving a rank of 20th out of 29 countries.
- Out of 18 European countries, Ireland had the 4th lowest proportion of 25-64 year-olds participating in continuing education and training, and around one-third the proportion in Finland, the leading country. In regard to the mean number of hours spent by participants in such education and training, Ireland ranked 1st out of the 16 countries in the comparison group.

Educational Attainment

- In 1998, 51 per cent of 25-64 year-olds in Ireland had attained at least upper secondary level education, giving Ireland a rank of 23rd out of 29 countries.
- In the same year, the percentage of the population aged 25-34 that had attained 3rd level education was 29 per cent (compared with 21 per cent for the age cohort 25-64 years), giving Ireland a rank of 11th out of 24 countries.
- Irish students' (13 year-olds) mean achievement in mathematics and science was in the second quartile of countries in each case in 1995. However, literacy levels both for young (16-25) and older (46-55) age cohorts were among the worst in the OECD comparison group. Performance in relation to foreign languages was worst in the comparison group in 1997.
- Ireland ranked 1st out of 19 countries in regard to the number of science graduates at third level per 100,000 persons in the labour force of 25 to 34 years.

Recent Developments

- The Department of Education and Science has informed the National Competitiveness Council that a number of new initiatives are underway in regard to the teaching of modern languages and science in schools. The funding provided to adult literacy programmes has also increased substantially in recent years.

The indicators under this heading cover (i) productivity, and (ii) labour compensation and unit costs. By definition, productivity times the number at work equals output and income. Accordingly, with population growth very slow or negative in the most highly developed countries, and with participation rates historically high (though still rising), productivity growth becomes the main driver of economic growth. Productivity alone does not determine competitiveness. This is determined in conjunction with the cost of the productivity (i.e. labour cost): together the two can be expressed as unit cost. Labour cost as an indicator can be read two ways. From the point of view of competitiveness, narrowly defined, lower labour cost is good. However, labour cost also reflects what employees earn, which in turn affects standard of living. In this latter context, higher wages are good. Clearly, an important variable here is the difference between the cost of labour to the employer and what the employee actually receives. This differential is covered in Aspect 7.

Competitiveness Aspect
**Productivity, Labour Compensation
and Unit Labour Costs** **5**

Productivity, Labour Compensation and Unit Labour Costs

Competitiveness League Table		
	Country	Score
1	Germany	6.3
2	Austria	6.1
3	Belgium	5.7
4	France	5.7
5	Italy	5.2
6	Greece	5.2
7	Japan	5.2
8	Finland	5.2
9	Denmark	5.2
10	Sweden	4.9
11	Ireland	4.7
12	UK	4.7
13	Portugal	4.4
14	Netherlands	4.2
15	US	4.2
16	Spain	3.9

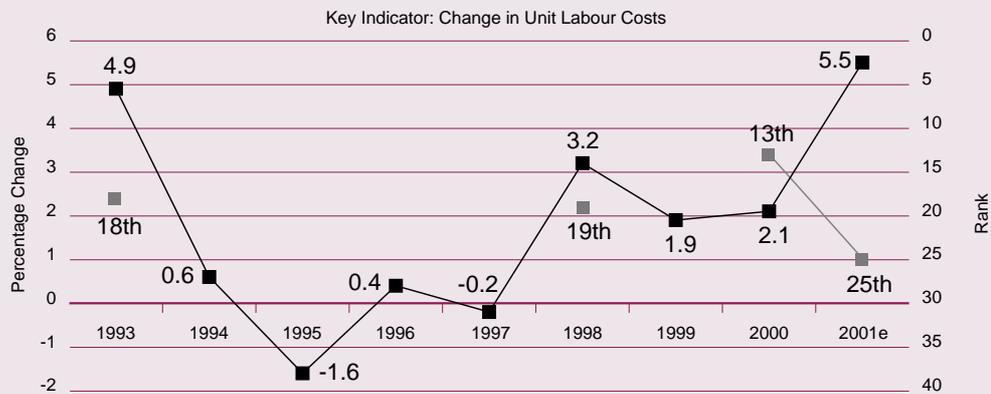


The Competitiveness Score is based on the Key Indicators for Productivity and Labour Costs (see opposite)

Productivity, Labour Compensation and Unit Labour Costs

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Productivity per employee per annum (US\$ 000s)		✓			29	Luxembourg United States Norway
Productivity (US\$ per hour worked)			✓		27	Norway Luxembourg Switzerland
Productivity (annual average change 1999-2000e)	✓				17	Ireland Greece Portugal
Unit labour costs in the total economy (percentage increase) 2000-2001e				✓	28	Japan Germany Austria
Unit labour costs in the total economy (cumulative increase) 1996-2000		✓			26	Japan Germany Switzerland
Hourly compensation costs for production workers in manufacturing (US\$)1999		✓			23	Mexico Portugal Korea
Nominal compensation per employee total economy, _000s per annum 2000e			✓		28	Mexico Turkey Czech Republic
Nominal compensation per employee, total economy percentage change 2000-2001e				✓	28	Turkey Canada New Zealand

Tracking Changes in Competitiveness over Time



Source: OECD Economic Outlook, July 2001

What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's Competitiveness Score for Productivity, Labour Compensation and Unit Labour Costs gives it a rank of 11th out of 16 countries. This reflects medium level productivity, strong productivity growth, good to medium performance in regard to current wage levels, but rapid acceleration of both wages and unit costs.
- A backdated Competitiveness Score for Productivity, Labour Compensation and Unit Labour Costs gives Ireland a rank of 7th out of 16 countries. The subsequent disimprovement in rank reflects the relatively rapid increase now occurring in Irish wage rates and unit costs.

- **Change over time: Focus on growth rate in unit labour costs**
From 1991 to 2000, Irish unit labour costs rose by 19 per cent, which was 11th highest in the OECD. Looking at the rate of change in unit labour costs at three points over the last ten years, the growth rate was 4.9 per cent from 1992 to 1993 - 6th highest in the comparison group of 23 OECD countries, 3.2 per cent from 1997 to 1998 - 9th highest of 26 OECD countries, and an estimated 3.9 per cent from 2000-2001 - 5th of 26 OECD countries.

Productivity

- During the nineties, productivity has been growing in Ireland by over 3 per cent per year on average (giving a rank of 1st out of 17 countries). Estimated productivity growth for 1999/2000 is 3.6 per cent. This is slightly lower than the annual average growth rate of 3.9 per cent for the period 1996/2000, but is still the highest in the comparison group.
- Despite the rapid growth of productivity levels in Ireland over the last decade, the level of productivity (calculated as GDP per person employed per annum) as of 1999 was still only 75 per cent of the level of the leading country, Luxembourg, and 84 per cent of the second leading country, the United States.
- If GDP per person employed per annum is adjusted to take account for hours worked, Ireland's rank falls from 12th out of 29 countries to 17th. The latter figure tells us more about the average standard of living: the more productive a worker is per hour, rather than overall, the more leisure time he or she can afford to take.
- Industrial productivity in Ireland is extremely high (higher than in the US, for example), highlighting the high proportion of high value-added activity in the economy. On this measure, Ireland ranks 4th out of 29 countries. In the case of productivity in both agriculture and services, Ireland ranks 17th out of 29 countries.

Labour Costs

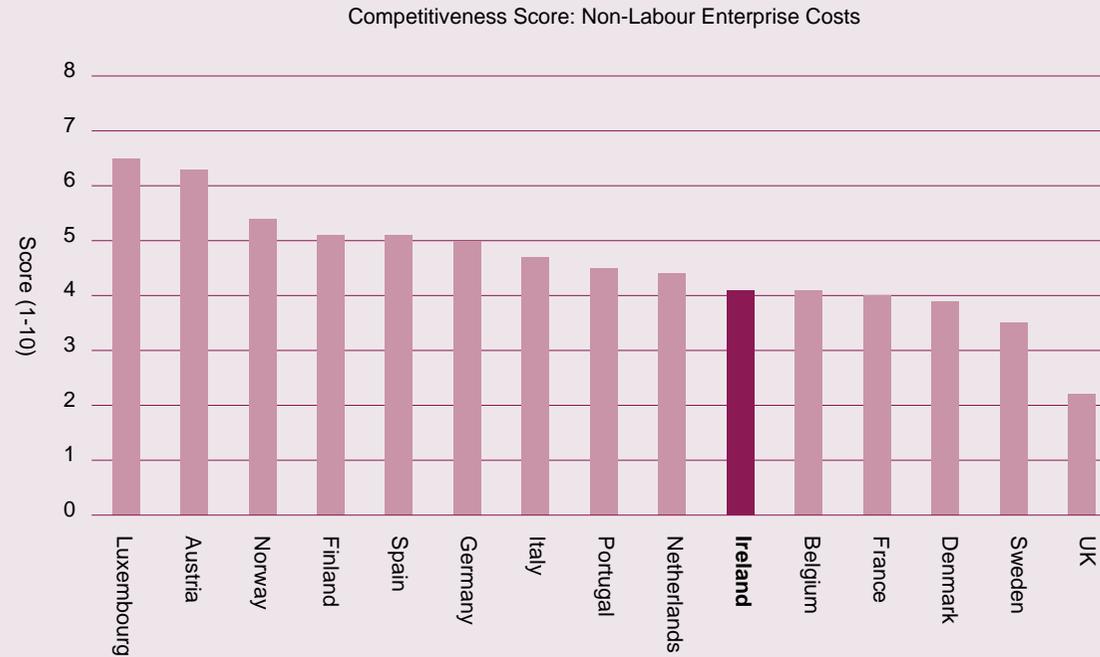
- At the most recent point for which data are available, 1999, production workers' wages were relatively low in Ireland, 7th lowest out of 23 countries. Wages for the economy in general are higher, 16th lowest out of 28 countries, using estimated figures for 2001. Using the measure nominal compensation per employee (total economy), Ireland's overall labour costs are 70 per cent of those in Japan and the US, where wages are highest. Wages in the Czech Republic and Hungary are under 20 per cent of the Irish level.
- Labour costs in Ireland are now rising fairly rapidly. For example, the growth in nominal compensation per employee in 2001 is estimated by the OECD at 7.3 per cent, which is the highest rate in the comparison group. Moreover, the latest national data suggest that wages may be growing even faster than this. Unit labour costs, which also reflect productivity growth, are forecast to grow by 5.5 per cent in 2001, which is the 4th highest out of 28 countries in the OECD comparison group. The countries in which unit labour costs are currently rising more rapidly than in Ireland are Hungary, Mexico and Iceland. Unit costs in the Czech Republic are rising at just below the Irish rate.

The competitiveness of the individual firm is partially dependent on the costs that it must pay for its inputs. The previous heading dealt with labour, which is the most important input in the production process. The indicators under this heading cover (i) telecommunications costs, (ii) energy costs, and (iii) property costs. In the case of the former two, competitive advantage is now actively sought by countries through programmes of market liberalisation and regulatory reform.

Competitiveness Aspect
Non-Labour Enterprise Costs **6**

Non-Labour Enterprise Costs

Competitiveness League Table		
	Country	Score
1	Luxembourg	6.5
2	Austria	6.3
3	Norway	5.4
4	Finland	5.1
5	Spain	5.1
6	Germany	5.0
7	Italy	4.7
8	Portugal	4.5
9	Netherlands	4.4
10	Ireland	4.1
11	Belgium	4.1
12	France	4.0
13	Denmark	3.9
14	Sweden	3.5
15	UK	2.2

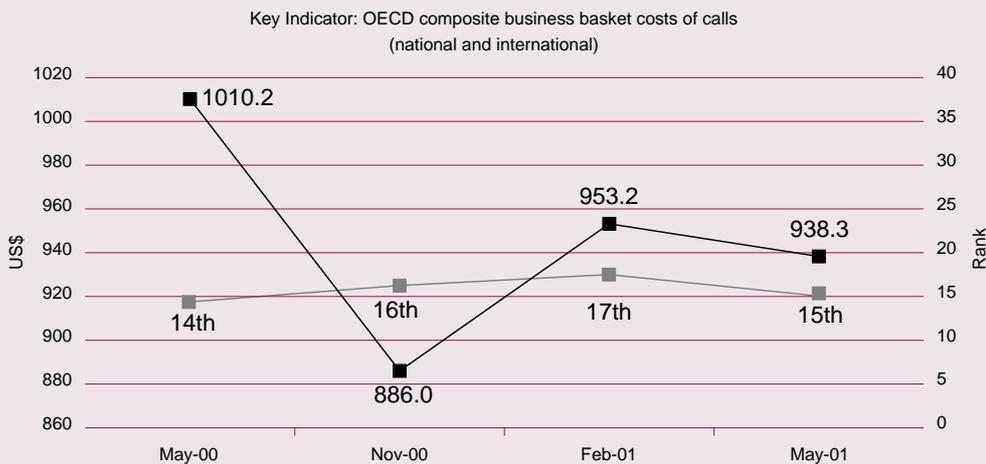


The Competitiveness Score is based on the Key Indicators for Non-Labour Enterprise Costs (see opposite)

Non-Labour Enterprise Costs

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
2 Mbit/s leased lines national circuits connection cost (euro) 2000			✓		15	Italy Austria Finland
Cost of internet use (30 minutes, peak rate, US\$) November 2000		✓			29	Canada Australia Mexico
Composite business basket cost of calls (national and international) May 2001			✓		29	Canada Luxembourg Iceland
OECD national (GSM) mobile basket May 2001				✓	29	Luxembourg Austria Iceland
Automotive diesel oil prices for commercial use, quarter 3 2000			✓		25	New Zealand Canada Poland
Industrial electricity prices –10GWh per annum – VAT excluded (euro) January 2001			✓		13	Sweden Norway Finland
Gas prices – industrial rate exclusive VAT (4186 GJ/200 days) January 2001	✓				13	UK Ireland Spain
Office rent: total occupation costs (US\$/m per year) capital cities			✓		29	New Zealand Iceland Australia
Residential property prices inflation-adjusted indices (1995 = 100) 1999				✓	17	Switzerland Japan Italy

Tracking Changes in Competitiveness over Time



Source: Telegin 2001

What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Non-Labour Enterprise Costs** gives it a rank of 10th out of 15 countries. This low ranking reflects medium cost levels for connection to 2Mbit/s leased lines, peak internet access and a basket of business calls, very high charges for mobile calls, medium charges for fuel for commercial use and electricity, high office rents and very high residential property price inflation.
 - A backdated **Competitiveness Score for Non-Labour Enterprise Costs** gives Ireland a rank of 13th out of 14 countries. The subsequent improvement in rank primarily reflects better comparative performance with regard to automotive diesel and industrial gas prices.
-
- **Change over time: Cost of a basket of business calls (national and international)**
Call charges for business in Ireland have dropped over the past year. However, they have also dropped in other countries, so our competitive position remains modest. While the cost of an OECD composite basket of business calls fluctuated considerably in the year from May 2000 to May 2001, Ireland's competitive ranking has remained more or less constant throughout the period. The current rank is 15th of 29 countries.

Telecommunication Costs

- In relation to the cost of installing a 2Mbit/s leased-line connection, Ireland ranked 8th out of 15 countries in 2000.
- Performance is better in relation to fixed-to-fixed interconnection costs where Ireland ranks 2nd out of 15 countries, following Denmark.
- Ireland also performs fairly well in relation to internet usage costs (for both on-and off-peak times), ranking inside the top third of countries.
- The cost of business calls in Ireland, based on a composite business basket, is medium, with a performance ranking of 15th out of 29 countries. This is 86 per cent higher than the best performing country, which is Canada, and 72 per cent higher than the best performing European country, which is Luxembourg.
- Mobile telephone costs, again based on a basket of calls, are particularly high in Ireland with a performance ranking of 26th out of 29 countries. The cost in Ireland is over three times higher than in the best performing country, which is Luxembourg.

Energy Costs

- With regard to diesel oil prices for commercial use and heavy fuel oil, Ireland ranks 13th out of 25 countries and 14th out of 16 countries respectively.
- Three different measures of electricity prices as of January 2001 (corresponding to large, medium and small business users) show prices in Ireland to be relatively high. Ireland is ranked 8th out of 13 countries, 9th out of 13 countries, and 11th out of 15 countries for large, medium and small industrial users respectively. In each case, prices are more than double of those in the best performing country, Norway. (See 'Recent Developments' below.)

- Ireland is ranked 2nd out of 13 European countries in regard to gas prices for small industrial users in 2000. However, prices were over 14 per cent higher than in the best performing country, which was the UK.

Property Costs

- Ireland performs badly in regard to office rents with a ranking of 20th out of 29 countries in 2000. In the period 1995-1999, residential property price inflation was higher in Ireland than in every other country in the comparison group.

Recent Developments

Energy Costs

- Electricity prices have risen as of October 2001. Small Businesses will see a 3 per cent increase in the average price of electricity, while tariffs will rise by 13 per cent for medium-sized businesses and by 14 per cent for large businesses.

Commercial and Residential Property Costs

- The rate of increase in residential property prices has moderated recently, albeit from the extremely high rates recorded in 1998 and 1999. The Department of the Environment and Local Government estimates price increases of 13.8 per cent and 14.0 per cent respectively for new and second hand houses for the year to December 2000. Early figures for 2001 suggest the rate of increase will drop to under 10 per cent this year.

Other Developments

- Businesses also face increased costs due to the abolition of the ceiling on employers PRSI (see 'Taxation'), an increase in Ireland's effective tax rate (see 'Economic Performance'), and rising insurance premia.

Indicators relating to taxation are presented under this heading. The role of government in the market economy is fundamental. Through the creation and enforcement of property rights, contract law, health and safety regulation, consumer protection, competition regulation etc., government creates the conditions in which the market economy can operate in a secure, fair and beneficial manner. Government also intervenes where there is market failure by providing indispensable public goods such as the monetary system, transport infrastructure, education, healthcare, policing etc. Government also redistributes income to ensure that those disadvantaged by the market economy, such as the old, the disabled, and the unemployed can enjoy a reasonable quality of life. All of these roles are crucial to competitiveness and to living standards generally. On the other hand, the taxation that government must levy in order to play these roles imposes disincentives to economic activity. The efficiency and effectiveness of government, both in the levying of taxation and in the provision of public goods, are fundamental aspects of national competitiveness. For example, taxation revenue can sometimes be increased by lowering the rate of taxation, where this has the effect of increasing the tax base. This has been Ireland's experience with corporate taxation in recent years, where a double benefit of increased incentive for economic activity and increased revenue for expenditure on public services has been achieved.

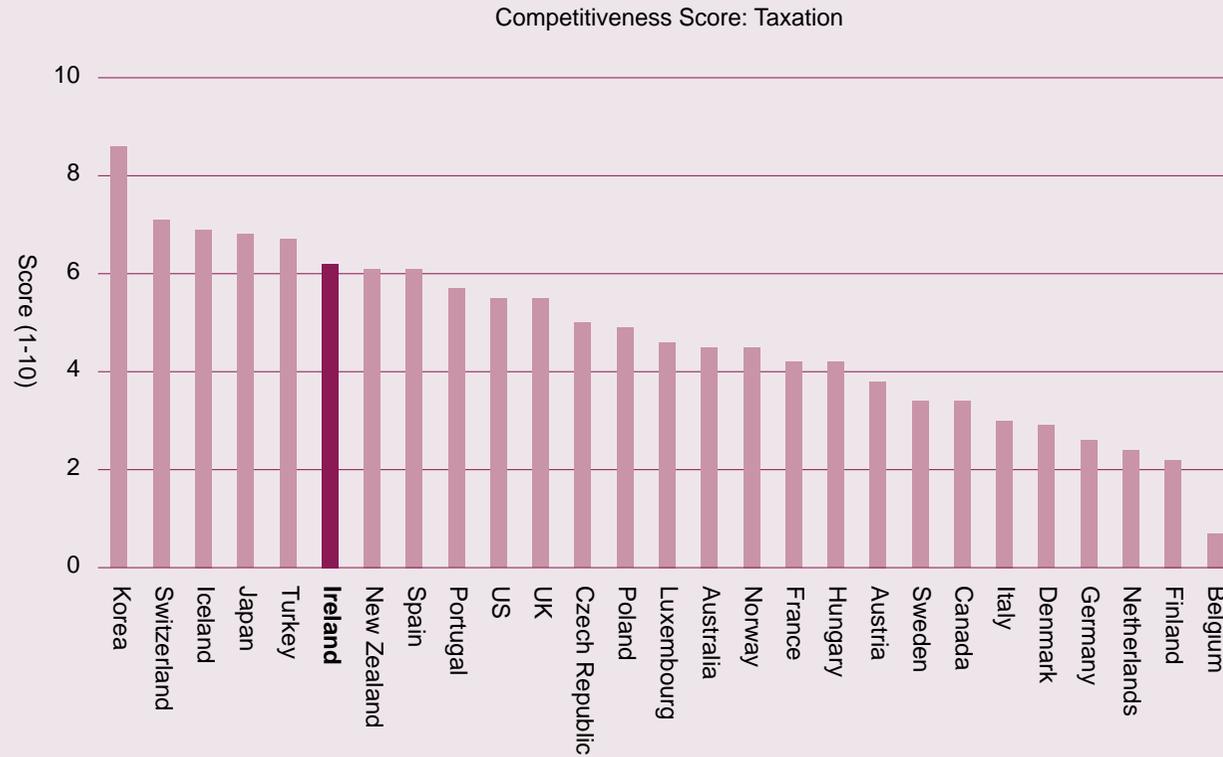
Competitiveness Aspect

Taxation

7

Taxation

Competitiveness League Table		
	Country	Score
1	Korea	8.6
2	Switzerland	7.1
3	Iceland	6.9
4	Japan	6.8
5	Turkey	6.7
6	Ireland	6.2
7	New Zealand	6.1
8	Spain	6.1
9	Portugal	5.7
10	US	5.5
11	UK	5.5
12	Czech Republic	5.0
13	Poland	4.9
14	Luxembourg	4.6
15	Australia	4.5
16	Norway	4.5
17	France	4.2
18	Hungary	4.2
19	Austria	3.8
20	Sweden	3.4
21	Canada	3.4
22	Italy	3.0
23	Denmark	2.9
24	Germany	2.6
25	Netherlands	2.4
26	Finland	2.2
27	Belgium	0.7

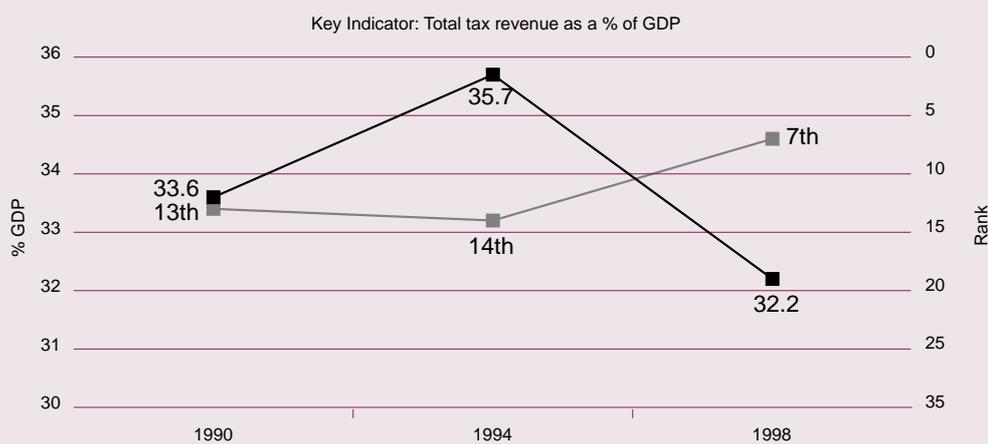


The Competitiveness Score is based on the Key Indicators for Taxation (see opposite)

Taxation

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Total tax revenue as percentage of GDP, 1998	✓				29	Mexico Korea Japan
Marginal rate of income tax plus employee contributions (married 100, 0, 2 children)		✓			29	Korea Luxembourg Mexico
Marginal rate of income tax plus employee contributions (married 100, 67, 2 children)		✓			29	Korea Mexico Japan
Marginal rate of income tax plus employee contributions (single 100, no children)				✓	29	Korea Mexico Turkey
Employees' and employers' social security contributions and personal income tax less transfer payments as % of gross labour costs - married	✓				29	Iceland Australia Luxembourg
Employees' and employers' social security contributions and personal income tax less transfer payments as % of gross labour costs - single	✓				29	Mexico Korea New Zealand
Standard/top corporate tax rate	✓				29	Hungary Ireland Switzerland
Taxes on corporate income as a percentage of GDP			✓		28	Iceland Germany Turkey

Tracking Changes in Competitiveness over Time



Source: OECD Revenue Statistics 2000

What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Taxation** gives it a rank of 6th out of 27 countries. This reflects a low overall tax burden (total tax revenue as a proportion of GDP), a relatively small tax wedge between the total cost of labour to employers and employees' take-home wages, better than medium performance on marginal tax rates for personal income tax except for single people, the lowest rate of corporate taxation barring only Hungary, and a roughly average position in relation to the size of the corporate tax take as a proportion of GDP.
- A backdated Competitiveness Score for Taxation gives Ireland a rank of 9th out of 27 countries. The subsequent improvement in rank reflects recent taxation cuts.
- **Change over time: Focus on total tax revenue as a percentage of GDP**
Expressed as a percentage of GDP, the tax burden in Ireland at the end of the 1990s was lower than at the start of the decade. Total tax revenue as a percentage of GDP stood at 33.6 per cent in 1990, giving Ireland a ranking of 13th out of 26 countries. As of 1998, the latest year for which international data are available, Ireland's total tax revenue had fallen to 32.2 per cent of GDP, resulting in a much-improved rank of 7th out of 29 countries.

Taxation

- The Irish government received the 7th lowest percentage of GDP in tax revenue of 29 countries in the OECD in 1998. At just over 32 per cent, this was almost five percentage points below the OECD average rate and more than nine percentage points below the EU average. Compared only with European countries, Ireland is lowest of all.
- The marginal tax rate for a married couple with one earner (on the mean industrial wage) and two children was 30.5 per cent in Ireland in 1999. This was 11th lowest out of 29 countries. EU countries with lower rates were Luxembourg, Spain, Portugal, and Greece. The UK rate was slightly higher. The marginal rate for a married couple with two earners (one on the mean industrial wage, the second on two-thirds of the mean industrial wage) and two children was also 30.5 per cent, which was 12th lowest out of 29 countries. The single worker in Ireland (on the mean industrial wage) with no children faced the much higher marginal tax rate of 52.5 per cent in 1999, which was the 4th highest out of 29 countries.
- On measures of the overall tax wedge (employers' and employees' social security contributions and personal income tax less transfer payments as a percentage of gross labour costs), Ireland performs comparatively well for both married and single people, ranking 6th and 7th lowest respectively out of 29 countries.
- As of 2000, at 24 per cent, Ireland had the second lowest corporation tax rate in the comparison group, higher only than that of Hungary. (See 'Recent Developments' below.)
- Expressed as a percentage of GDP, Ireland's tax take on corporate income stood at 3.5 per cent in 1998 - slightly higher than the EU average, giving Ireland a ranking of 15th out of 27 countries.

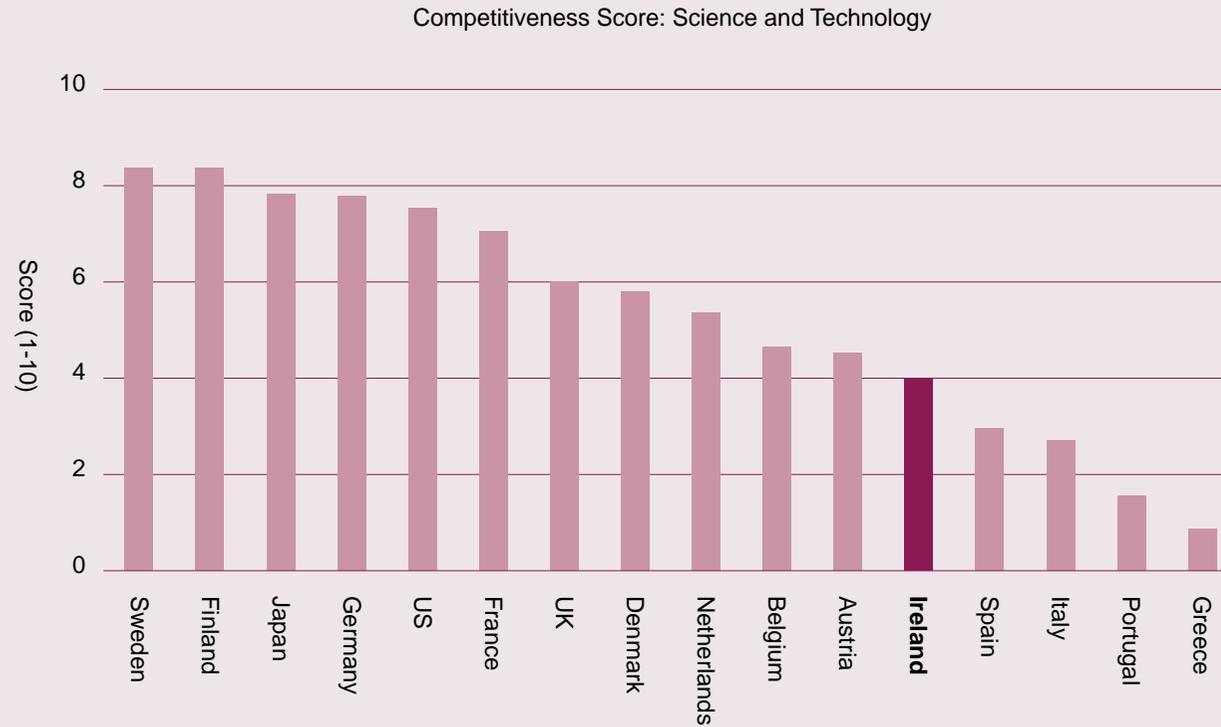
Recent Developments

- The standard rate of corporation tax for trading income was reduced from 24 per cent to 20 per cent from January 1 2001 as part of a phased reduction in corporation tax to 12.5 per cent by 2003.
- The standard rate of personal income tax has been reduced to 22 per cent from 24 per cent, while the top rate has been reduced from 44 per cent to 42 per cent. Also, the standard-rate personal tax band will increase from £17,000 to £20,000 for a single person, from £34,000 up to £40,000 for a two-income couple, and from £28,000 to £29,000 for a single income couple. Personal allowances have also been increased.
- The employers' PRSI ceiling, formerly £36,000, has been abolished from April 6 2001. The ceiling for employees' PRSI contributions was increased from £26,500 to £28,250 while the rate was reduced from 4.5 per cent to 4 per cent. The PRSI rate for the self-employed has also been reduced and the ceiling abolished.

Scientific and technological advance, based on research and development activity (R&D), is an important determinant of economic growth. Seen from the point of view of the individual firm, R&D activity can enhance competitiveness through generating new and/or differentiated products and/or improved productivity. Seen from the macro-economic point of view, productivity growth is the only non-constrained basis for long-term growth in per capita incomes. Because R&D outputs have some of the characteristics of a public good, private firms will tend to under-invest, suggesting a role for Government in stimulating R&D. Moreover, the innovation process itself has become more complex, and government support is also needed for research and skills development in the key underlying sciences for modern industries. Under the heading Science and Technology are two sets of indicators, covering (i) R&D activity and inputs; and (ii) innovation outputs.

Science and Technology

Competitiveness League Table		
	Country	Score
1	Sweden	8.4
2	Finland	8.4
3	Japan	7.8
4	Germany	7.8
5	US	7.5
6	France	7.1
7	UK	6.0
8	Denmark	5.8
9	Netherlands	5.4
10	Belgium	4.7
11	Austria	4.5
12	Ireland	4.0
13	Spain	3.0
14	Italy	2.7
15	Portugal	1.6
16	Greece	0.9

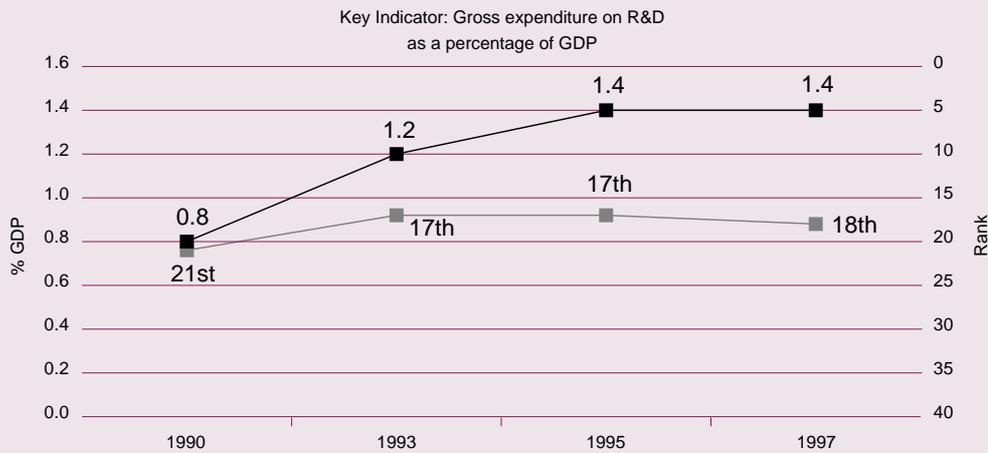


The Competitiveness Score is based on the Key Indicators for Science and Technology (see opposite)

Science and Technology

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Gross domestic expenditure on R&D (GERD) as a percentage of GDP, 1997			✓		28	Sweden Finland Japan
Business R&D expenditure (BERD) as a percentage of GDP		✓			27	Sweden Japan Finland
Share of Government budget allocated to R&D				✓	16	France US Japan
Total new science and technology PhDs per thousand population aged 25-34 years		✓			15	Sweden Finland Germany
Inventiveness coefficient (resident patent applications per 10,000 population) 1997		✓			28	Japan Germany Sweden
USPTO patents granted by country of origin per million population, 1998			✓		28	Japan Switzerland Sweden

Tracking Changes in Competitiveness over Time



Source: OECD Science, Technology and Innovation Outlook, 2000

What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's Competitiveness Score for Science and Technology gives it a rank of 12th out of 16 countries. This fairly low rank reflects a medium level of business gross expenditure on R&D (unfortunately the most up-to-date data in this area refer to 1997), a low share of the Government budget allocated to R&D, and medium performance in indicators of innovation outputs.
- A backdated Competitiveness Score for Science and Technology gives Ireland a rank of 11th out of 16 countries.

- **Change over time: Focus on gross expenditure on R&D**
Gross expenditure on R&D has increased over the 1990s, but not to the extent that Ireland's competitive position has substantially improved. In 1990, gross expenditure on R&D (GERD), expressed as a percentage of GDP, stood at 0.8 per cent, giving Ireland a ranking of 21st out of 24 OECD countries. By 1995, the figure had risen to 1.4 per cent, with Ireland ranked 17th out of 26 countries. The figure and rank were almost identical in 1997, the latest year for which published figures are available for Ireland.

Research and Development – Activity and Outputs

- In terms of the proportion of GDP spent on R&D (GERD), the most recent data (relating to 1997) show Ireland ranked 18th out of 28 countries. (If GNP is used for Ireland rather than GDP, this rank rises to 16th.) Although the absolute level of R&D expenditure increased from 1995 to 1997, given Ireland's rapid rate of economic growth, there was no increase in proportional spend.
- Business R&D expenditure (BERD), expressed as a percentage of GDP, was an estimated 1.01 in 1997. This is a medium level, giving Ireland a ranking of 13th out of 27 OECD countries. However, this effort is concentrated in a few sectors and dominated by foreign multinationals. Early indications of the outturn for more recent years suggest that the proportional BERD figure has not improved particularly.
- The proportional spend on R&D in the higher education and Government sectors is particularly weak, with ranks of 17th and 22nd respectively out of 24 countries, though the considerable allocation of resources under the NDP (see below) should improve this position significantly.
- With regard to human capital investment in R&D, in 1997 Ireland had 51 researchers per ten thousand in the labour force, giving a ranking of 9th out of 21 OECD countries. The Irish performance is also medium to good in relation to the number of science and technology degrees awarded as a proportion of total degrees and the number of science and technology PhDs relative to the size of the 25-34 age cohort of the population.

Innovation Outputs

- Measuring R&D outputs in terms of patent applications, patents granted, the growth rate in the number of patent applications, and numbers of scientific publications, Ireland's performance is towards the bottom end of the 2nd quartile of countries.

Recent Developments

- Recognising the weakness in Ireland's R&D capabilities and the need to overcome these weaknesses in order to enhance the long-term development potential of the economy, the National Development Plan – taking forward the conclusions of the Technology Foresight exercise – provides for a major expansion in R&D activity. Total cumulative expenditure will amount to almost £2bn, of which over £1.1bn is specifically allocated for fundamental research - £560m through the Technology Foresight Fund and £550m to be channelled through the Department of Education and Science for third level institutions. The National Development Plan will make a considerable contribution to boosting Ireland's R&D activity and capability in the Government and higher education sectors. Recent high profile developments include the establishment of Science Foundation Ireland and of MIT's Medialab Europe in Dublin.

E-business gives firms and Government the opportunity to improve internal processes, shorten supply chains, and reduce transaction costs. It creates new market opportunities for existing enterprises and reduces barriers to entry in certain cases. From the individual consumer's point of view, new technologies open up enormous possibilities for communication and accessing information, goods and services. Ultimately, new technologies will lead to new organisational and social structures and new working practices, such as telecommuting. In recent years, most developed countries have been working hard to gain or at least maintain competitive position in these new fields. The indicators included under this heading cover (i) access to information and communication technology, (ii) e-business and, (iii) investment in information and communication technology.

Competitiveness Aspect

Information Society

9

Information Society

Competitiveness League Table		
	Country	Score
1	US	8.3
2	Sweden	8.1
3	Switzerland	7.9
4	Finland	7.8
5	Canada	7.4
6	Norway	6.1
7	Australia	5.9
8	Denmark	5.9
9	Netherlands	5.4
10	Germany	5.3
11	UK	5.1
12	Belgium	4.9
13	Austria	4.8
14	Ireland	3.8
15	France	3.7
16	Italy	3.3
17	Spain	2.5
18	Portugal	2.3
19	Greece	1.6

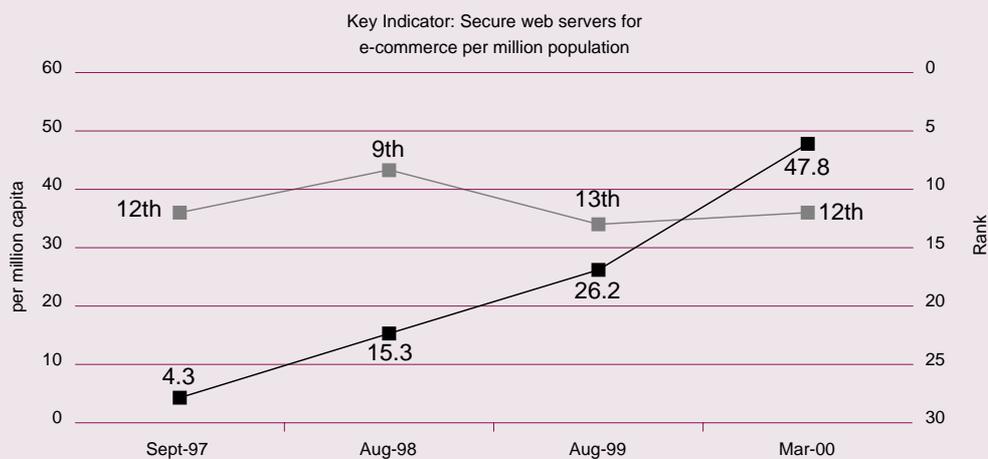


The Competitiveness Score is based on the Key Indicators for Information Society (see opposite)

Information Society

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Broadband access - lines per 100 population				✓	29	Korea Canada US
Secure web servers for electronic commerce per one million population		✓			29	Iceland US Australia
Number of PCs per 100 population			✓		12	US Denmark Norway
Value of online business – to – consumer transactions – billions (\$) per million population			✓		16	Luxembourg Switzerland Norway
Value of online business – to – business transactions – billions (\$) per million population				✓	16	Luxembourg Switzerland Sweden
Business-to-consumer e-commerce sales – number of buyers per thousand population			✓		19	US Australia Finland
Percentage of SMEs using internet for distribution purposes			✓		14	Sweden Germany Austria
Technology Achievement Index		✓			24	Finland US Sweden
Information and communication technology R&D expenditure as a percentage of GDP (GNP for Ireland)	✓				27	Finland Korea Japan
ICT employment as % of total business sector employment		✓			24	Sweden Switzerland Hungary

Tracking Changes in Competitiveness over Time



Source: OECD Science, Technology and Innovation Outlook, 2000

What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Information Society** gives it a rank of 14th out of 19 countries. This relatively low rank particularly reflects very poor broadband access (DSL) in terms of lines per 100 population, low incidence of online business-to-business and business-to-consumer transactions, and a low rate of SME use of the internet for distribution.
 - Because most of the data in this area has originated very recently, it was not possible to calculate a backdated Competitiveness Score for Information Society.
-
- **Change over time: Secure web servers for e-commerce**
The number of secure web servers for e-commerce rose rapidly from 1997 to 2000. The number was 4.3 per million of population in September 1997 and rose to 47.8 per million of population by March 2000. However, because of simultaneous progress in other countries, Ireland's competitive position did not improve over the period. Ireland's rank in 2000 was 12th out of 29 OECD countries. The rank in 1997 was also 12th.

Access To Information and Communication Technologies

- Ireland ranked 25th out of 29 OECD countries for broadband access (DSL lines per 100 population) in 2000. There is effectively no broadband access for small users in Ireland.
- Under other measures of internet access and activity, relating to international bandwidth¹, internet hosts, websites (including gTLDs), secure web servers, number of PCs, and internet usage, Ireland's performance is medium to poor, predominantly in the third quartile of countries.
- In regard to mobile subscriptions per capita, Ireland ranks 12th out of the 15 EU countries. Mobile penetration is 22 percentage points lower than in the leading country, Finland.
- One hundred per cent of Irish primary and secondary schools were linked to the internet in the academic year 1999 to 2000, giving a ranking of 1st out of 15 European countries in each case.

E-Business

- Measuring the extent of business-to-consumer transactions in terms of the number of buyers per 1,000 population, Ireland ranked 13th out of 19 OECD countries in 1998.
- Ireland ranked 11th out of 16 European countries for the value of online business-to-consumer transactions (US \$billion per million population) in 2000. The leading country, Luxembourg, had two and a half times more transactions by value than Ireland. The forecast growth rate to 2002 would put Ireland in the 4th rank for this indicator.
- Ireland ranked 15th out of 16 European countries for the value of online business-to-business transactions (US \$billion per million population) in 2000. The leading country, Luxembourg, had over eight times more transactions by value than Ireland. Again, the forecast growth rate to 2002 would put Ireland in the 4th rank for this indicator.

¹ The indicator in question here is International Internet bandwidth (M/bps) per 1,000 population. The data refer to 1999 and Ireland ranks 14th out of 22 OECD countries. However, since this time Ireland has substantially increased its international bandwidth connectivity through the Global Crossing and 360 Networks trans-Atlantic lines.

- According to the European network for SME research, 58 per cent of Irish SMEs were connected to the Internet in 1999, giving a rank of 3rd out of 14 European countries. In the leading country, Sweden, 70 per cent of SMEs were connected to the Internet. According to the same data source, only 3 per cent of Irish SMEs used the Internet for distribution purposes, giving a rank of 11th out of the EU 15.

Investment in Information and Communication Technologies

- The UN *Human Development Report 2001* gives Ireland a rank of 12th out of 24 OECD countries using its Technology Achievement Index.
- In regard to total expenditure on ICTs (as a percentage of GDP) and the growth rate in the value of the IT market, Ireland's performance is just below the EU average.
- In regard to ICT R&D expenditure (expressed as a proportion of GDP (GNP for Ireland)), Ireland ranks 6th out of 27 OECD countries. The leading countries under this indicator are Finland, Korea, Japan, Sweden and the US.
- In regard to ICT employment as a percentage of total business sector employment in 1997, Ireland ranked 9th out of 24 OECD countries. The leading country, Sweden, had proportionally 27 per cent more employees in the ICT sector.

Recent Developments

- A number of projects are currently underway in the area of e-Government. These include the Revenue Commissioner's online system, the FÁS e-recruitment system, and the Land Registry folio search system, all of which are reported to be attracting high uptake. Between April and May 2001, three Government websites were launched: OASIS, providing information for private individuals; BASIS, providing information for business; and a third provisional website providing information on Government e-procurement. There is also the REACH initiative, which will provide online services from the Department of Social, Community and Family Affairs. These online services will be central components of the public services e-broker facility that is currently being developed to provide for the integrated electronic delivery of Government and public services. The project will take a number of years to complete.
- Notwithstanding the above, the pace of the development of e-Government has been viewed as disappointingly slow. In response to this, a new Cabinet subcommittee on the Information Society is to be established, and consideration is being given to increasing the budget of the Information Society Fund, which was set up to provide for projects and initiatives under the Government Action Plan for the Information Society.
- The *Electronic Commerce Act*, which came into force in 2000, established Ireland as one of the first countries with a transparent and codified legal framework for electronic transactions.
- International forecasts (2001, pre-September) have predicted a drop in global demand for information technology products of approximately \$150 billion, or 20 per cent, in 2001. According to recent estimates, 500,000 jobs have been lost in the ICT sector worldwide so far in 2001.

Indicators relating to transport infrastructure are presented under this heading. The quantity and quality of transport infrastructure affects the competitiveness of the economy in a number of ways. Poor infrastructure adds to the cost of transporting both goods and people. The flexibility of supply is also constrained, leading to reduced actual consumption of both goods and labour. Poor infrastructure also adversely affects quality of life, which in turn retards labour supply growth (because people will be less inclined to migrate to (or visit) an area with poor infrastructure), leading to reduced output and income growth.

Transport Infrastructure

Competitiveness League Table		
	Country	Score
1	Luxembourg	9.0
2	Belgium	8.8
3	Germany	7.4
4	Netherlands	7.1
5	Austria	6.8
6	France	5.9
7	Italy	5.8
8	Denmark	5.4
9	UK	4.7
10	Sweden	4.6
11	Spain	3.7
12	Portugal	3.2
13	Ireland	2.7
14	Finland	2.7
15	Greece	1.5

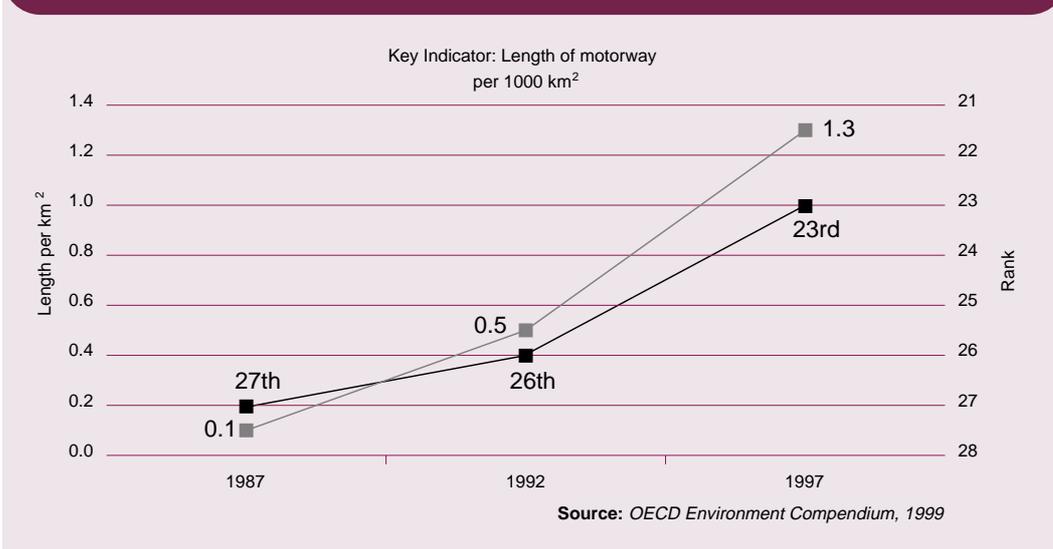


The Competitiveness Score is based on the Key Indicators for Transport Infrastructure (see opposite)

Transport Infrastructure

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Rail Infrastructure			✓		15	Luxembourg Germany Austria
Percentage of railway line electrified				✓	15	Luxembourg Belgium The Netherlands
Length of road network per 1000 km ²		✓			29	Belgium Japan The Netherlands
Length of motorway network per 1000 km ²				✓	28	Belgium The Netherlands Luxembourg

Tracking Changes in Competitiveness over Time



What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Transport Infrastructure** gives it a rank of 13th out of 15 countries. This reflects a low density of rail infrastructure, very little rail electrification, a medium density road network and an underdeveloped motorway network.
- A backdated Competitiveness Score for Transport Infrastructure also gives Ireland a rank of 13th out of 15 countries.
- **Change over time: Length of motorway network per 1000 km²**
The length of Ireland's motorway network has increased rapidly since the 1980s. However, the network is still underdeveloped by OECD standards. In 1987, the length of Ireland's motorway network was 0.1 km per km², giving a rank of 27th out of 27 OECD countries. By 1997, this figure had risen to 1.3, giving a rank of 23rd out of 28 countries.

Transport Infrastructure

- Ireland is towards the bottom of the 2nd quartile of countries for the length of the road network per km², implying medium-standard overall accessibility. However, it ranks 23rd out of 28 countries in terms of motorway length per km², which reflects the quality of the road network. (Adjusting these data for population density does not substantially alter the findings.)
- Under a composite indicator of rail infrastructure for 1998 (developed using data on the length of the rail network relative to both geographical area and population density), Ireland ranks 11th out of the 15 EU countries.²
- Ireland ranks 14th out of the EU 15 in regard to the percentage of railway lines electrified. The leading countries under this indicator are Luxembourg, Belgium and the Netherlands.
- The significant expenditure on infrastructure towards the end of the last decade and particularly the very considerable expenditure planned under the current National Development Plan (see below) will certainly improve the stock of transport infrastructure. Nonetheless, given the long period of under-investment, advancing our competitive position in this regard is likely to take some time. Ireland's per capita investment in transport infrastructure between 1990-1996 was 13th lowest out of the EU 15. The leading country, Luxembourg, invested almost four times as much per capita over the same period.
- Ireland was ranked 8th out of 15 European countries in regard to average commuting times in 1996. However, commuting times have disimproved considerably in recent years. (The number of cars on the road has increased by approximately 57 per cent since 1996, giving a further indication of the extent of traffic congestion.)
- The proportion of goods transported by road in Ireland, at 92.7 per cent, was second highest of the 15 EU countries in 1998. At the other end of the scale, Austria transported only 38 per cent of its goods by road in 1998.

² The composition of this rail infrastructure indicator is somewhat different to the one used in previous editions of the *Annual Competitiveness Report*. Accordingly, direct comparisons are not possible.

Recent Developments

- In the National Development Plan, the total planned investment under the National Road Priority over the period 2000-2006 is €6.748 billion. The total planned investment under the Public Transport Priority over the same period is €3.051 billion.
- Implementation of the National Development Plan in regard to roads and public transport, including rail infrastructure, is described as being broadly on schedule.

Environmental resources are scarce, and the need for economic development to be environmentally sustainable is incontestable. The two most obvious imperatives for environmental sustainability are to promote health and quality of life in the present and to ensure that resources fundamental to the economic and social well-being of future generations are not exhausted or spoiled in advance. Generally speaking, environmental degradation results from negative externalities of economic and social behaviour, i.e. outputs which are not charged for in the market place. Air pollution is a classic example: businesses and consumers over-pollute the air because they may do so free of charge, whereas reducing or filtering emissions imposes an internal cost. Negative effects of this kind must be corrected by Government intervention, with economic theory suggesting that the 'polluter pays' principle will be the most efficient basis for such intervention. The Kyoto Protocol, under which Ireland has emission-reduction obligations, is a government intervention at global level. The targets are relatively modest. It is likely that subsequent agreements on reducing greenhouse gas emissions will need to be considerably stricter if any impact is to be made on reducing or containing human-induced global warming, which has potentially disastrous consequences. Many interventions are also required at local level to stem environmental degradation. It is sometimes argued that environmental protection impedes competitiveness, narrowly defined. Environmental protection certainly imposes costs on enterprise, but these are costs which society must pay. Environmental protection will require the reduction or elimination of certain activities, and this again imposes costs, particularly on those involved in such activities. In this regard, internationally, it is important to ensure that individual countries are not allowed to free-ride on the environmental protection efforts of others. At micro-level, it is sometimes argued that the introduction of environmentally friendly technology and processes can lead to cost savings and other beneficial spin-offs. Under the heading environment protection are three sets of indicators, covering (i) land and forest, (ii) water, (iii) energy use, (iv) air pollution, (v) waste and recycling, and (vi) pollution control.

Environmental Protection and Management

Competitiveness League Table		
	Country	Score
1	Switzerland	6.8
2	Austria	6.6
3	Denmark	6.3
4	Italy	5.8
5	France	5.3
6	Finland	5.2
7	Netherlands	4.8
8	Spain	4.5
9	Ireland	4.3
10	Greece	4.2
11	Korea	3.8
12	Mexico	3.5
13	Belgium	3.0

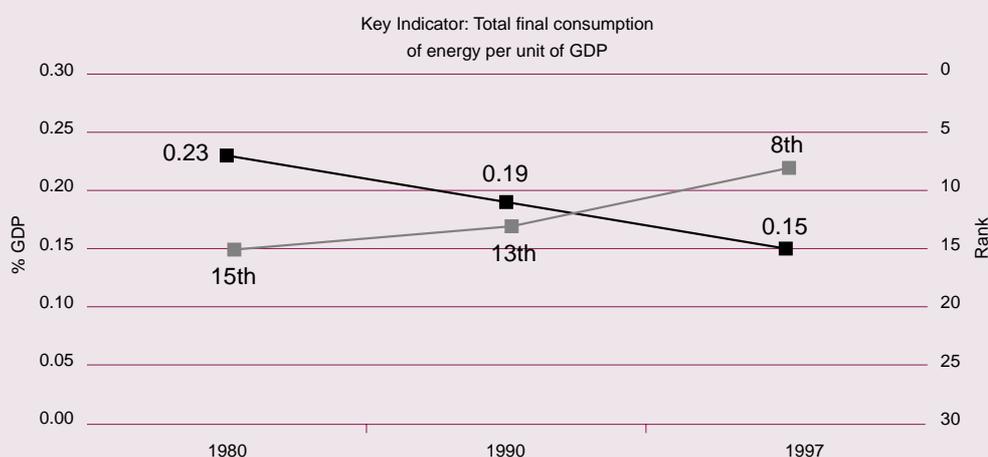


The Competitiveness Score is based on the Key Indicators for Environmental Protection and Management (see opposite)

Environmental Protection and Management

Key Indicators	Rank By Quarters				Number of Countries Ranked	Top Three Countries
	Q1	Q2	Q3	Q4		
Major protected areas (% total area) 1999				✓	30	Denmark Austria Germany
Nitrogenous fertilisers used (tonnes per km2 of arable land) 1998				✓	28	Australia Portugal Canada
Public waste water plants (% of population connected) 1998		✓			28	Netherlands Switzerland Sweden
Water quality of selected rivers – dissolved oxygen mg/litre (average) 1997	✓				23	Finland Austria/ Greece/ Ireland / Japan
Water quality of selected lakes – phosphorus mg/litre (average) 1997		✓			24	Norway Finland Sweden
Total final consumption of energy per unit of GDP		✓			29	Italy Japan Switzerland
Total final consumption of energy per unit of GDP (% change 1980-1997)	✓				24	Luxembourg Ireland US
CO2 emissions per unit of GDP 1998		✓			29	Switzerland Sweden Norway
Industrial waste generated per unit of GDP (tonnes per million US\$)			✓		27	Iceland Portugal Switzerland
Municipal waste generated (kg per capita)				✓	28	Mexico Czech Republic Poland
Pollution abatement and control: total expenditure (% GDP)				✓	25	Czech Republic Netherlands Austria Korea

Tracking Changes in Competitiveness over Time



Source: OECD Environmental Compendium 1999

What The Indicators Say

(See Section IV for full listing of data.)

- Ireland's **Competitiveness Score for Environmental Protection and Management** gives it a rank of 9th out of 13 countries. This more reflects threats to the environment and aspects of management and protection rather than the state of the environment, which is generally good (see below). The low rank is due in particular to the low proportionate amount of protected land, very intensive use of nitrogenous fertilisers, high rates of waste generation, both industrial and municipal (which includes domestic and commercial waste), and very low proportionate expenditure on pollution abatement and control.
- A backdated **Competitiveness Score for Environmental Protection and Management** gives Ireland a ranking of 9th out of 11 countries.

- **Change over time: Focus on total final consumption of energy per unit of GDP**
The energy efficiency of Ireland's economic output has improved considerably over the last 20 years. In 1980, total final consumption of energy per unit of GDP was 0.23, giving a ranking of 15th among OECD countries. By 1997, the figure had dropped to 0.15, giving a ranking of 8th out of 29 countries.

Land and Forest

- Ireland ranks last of 30 countries in terms of major protected areas as a percentage of total area. Slightly less than 1 per cent of the Ireland's total area has been designated as protected compared with 32 per cent in Denmark, 29.2 per cent in Austria and 26.9 per cent in Germany. Nine per cent of Ireland's land area is wooded. This compares with an EU average of 38 per cent. (The World Wildlife Fund has commented on Ireland's poor performance in this regard.)
- Ireland's performance is poor in regard to the intensiveness of nitrogenous fertiliser use. The figure for 1998 was almost four times the EU average, giving a rank of 28th out of 28 countries. In same year, Ireland ranked 14th out of 25 countries for pesticide use.
- Irish mammals are under less threat than those of any other country in the OECD. However, there are very few species of wild mammals in Ireland. The Irish population of birds is considerably richer, but 22 per cent of species are under threat, giving a ranking of 20th out of 29 countries.

Water

- Ireland is well endowed with water and unsurprisingly ranks 6th out of 28 countries for water withdrawal as a percentage of gross annual availability.
- As per data relating to the years 1994 to 1997, the quality of water in Irish rivers and lakes (assessed on a sample basis) is relatively good, giving a ranking of 2nd out of 23 countries and 11th out of 24 countries respectively. However, both the EPA and the OECD have issued warnings regarding a continuing trend of increasing 'slight and moderate' pollution.
- In terms of the proportion of the population connected with waste water plants, Ireland's performance, at 61 per cent in 1998, is below the EU average, giving a ranking of 15th out of 28 countries.

Energy Use

- Ireland's total final consumption of energy per unit of GDP was 15 to 25 per cent higher than in the most efficient countries, Italy and Japan, in 1997. This performance is better than average, giving a rank of 8th out of 29 countries. Ireland's energy efficiency as per this measure has improved considerably since 1980, with a ranking of 2nd out of 24 countries for the change over the period. On the other hand, total final consumption of energy on a per capita basis has increased by over 30 per cent since 1980. Taken together what these indicators describe is a rapidly growing economy that has been becoming more energy efficient as it grows.

Air Pollution

- Overall, assessed on a per capita or GDP basis, Ireland's performance with regard to air pollution is medium to poor. (The relative performance on a per capita basis is worse than on a GDP basis.) The country ranks 13th out of 29 for carbon dioxide emissions, 26th out of 28 for methane emissions, 26th out of 27 for nitrous oxide emissions, 9th out of 28 for nitrogen oxide emissions, and 16th out of 28 for sulphur oxide emissions. However, the benefit of Ireland's low population density and geographical location are mitigating factors here and the ambient air quality is generally good.

Waste and Recycling

- In regard to industrial waste generation, Ireland ranks 15th out of 27 countries. The rank for municipal waste generation (as measured in kilograms per capita) is 22nd out of 27 countries.
- Ireland's performance on waste recycling is also poor, particularly in the case of paper and cardboard recycling, where the rank is 24th out of 25 countries.

Pollution Abatement

- Ireland ranks 25th out of 25 countries for total expenditure on pollution abatement and control as a proportion of GDP.
- Ireland ranks 18th out of 24 countries in regard to the Government R&D budget for pollution abatement and control as a proportion of the total Government R&D budget. This is a particularly poor performance given that the Government R&D budget was itself comparatively modest in the years to which the data relate.

Recent Developments

- The European Union recorded a 4 per cent decrease between 1990 and 1999 in the combined emissions of the six greenhouse gases covered by the Kyoto Protocol on Climate Change. The change in Ireland over the period was in the opposite direction, with a higher increase in emissions than in any other EU country bar Spain. At 22.1 per cent, the growth rate was nine points higher than that allowed under the terms of the Protocol.
- In November 2000, the Government launched a *National Climate Change Strategy*. This strategy outlines the means by which Ireland will de-couple economic growth from growth in greenhouse-gas emissions (already achieved in the case of SO₂). Key initiatives include a commitment to put in place a framework of greenhouse-gas taxation from 2002. The tax will be introduced on a phased basis and will be particularly directed against carbon dioxide emissions.

- In November 2000, the first OECD review of Ireland's environment was published. It was reported that the quality of Ireland's environment was generally good but that the pressures on it were growing. A number of challenges were outlined, including the following: to control air pollution from transport and energy production; to reduce water pollution from municipal and agricultural sources; to improve drinking water quality; and to improve waste management and nature protection. The review emphasised the need to achieve implementation of environmental policies, to ensure that environmental concerns are integrated with economic policy, to strengthen the under-developed environmental infrastructure, and to reinforce international environmental co-operation.
- In a similar vein, the EPA wrote as follows in *Ireland's Environment – A Millennium Report* (April 2000):

Overall, Ireland's environment has been subject to fewer pressures than the environment of most of Europe and consequently is of a relatively high standard in most respects. However, many pressures on the environment, such as those from transport and energy growth, changed agricultural practices, urbanisation and, in particular, the general acceleration of economic development, are increasing in Ireland at higher rates than in most European countries. This means that while Ireland's environmental quality is of a higher standard, at the same time that quality is at risk of being eroded at a faster rate than is happening in most other European countries. Furthermore, emissions, e.g. from agriculture and the growth in traffic, are occurring at levels that will make it extremely difficult to meet our international obligations. The magnitude of the environmental challenges that Ireland now faces should not be under-estimated.

- The Department of the Environment and Local Government has informed the National Competitiveness Council of initiatives that are underway in relation to environmental protection and management. In particular, significant funding for waste management has been allocated under the National Development Plan.

Two Further Competitiveness Aspects

**Regulatory Environment & Quality
of Life**

Two Further Competitiveness Aspects

The National Competitiveness Council has identified two further Competitiveness Aspects, which, for reasons primarily relating to data, are not covered in detail in this Report: namely, Regulatory Environment and Quality of Life. However, some relevant data are included in Section IV of the Report.

Regulatory Environment

- The regulatory environment can be defined simply as the set of laws, institutions and practices that govern economic activity. According to current theory, the best regulatory environment is one that promotes free competition as broadly as possible, both nationally and internationally, with this then leading to lower costs and increased choice for consumers. There is also an emphasis currently on minimising the cost that regulation itself imposes (for example through overly bureaucratic procedures). Increasingly, countries and jurisdictions are seeking to gain competitive advantage through improving their regulatory environments. Particularly in the context of EMU, where some of the chief tools of economic policy are taken out of the hands of participant governments, the importance and prominence of regulatory reform has been increasing.
- In April 2001, the OECD published its review *Regulatory Reform in Ireland*. The conclusion was that while much progress has been made in the 1990s, there is still room for improvement. The OECD observed that Ireland is one of the less regulated countries in terms of barriers to entry and entrepreneurship, market openness and labour markets. However weaknesses were identified in certain areas, including transport, energy, legal services, pharmacies, pubs, and a general under-emphasis of consumer interest in policy.
- There are few reliable up-to-date quantitative international data with which to benchmark Ireland's Regulatory Environment. Given the nature of the subject, the data available tends to be qualitative. Points arising from existing data are given below.
- In terms of overall employment protection against dismissal and overall strictness of regulation for temporary employment, Ireland's regulation is shown to be relatively light, as per OECD Employment Outlook 1999. This can be interpreted as a positive factor for employers. On the other hand, from employees' perspectives it may be a negative factor.
- An international survey of competition authorities conducted by the Global Competitive Review in 2000 ranks the Irish Competition Authority 12th out of 20 countries rated. The survey covers independence, leadership, technical expertise, procedures, and case handling.
- Ireland ranks 1st out of 12 countries for the time and cost required to set up a private limited company.
- With regard to the turnover limit for concession providing relief from VAT registration, Ireland ranks 3rd out of 17 countries, following Japan and the UK.

Quality of Life

- While the National Competitiveness Council recognises Quality of Life as a fundamental aspect and goal of competitiveness, it was considered that the calculation of a Competitiveness Score for Quality of Life would not be appropriate, given the lack of availability of data and the very subjective nature of the judgements that would be required to establish such a statistic. This reservation having been made, points arising from existing data considered relevant are given below.
- In 1999, Ireland's income distribution was one of the most unequal in the EU when measured as the ratio of income earned by the richest 20 per cent of the population to that earned by the poorest 20 per cent. Under this indicator, Ireland ranks 13th of 15 countries, just ahead of Greece and Portugal.
- Of 13 EU countries in 1996, Ireland had the highest proportion of its population below the poverty threshold of 60 per cent of median income. However, with social benefits taken into account, Ireland's ranking rises to 8th out of 13.
- Children in Ireland in 1996 were at a higher risk of persistent poverty than in any other of 11 EU countries.
- Life expectancy in Ireland is at the bottom of the third quartile of OECD countries for men and in the fourth quartile for women.
- A World Health Organisation survey conducted in 1999 ranked the responsiveness of Ireland's health service at 19th out of 30 countries. Characteristics surveyed included handling of clients, promptness and quality of care, and choice of providers.
- The recently published UN *Human Development Report* ranks Ireland 18th out of 162 countries for quality of life using its Human Development Index, which is based on life expectancy, adult literacy, enrolment in education, and GDP per capita.

Approach To Measuring Competitiveness

III

Introduction

Structure of This Section

This section of the report is divided into the following subsections:

- What is the Annual Competitiveness Report?
- Definition of Competitiveness;
- Approach Taken to Measuring Competitiveness - Eleven Aspects;
- Organisation of Indicators;
- Limitations of Competitiveness Benchmarking.

What is The Annual Competitiveness Report?

The precise nature of the Annual Competitiveness Report has altered over the course of its four-year history. To begin with the Report was both a source of comparative data and a focus for analysis and the framing of public policy recommendations to maintain and enhance competitiveness. More recently, it was decided that the second annual publication by the National Competitiveness Council, entitled the Competitiveness Challenge, would be the locus for competitiveness analysis and the presentation of public policy recommendations, while the Annual Competitiveness Report has been re-focused as a statistical reference document, essentially a compendium of indicators which are used to benchmark Ireland's competitiveness vis-à-vis other countries in Europe and the OECD.

Of course, a strong link would be expected between these two pieces of work. We benchmark competitiveness in order to identify and analyse strengths and, perhaps more importantly, weaknesses, and in turn to produce recommendations designed to promote the strengths and remedy the weaknesses.

Definition of Competitiveness

The literature on competitiveness supplies a wide variety of definitions of the term. One of the most straightforward definitions, supplied by the World Economic Forum, is that competitiveness is the ability of a country to achieve sustained high rates of growth in GDP per capita. A similar but more detailed definition, supplied by the OECD, is that competitiveness is the degree to which a nation can, under free trade and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the long-term.

The definition favoured by the National Competitiveness Council is that competitiveness is the ability to achieve success in markets leading to better standards of living for all. The approach taken in this report to measuring competitiveness is based on this definition.

The focus in the report is national. Competitiveness is something that is important at a range of levels, from the level of the individual firm to the level of an industry, from the level of a small local region to the level of an association of nation states. The National Competitiveness Council is concerned with the country as whole, with promoting the success in national and international markets of the enterprise sector overall, with the ultimate objective of promoting improved standards of living for all people in the country.

Approach Taken To Measuring Competitiveness: Eleven Aspects

In terms of organisation, this year's Annual Competitiveness Report approaches the measurement of competitiveness in a somewhat different way to the previous three reports. The focus is on eleven different aspects of competitiveness, as follows:

- Economic Performance;
- Internationalisation;
- Capital;
- Education;
- Productivity, Labour Compensation and Unit Labour Costs;
- Non-Labour Enterprise Costs;
- Taxation;
- Science and Technology;
- Information Society;
- Transport Infrastructure; and
- Environmental Protection and Management.

The importance of each of these from the competitiveness perspective is discussed on the cover page of the individual sections.

The Council has also identified two further Competitiveness Aspects – Regulatory Environment and Quality of Life, which, for reasons primarily relating to data, are not covered in detail in this Report, although some relevant data are included in Section IV.

Organisation of Indicators

Review of Indicators

Last year's Report contained 166 indicators. In advance of the preparation of this year's Report, a detailed review of these indicators was undertaken. As a result of this, many of the indicators have now been discontinued or replaced, e.g. where there was no prospect of data being updated, where it was considered that a given indicator was not in fact a good measure of competitiveness, or where a more refined measure of the same matter had been located. A number of new indicators have also been added in order to expand and enrich the coverage. Annual Competitiveness Report 2001 contains 200 indicators, organised under the headings and sub-headings of the eleven Competitiveness Aspects listed above (and a further 21 miscellaneous indicators relating to Regulatory Environment and Quality of Life).

There is a natural tension in a benchmarking exercise of this kind between having fewer and more indicators. For purposes of understanding and analysis, there is a need for more detail, covering a wider range of issues. On the other hand, from policy makers, there is the demand for fewer indicators that summarise well what is going on. This year's Report attempts to satisfy both of these demands, firstly by increasing the number of indicators and the range of issues covered, and secondly by giving considerable emphasis to summary indicators – both Key Indicators and new Competitiveness Scores.

Key Indicators and Competitiveness Scores

As per above, Annual Competitiveness Report 2001 contains 200 indicators, most of which cover just under 30 OECD countries, although in some cases the number of countries covered is considerably lower. All of these indicators are ranked, either from a competitiveness perspective or in terms of absolute magnitudes. Under each Aspect, a subset of the indicators have been designated as Key Indicators. These are indicators that are particularly important or representative. There are a total of 95 Key Indicators.

The Key Indicators are used to calculate a Competitiveness Score for each Aspect. The methodology for calculating the Competitiveness Score is as follows. Suppose a Competitiveness Aspect has two Key Indicators. Suppose Ireland is ranked 11th out of 23 countries in the first indicator and 6th out of 30 countries in the second. For Ireland, the Competitiveness Score for this Aspect would be: $(((23-11) \times (10/23)) + ((30-6) \times (10/30))) / 2 = 6.6$. In this way, rankings relating to different numbers of countries are converted to a measure that approximates to a mark out of 10, then summed and averaged. This method gives each indicator the same weight. When a Score has been calculated for each country, a ranking emerges. However, a ranking for a given country is only calculated where data are available for the country for at least three quarters (sometimes more) of the Key Indicators in question.

Taken together, the Competitiveness Scores give a useful broad perspective on the country's performance, indicating strengths and weaknesses. It is hoped that the Scores will be helpful in communicating the competitiveness message and focusing attention on the areas where it is required. However, it is important also to recognise that the Scores are simple, unavoidably subjective measures in which a good deal of information has been concentrated. Using different Key Indicators and different Aspects would give different Scores. Clearly, in order to make best use of the Scores and of the Report in general, it is necessary to focus on the detailed data from which the Scores are derived.

A small number of notable international organisations produce annual competitiveness reports in which countries are ranked overall and by competitiveness factor. These publications tend to be well covered in the media. The National Competitiveness Council believes that the Competitiveness Scores published in this Report give a better reflection of Ireland's competitiveness performance than these publications. In particular, much of the data used by the international publications tends to be opinion data collected in surveys, and in some cases the quantitative data used are arguably not appropriate for ranking. The publications in question also give an overall competitiveness ranking. The Council has chosen not to do so in this Report. The reason for this is that the different Competitiveness Aspects cannot meaningfully be summed. For example, in the input-output-process paradigm of competitiveness Economic Performance would represent an output, while Science and Technology and Education would represent inputs, and Taxation a process. Apart from the difficulties of not comparing like with like and of finding an objective and meaningful basis for weightings, summing the Competitive Scores would give rise to certain contradictions. For example, in abstract, low taxation is good from competitiveness point of view, but so also, again in abstract, is public expenditure on infrastructure. The precise balance to be found between taxation and expenditure (leaving aside issues of efficiency) is a complex matter of public choice that certainly cannot be resolved in a benchmarking exercise such as the present one.

Breakdown of Indicators

Limitations of Competitiveness Benchmarking

It is important to draw attention to the limitations of competitiveness benchmarking.

Lack of Availability of Data

Even if we looked at Ireland in abstract, many of the data that we would wish to use to measure competitiveness, for example data relating to efficiency and effectiveness of Government expenditure in areas like health, education, and public infrastructure, are simply not available. The problem of lack of availability of data applies across the range of issues that are covered in this report. Moreover, when we wish to use internationally comparable data, availability becomes even more severely limited. Apart from not having internationally comparable data for matters which are essentially measurable, there is also the problem that certain matters we wish to cover – quality of Life being a prime example – are rather difficult to measure by conventional methods and so have to be approached through proxy measures.

Lack of Availability of Recent Data

Where we do have internationally comparable data they tend to lag behind the most current national data. For example, if, as is the case in this report, the most recent internationally comparable data on government expenditure on R&D relate to 1997, the data are clearly out-of-date and do not reflect recent development in this area. However, we cannot use an up-to-date figure for Ireland with 1997 figures for other countries since we would not be comparing like with like. Nor can we omit the indicator as it arguably represents one of the most important components of competitiveness. To deal with this problem, a section on recent developments has been included under the different Aspects where required.

General Problems

There is also a range of what might be termed general problems. Two of these are listed here. Firstly, cross-country comparisons are always difficult because there are so many different factors at play: cultural, institutional, historical, demographic, geographic etc. Secondly, particular indicators are often specified in ways that do not precisely suit the exercise at hand. For example, they may be too crudely specified or too detailed, or they may include elements that we wish to know about, disguised by elements that we are not interested in.

Detailed Tables **IV**

**Detailed Tables for
Economic Performance**

Complete List of Indicators for Economic Performance

Output

1. GDP per capita using current prices and PPP US\$	1999
2. Real GDP growth (%)	2001e
3. Real GDP growth over 5 years (1997 = 100)	2001e
4. GDP per capita/EU GDP per capita (PPP)	2000e
5. GDP per capita (GNP for Ireland)/EU GDP per capita (PPP)	2000e

Investment and Savings

6. Real gross fixed capital formation growth (%)	2001e
7. Real gross fixed capital formation growth over 5 years (1997 = 100)	2001e
8. Gross National Saving (percentage of nominal income)	1999
9. Gross National Saving (percentage of nominal income) 5 year average	1999

Export Performance

10. Export performance of total goods (merchandise) - % change	1997-1998
11. Export performance of commercial services - % change	1997-1998

Current Account Balance

12. Current account balance as a percentage of GDP	2001
13. Current account balance as a percentage of GDP (5 year average)	2001e

Inflation, Interest Rate and The Exchange Rate

14. GDP deflator (percentage change from previous period)	2001e
15. GDP deflator change over 5 years (1997 = 100)	2001e
16. Consumer prices (percentage change)	2000
17. Consumer prices change over 5 years (1995 = 100)	2000
18. Effective exchange rates (1995 = 100)	2001e

Employment

19. Five year change in total employment	1994-99
20. Male participation rate (% population 15-64)	2000
21. Female participation rate (% population 15-64)	2000
22. Female participation rate (% population 15-24)	2000
23. Female participation rate (% population 25-54)	2000
24. Female participation rate (% population 55-64)	2000
25. Male participation rate (% population 15-24)	2000
26. Male participation rate (% population 25-54)	2000
27. Male participation rate (% population 55-64)	2000
28. Incidence of part-time employment as a % of total employment	1999
29. Standardised unemployment rate	Q2 2000
30. Long-term unemployment as a % of the total labour force	1998

Government Expenditure

31. Government spending (percentage of GDP)	2000e
32. Current net lending or borrowing of general Government as a percentage of GDP	1999e
33. General Government consolidated gross debt as a percentage of GDP	1999e
34. Share of general Government in total employment	1996

Table 1 Economic Performance

Indicator	Output						Investment and Savings									
	1		2		3		4		5		6		7		8	
Year	1999		2001e		2001e		2000e		2000e		2001e		2001e		1999	
Source	OECD Economic Outlook April 2001		OECD Economic Outlook June 2001		OECD Economic Outlook Dec 2000		EC economic data pocket book		EC economic data pocket book and Department of Finance		OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		OECD Economic Outlook June 2001	
Country	29	Rank	29	Rank	29	Rank	17	Rank	17	Rank	29	Rank	29	Rank	20	Rank
Australia	25591	8	2.0	23	121	8	-	-	-	-	-1.7	28	126	18	-	-
Austria	23583	14	2.3	17	114	20	110	6	110	5	2.2	20	113	23	21.4	9
Belgium	23804	13	2.8	12	116	17	110	6	110	5	3	17	126	19	24.5	5
Canada	26424	6	2.3	17	121	11	-	-	-	-	3.7	15	151	5	20.2	14
Czech Republic	13362	25	3.0	9	103	29	-	-	-	-	6.5	4	100	26	-	-
Denmark	27083	5	2.0	23	113	21	117	3	117	3	2.1	21	138	13	22.4	7
Finland	22696	17	4.0	5	128	4	104	10	104	9	4.5	11	138	12	25.4	4
France	22506	18	2.6	14	115	18	101	12	101	12	5	10	128	16	21.3	11
Germany	23819	12	2.2	20	111	26	107	9	107	8	2.1	21	112	24	21.4	9
Greece	13569	24	4.0	5	119	14	67	17	67	17	9	2	152	4	19.1	15
Hungary	11275	26	5.1	3	127	5	-	-	-	-	6.7	3	150	7	-	-
Iceland	25279	10	1.5	27	120	13	-	-	-	-	-1.4	27	148	8	15.9	18
Ireland	25404	9	7.8	1	158	1	115	4	104	9	10.6	1	189	1	23.9	6
Italy	23288	15	2.3	17	111	25	98	14	98	14	3	17	122	20	21.2	12
Japan	24628	11	1.0	28	104	28	110	6	110	5	1.1	23	98	27	-	-
Korea	16059	22	4.2	4	123	7	-	-	-	-	-0.9	26	88	29	33.5	1
Luxembourg	41661	1	5.6	2	139	2	182	1	182	1	5.7	8	151	6	-	-
Mexico	8433	28	3.7	8	129	3	-	-	-	-	6.5	4	168	2	-	-
Netherlands	25921	7	3.0	9	120	12	113	5	113	4	2.8	19	126	17	27.1	3
New Zealand	18629	20	2.2	20	112	23	-	-	-	-	4.1	13	116	22	-	-
Norway	28133	4	2.0	23	112	22	-	-	-	-	-0.1	25	111	25	28.3	2
Poland	8650	27	3.8	7	126	6	-	-	-	-	4.5	11	159	3	-	-
Portugal	15576	23	2.6	14	117	16	76	16	76	16	6	7	141	10	2.3	20
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	18215	21	2.9	11	121	10	83	15	83	15	4.1	13	138	11	22.3	8
Sweden	23017	16	2.8	12	117	15	101	12	101	12	6.1	6	129	15	20.9	13
Switzerland	28680	3	2.1	22	111	24	-	-	-	-	5.2	9	121	21	-	-
Turkey	6335	29	-4.2	29	108	27	-	-	-	-	-17.6	29	89	28	13.2	19
UK	22050	19	2.5	16	115	19	102	11	102	11	3.3	16	132	14	16.3	17
US	33850	2	1.7	26	121	9	151	2	151	2	0.9	24	145	9	18.1	16
EU	21713	-	2.6	-	115	-	100	-	100	-	3.5	-	124	-	20.7	-
OECD	2.0	-	2.0	-	-	-	-	-	-	-	1.9	-	-	-	-	-

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 1 Economic Performance continued

Indicator	Export Performance						Current Account Balance				Inflation, Interest Rates and the Effective Exchange Rates					
	9		10		11		12		13		14		15		16	
Year	1999		1997-1998		1997-1998		2001		2001e		2001e		2001e		2000	
Source	OECD Economic Outlook June 2001		World Trade Organisation: International Trade Statistics 2000		World Trade Organisation: International Trade Statistics 2000		OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		OECD Economic Outlook June 2001	
Country	20	Rank	29	Rank	29	Rank	28	Rank	28	Rank	29	Rank	29	Rank	29	Rank
Australia	-		-11.6	26	-12.6	28	-2.7	17	1.0	24	2.7	14	109	11	4.5	23
Austria	21.9	8	6.8	6	8.9	8	-2.7	17	1.7	22	1.5	4	106	6	2.4	7
Belgium	24.8	4	6.3	8	7.6	10	5.3	4	6.0	7	2.5	12	108	9	2.5	8
Canada	18.8	15	0.0	19	5.0	15	1.6	11	4.3	13	2.1	9	108	10	2.7	12
Czech Republic	-		15.7	3	4.7	16	-5.2	24	2.0	20	4.4	22	128	24	3.9	22
Denmark	20.7	11	-0.9	21	8.3	9	2.2	7	4.7	11	2.5	12	113	16	2.9	13
Finland	23.4	5	5.8	10	1.9	20	7.4	3	7.8	4	1.5	4	110	13	3.4	19
France	20.3	12	5.3	11	5.4	13	1.7	10	5.1	9	1.5	4	104	4	1.7	4
Germany	21.6	9	5.9	9	1.6	21	-1.3	14	3.8	16	1.1	2	103	2	1.9	5
Greece	18.2	16	-3.6	24	9.2	7	-6.5	26	1.3	23	3.1	16	123	22	3.2	17
Hungary	-		20.5	1	3.5	18	-3.7	21	2.7	19	9.1	28	171	27	9.8	27
Iceland	16.7	19	10.8	4	16.0	4	-10.8	28	-0.2	27	3.7	20	122	21	5.0	24
Ireland	22.9	6	20.0	2	162.8	1	-0.9	13	21.0	1	4.6	23	126	23	5.6	25
Italy	21.6	10	2.2	17	0.3	23	-0.3	12	5.2	12	2.8	15	112	14	2.6	10
Japan	-		-7.9	25	-9.3	26	2.2	7	5.1	10	-1.2	1	96	1	-0.6	1
Korea	33.6	1	-	-	-	-	2.7	6	4.5	12	1.5	4	106	7	2.3	6
Luxembourg	-		-2.8	22	-6.3	25	-	-	-	-	3.4	18	115	19	3.2	17
Mexico	-		6.4	7	6.5	12	-3.6	20	1.8	21	8.0	27	187	28	9.5	26
Netherlands	27.5	3	3.7	13	4.1	17	3.5	5	6.6	5	4.6	23	114	17	2.5	8
New Zealand	-		-14.2	27	-13.0	29	-4.2	22	0.2	26	3.3	17	107	8	2.6	10
Norway	28.4	2	-18.3	29	-3.3	24	18.1	1	8.0	3	7.1	25	134	25	3.1	16
Poland	-		9.6	5	21.4	2	-6.2	25	0.9	25	7.5	26	163	26	10.1	28
Portugal	13.8	20	3.5	15	13.0	5	-9.7	27	-0.6	28	3.8	21	118	20	2.9	13
Russia	-		-16.0	28	-12.1	27	-	-	-	-	-	-	-	-	-	-
Spain	22.3	7	4.6	12	11.8	6	-3.2	19	2.9	17	3.5	19	115	18	3.4	19
Sweden	19.8	13	2.2	17	1.0	22	2.1	9	6.3	6	1.1	2	105	5	1.3	2
Switzerland	-		3.6	14	5.4	14	13.9	2	10.6	2	1.7	8	104	3	1.6	3
Turkey	19.6	14	2.8	16	20.7	3	-1.9	15	3.8	14	56.1	29	1167	29	54.9	29
UK	17.1	18	-3.1	23	7.2	11	-2.1	16	3.8	15	2.2	10	113	15	2.9	13
US	17.3	17	-0.1	20	2.2	19	-4.2	22	2.7	18	2.3	11	109	12	3.4	19
EU	20.9		0.6		7.1		-0.4		1.4		2.2		109		2.5	
OECD	-		-0.2		-		-1.3		-0.6		3.0		116		3.8	

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

Table 1 Economic Performance continued

		Employment																	
	17		18		19		20		21		22		23		24		25		
Indicator	Consumer prices change over 5 years (1995 = 100)		Effective exchange rates (1995 = 100)		Key Indicator: Five year change in total employment		Key Indicator: Male participation rate (% population 15-64)		Key Indicator: Female participation rate (% population 15-64)		Female participation rate (% population 15-24)		Female participation rate (% population 25-54)		Female participation rate (% population 55-64)		Male participation rate (% population 15-24)		
Year	2000		2001e		1994-99		2000		2000		2000		2000		2000		2000		
Source	OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		AMECO Database DG ECFIN		OECD Employment Outlook 2001		OECD Employment Outlook 2001		OECD Employment Outlook 2001		OECD Employment Outlook 2001		OECD Employment Outlook 2001		OECD Employment Outlook 2001		
Country	29	Rank	29	Rank	28	Rank	29	Rank	29	Rank	29	Rank	29	Rank	29	Rank	29	Rank	
Australia	110	12	89.4	24	0.09	12	82.0	12	65.5	12	68.1	4	70.7	19	36.3	14	69.8	6	
Austria	107	5	98.3	8	0.02	23	80.1	15	62.5	16	51.5	11	76.8	12	18.9	25	60.7	12	
Belgium	109	10	93.4	18	0.04	19	73.8	26	56.6	20	32.6	26	73.2	17	15.8	28	38.7	26	
Canada	109	11	94.7	17	0.11	9	82.1	11	70.5	8	62.9	8	78.6	7	41.6	13	65.9	10	
Czech Republic	139	25	104.3	4	0.03	21	79.4	16	63.7	13	40.6	19	81.8	6	23.7	21	51.3	18	
Denmark	112	15	95.7	14	0.05	16	84.0	7	75.9	4	68.8	3	84.3	4	48.2	7	75.2	1	
Finland	108	8	98.3	8	0.12	5	76.5	22	72	6	50.8	13	85	3	45.2	10	50.4	20	
France	106	4	96.5	12	0.04	18	74.4	25	61.7	17	26.2	29	78.4	8	32.9	16	32.7	28	
Germany	107	6	95.7	14	-0.01	28	81.1	14	63.2	15	47.6	14	76.9	11	34.1	15	57.1	13	
Greece	127	24	89.5	23	0.05	17	77.1	20	49.7	26	35.4	22	61.7	25	25.5	20	41	24	
Hungary	202	27	63.6	28	-0.01	27	68.0	29	52.7	22	33.3	25	70.4	20	13.5	29	44.4	22	
Iceland	115	22	97.0	11	0.11	8	89.8	1	83.3	1	73.2	1	88.2	1	76.8	1	70.1	5	
Ireland	113	18	90.8	21	0.27	1	79.1	17	55.7	21	46.9	15	65	22	27.8	18	56.1	15	
Italy	113	16	110.8	3	0.02	24	73.8	26	46.2	27	34	24	57.9	26	15.9	27	42.4	23	
Japan	101	1	99.2	6	0.00	26	85.2	4	59.6	19	46.6	16	66.5	21	49.7	6	47.4	21	
Korea	121	23	75.8	26	0.01	25	76.9	21	51.8	23	36.1	20	57.8	27	48.2	7	26.7	29	
Luxembourg	108	9	93.4	18	0.19	2	76.4	23	51.7	25	30.6	27	64.9	23	16.8	26	37.4	27	
Mexico	240	28	73.6	27	-		85.8	3	41.2	28	36.1	20	45.6	28	28.6	17	68.4	8	
Netherlands	111	13	93.4	18	0.12	4	83.9	8	65.7	11	70.9	2	73	18	26.4	19	73.4	3	
New Zealand	107	7	82.7	25	0.12	6	83.2	10	67.5	10	59.9	10	73.8	16	48	9	65.9	10	
Norway	112	14	97.6	10	0.11	10	84.8	5	76.5	2	61.8	9	83.5	5	61.6	4	67.5	9	
Poland	182	26	90.8	21	0.07	15	71.7	28	59.9	18	34.8	23	76.5	14	23.7	21	40.9	25	
Portugal	114	21	96.2	13	0.07	14	78.8	19	63.6	14	41	18	77.1	10	43.4	11	50.5	19	
Russia	-		-		-														
Spain	114	19	95.3	16	0.13	3	79.1	17	51.8	23	42.9	17	62.4	24	22.7	23	53.2	17	
Sweden	104	3	100.2	5	0.04	20	81.2	13	76.4	3	51.2	12	85.6	2	65.9	2	53.3	16	
Switzerland	104	2	99.0	7	0.02	22	89.4	2	73.9	5	66	5	78	9	62.4	3	70.5	4	
Turkey	1580	29	5.3	29	0.12	7	76.4	23	27	29	27.2	28	27.9	29	20	24	56.9	14	
UK	114	20	129.3	2	0.09	13	84.3	6	68.9	9	65.6	6	76.1	15	42.6	12	73.7	2	
US	113	17	134.1	1	0.10	11	83.9	8	70.8	7	63.2	7	76.8	12	51.8	5	68.6	7	
EU	111		93.7				78.9		59.8		43.3		72.2		31		52.3		
OECD	122		-				81.1		61.3		46.6		68.2		38.7		57.1		

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 1 Economic Performance continued

											Government Expenditure							
	26		27		28		29		30		31		32		33		34	
Indicator	Male participation rate (% population 25-54)		Male participation rate (% population 55-64)		Incidence of part-time employment as % of total employment		Key Indicator: Standardised unemployment rate		Long-term unemployment as a % of the total labour force		Government spending (percentage of GDP)		Key Indicator: Current net lending (+) or borrowing (-) of general government as a percentage of GDP		Key Indicator: General government consolidated gross debt as a percentage of GDP		Share of general government in total employment	
Year	2000		2000		1999		Q2 2000		1998		2000e		1999e		1999e		1996	
Source	OECD Employment Outlook 2001		OECD Employment Outlook 2001		OECD Employment Outlook, 2000		OECD Main Economic Indicators Oct 2000		OECD Employment Outlook 2000 and CSO QNHs		EC Economic Data Pocket Book 1999		EC Economic Data Pocket Book No1 2000 and Dept. of Finance		EC Economic Data Pocket Book No1 2000 and Dept. of Finance		OECD Employment Outlook July 1997	
Country	29	Rank	29	Rank	29	Rank	23	Rank	25	Rank	15	Rank	15	Rank	15	Rank	24	Rank
Australia	90.3	26	61.5	14	26.1	2	6.7	13	2.12	13	-	-	-	-	-	-	16.3	10
Austria	93.6	11	44.5	23	12.3	18	3.3	4	1.17	7	52	11	-2.2	13	63.5	11	20.6	17
Belgium	92.1	14	36.3	28	19.9	9	8.5	17	5.45	22	51	10	-1.0	7	114.3	14	19.1	15
Canada	91.1	22	61	15	18.5	10	6.7	13	0.88	4	-	-	-	-	-	-	21.7	18
Czech Republic	94.9	6	54.5	19	3.4	29	8.9	18	3.26	17	-	-	-	-	-	-	-	-
Denmark	91.5	19	64.5	12	15.3	13	4.8	9	1.07	6	54	14	3.0	2	52.6	6	32.4	23
Finland	90.8	23	48.1	22	9.9	22	9.8	19	3.05	16	47	7	3.5	1	42.1	3	22.5	19
France	94.1	9	41.6	25	14.7	14	9.8	19	4.55	21	52	11	-2.1	12	3.8	1	24.5	20
Germany	95.8	5	55.2	18	17.1	12	8.4	16	4.50	20	47	6	-1.6	10	61.3	8	16.2	9
Greece	94.3	7	57.3	17	9.0	24	-	-	5.87	23	53	13	-1.9	11	104.0	13	10.4	3
Hungary	84.5	29	34.5	29	3.5	28	6.7	13	3.51	18	-	-	-	-	-	-	-	-
Iceland	96.1	4	94.7	1	21.2	7	-	-	-	-	-	-	-	-	-	-	18.5	13
Ireland	92	15	64.7	11	18.3	11	4.7	7	2.42	14	33	1	2.0	3	47.0	5	17.7	11
Italy	90.4	25	42.2	24	11.8	20	10.6	21	7.00	24	48	9	-2.2	13	115.6	15	18.6	14
Japan	97.1	1	84.1	2	24.1	4	4.7	7	1.05	5	39	2	-8.2	15	-	-	8.3	1
Korea	92	15	70.8	8	7.8	26	2.2	1	-	-	-	-	-	-	-	-	-	-
Luxembourg	94.2	8	38.6	27	12.1	19	-	-	0.74	3	-	-	-	-	6.7	2	-	-
Mexico	96.3	3	80.9	3	13.8	16	2.8	2	-	-	-	-	-	-	-	-	31.7	22
Netherlands	93.8	10	50.8	21	30.4	1	6.1	11	1.44	10	45	5	-0.4	6	62.6	9	10.8	4
New Zealand	91.3	21	72.2	7	23.0	5	3.2	3	1.41	9	-	-	-	-	-	-	14.7	6
Norway	91.4	20	74.4	5	20.7	8	16.6	23	0.22	1	-	-	-	-	-	-	31.1	21
Poland	88.3	28	40.4	26	11.8	20	4.1	6	4.23	19	-	-	-	-	-	-	-	-
Portugal	92.7	13	65	10	9.3	23	-	-	1.85	12	48	8	-1.3	8	54.8	7	18.2	12
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	92.8	12	60.3	16	7.9	25	14.3	22	8.16	25	41	4	-1.4	9	63.0	10	15.0	7
Sweden	90.6	24	72.8	6	14.5	15	6.1	11	2.78	15	56	15	1.9	4	66.3	12	33.1	24
Switzerland	96.7	2	79.3	4	24.8	3	-	-	1.22	8	-	-	-	-	-	-	11.3	5
Turkey	89.4	27	53	20	7.1	27	-	-	-	-	-	-	-	-	-	-	8.8	2
UK	91.9	17	63.3	13	23.0	5	5.5	10	1.82	11	40	3	0.6	5	45.7	4	19.6	16
US	91.6	18	67.3	9	13.3	17	4.0	5	0.29	2	-	-	-	-	-	-	15.5	8
EU	92.3	-	52.5	-	16.4	-	8.4	-	4.37	-	46.8	-	-1.0	-	67.4	-	-	-
OECD	92.9	-	63	-	15.8	-	6.6	-	2.12	-	-	-	-	-	-	-	-	-

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

Detailed Tables for Internationalisation

Complete List of Indicators for Internationalisation

Trade Openness

1. Trade openness: exports + imports (of goods and services)/GDP 1999

Trade Performance and Diversification

2. Real exports of goods and services growth (percentage growth) 2000-2001e
3. Real exports of goods and services growth over 5 years (1997 = 100) 2001e
4. Real imports of goods and services growth (percentage growth) 2000-2001e
5. Real imports of goods and services growth over 5 years (1997 = 100) 2001e
6. Export performance for total goods (merchandise): percentage change from last period 1997-1998
7. Import performance for total goods (merchandise): percentage change from last period 1997-1998
8. Export performance of commercial services: percentage change from last period 1997-1998
9. Import performance of commercial services: percentage change from last period 1997-1998
10. Manufacturing exports - concentration, standard deviation of exports by country 1998
11. Manufacturing imports - concentration, standard deviation of imports by country 1998
12. Manufacturing exports - concentration, standard deviation of exports by sector 1998
13. Manufacturing imports - concentration, standard deviation of imports by sector 1998

Foreign Direct Investment

14. Foreign direct investment inflow as a percentage of GDP (GNP for Ireland) 1999
15. Foreign direct investment inflow stock as a percentage of GDP 1999
16. Foreign direct investment outflow stock as a percentage of GDP (GNP for Ireland) 1999

Table 2 Internationalisation

	Trade Openness		Trade Performance and Diversification													
	1		2	3	4	5	6	7	8							
Indicator	Key Indicator: Trade openness: exports + imports (of goods and services) /GDP		Real exports of goods and services (percentage growth)		Real exports of goods and services growth over 5 years (1997 = 100)		Real imports of goods and services (percentage growth)		Real imports of goods and services growth over 5 years (1997 = 100)		Key Indicator: Export performance for total goods (merchandise): percentage change from last period		Import performance for total goods (merchandise): percentage change from last period		Key Indicator: Export performance of commercial services: percentage change from last period	
Year	1999		2000-2001e		2001e		2000-2001e		2001e		1997-1998		1997-1998		1997-1998	
Source	OECD Main Economic Indicators, November 2000		OECD Economic Outlook, June 2001		OECD Economic Outlook, June 2001		OECD Economic Outlook, June 2001		OECD Economic Outlook, June 2001		World Trade Organisation: International Trade Statistics 2000		World Trade Organisation: International Trade Statistics 2000		World Trade Organisation: International Trade Statistics 2000	
Country	29	Rank	29	Rank	29	Rank	29	Rank	29	Rank	29	Rank	28	Rank	29	Rank
Australia	40.1	27	7.0	18	137	22	3.7	25	142	21	-11.6	26	-1.9	24	-12.6	28
Austria	90.7	7	6.0	22	145	16	5.5	21	140	24	6.8	6	5.1	16	8.9	8
Belgium	149.2	3	7.7	14	141	18	7.4	14	141	23	6.3	8	7.0	8	7.6	10
Canada	84.5	8	4.0	25	149	15	4.7	24	157	8	0.0	19	2.6	21	5.0	15
Czech Republic	128.7	4	15.9	1	173	5	15.3	2	165	7	15.7	3	6.0	11	4.7	16
Denmark	69.6	15	7.1	17	138	21	6.5	16	142	22	-0.9	21	3.7	20	8.3	9
Finland	43.5	26	7.9	13	169	7	6.2	18	151	17	5.8	10	5.5	13	1.9	20
France	49.7	23	7.4	16	153	13	8.7	6	155	10	5.3	11	6.7	9	5.4	13
Germany	57.8	19	8.7	8	154	12	8.4	7	152	15	5.9	9	5.7	12	1.6	21
Greece	48.9	25	9.4	7	164	8	7.5	12	154	11	-3.6	24	6.6	10	9.2	7
Hungary	103.3	6	15.0	2	234	1	15.4	1	240	1	20.5	1	21.1	2	3.5	18
Iceland	73.2	12	0.0	29	119	28	-1.0	28	153	13	10.8	4	25.0	1	16.0	4
Ireland	161.4	2	11.9	4	215	3	13.0	3	214	3	20.0	2	13.5	4	162.8	1
Italy	49.0	24	8.2	9	131	25	7.7	9	147	19	2.2	17	3.9	19	0.3	23
Japan	19.2	29	3.4	28	128	26	5.7	20	113	29	-7.9	25	-17.2	27	-9.3	26
Korea	77.4	10	11.0	5	217	2	9.8	4	136	26	-2.8	22			-6.3	25
Luxembourg	210.7	1	8.0	12	162	9	7.6	11	157	9	-	-	-			
Mexico	63.6	16	8.1	11	175	4	9.0	5	215	2	6.4	7	14.0	3	6.5	12
Netherlands	116.5	5	7.0	18	144	17	7.5	12	147	18	3.7	13	5.2	15	4.1	17
New Zealand	60.8	17	3.9	26	124	27	3.5	26	122	28	-14.2	27	-13.9	26	-13.0	29
Norway	72.0	13	3.8	27	115	29	2.7	27	123	27	-18.3	29	1.4	23	-3.3	24
Poland	58.9	18	10.0	6	155	11	6.0	19	168	5	9.6	5	11.2	5	21.4	2
Portugal	71.0	14	7.7	14	138	20	7.0	15	153	12	3.5	15	9.6	6	13.0	5
Russia	-	-	-	-	-	-	-	-	-	-	-16.0	28	-19.7	28	-12.1	27
Spain	55.5	20	8.2	9	160	10	8.0	8	171	4	4.6	12	8.2	7	11.8	6
Sweden	82.1	9	6.5	21	153	14	6.3	17	152	14	2.2	17	3.9	18	1.0	22
Switzerland	76.6	11	4.4	23	138	19	5.5	21	143	20	3.6	14	5.4	14	5.4	14
Turkey	50.1	22	15.0	2	170	6	-8.5	29	138	25	2.8	16	-5.5	25	20.7	3
UK	53.3	21	6.6	20	134	24	7.7	9	152	16	-3.1	23	2.3	22	7.2	11
US	23.9	28	4.3	24	134	23	4.8	23	168	6	-0.1	20	5.0	17	2.2	19
EU	-				100				100		0.6		5.9		7.1	
OECD	-		7.9		143		6.2		153		-0.2		-		-	

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 2 Internationalisation continued

											Foreign Direct Investment					
	9		10		11		12		13		14		15		16	
Indicator	Import performance of commercial services: percentage change from last period		Manufacturing exports - concentration, standard deviation of exports by country		Manufacturing imports - concentration, standard deviation of imports by country		Manufacturing exports - concentration, standard deviation of exports by sector		Manufacturing imports - concentration, standard deviation of imports by sector		Key Indicator: Foreign direct investment inflow as a percentage of GDP (GNP for Ireland)		Foreign Direct Investment inflow stock as a percentage of GDP		Key Indicator: Foreign direct investment outflow stock as a percent age of GDP (GNP for Ireland)	
Year	1997-1998		1998		1998		1998		1998		1999		1999		1999	
Source	World Trade Organisation: International Trade Statistics 2000		OECD Database		OECD Database		OECD Database		OECD Database		OECD Main Economic Indicators, Nov 2000		World Investment Report 2000		World Investment Report 2000	
Country	29	Rank	28	Rank	28	Rank	28	Rank	28	Rank	28	Rank	29	Rank	29	Rank
Australia	-8.4	25	0.038	6	0.043	14	0.104	2	0.176	25	1.1	23	30.7	6	14.3	18
Austria	5.6	18	0.060	21	0.068	26	0.151	12	0.153	13	1.4	20	11.4	22	8.5	23
Belgium	8.5	12	0.047	16	0.044	16	0.113	4	0.122	1	6	4	68.9	1	60.7	3
Canada	-1.4	23	0.137	27	0.108	27	0.161	17	0.194	28	3.9	10	26	11	27.9	8
Czech Republic	6.8	16	0.072	26	0.062	25	0.156	15	0.154	14	9.1	2	30.5	7	17.1	15
Denmark	15.0	7	0.041	10	0.042	13	0.127	7	0.133	5	4.3	6	21.7	12	24.2	11
Finland	-4.5	24	0.036	5	0.037	5	0.145	11	0.173	24	2.3	16	13.1	19	25.2	9
France	5.4	19	0.039	7	0.038	7	0.156	16	0.146	8	2.6	13	12.8	20	21.0	12
Germany	4.1	21	0.031	2	0.028	1	0.186	23	0.149	10	2.5	14	10.8	23	20.1	13
Greece	18.6	4	0.060	21	0.041	11	0.096	1	0.127	3	0.4	25	19.1	16	5.8	25
Hungary	19.9	3	0.064	24	0.050	21	0.174	21	0.170	22	4.0	9	38.6	5	30.5	7
Iceland	20.2	2	0.043	12	0.033	2	0.232	26	0.149	11	1.4d	20	6	27	45.5	5
Ireland	89.9	1	0.047	17	0.059	24	0.237	27	0.188	27	3.6d	11	48.4	4	19.5	14
Italy	6.7	17	0.041	9	0.042	12	0.137	9	0.135	6	0.4	25	9.4	24	14.6	17
Japan	-9.3	27	0.051	20	0.048	19	0.239	28	0.124	2	0.3d	28	0.9	29	6.7	24
Korea	-19.0	29	0.041	11	0.055	23	0.172	19	0.165	20	2.1	17	6.9	26	5.5	26
Luxembourg			-		-		-		-							
Mexico	6.9	15	0.140	28	0.126	28	0.213	25	0.183	26	2.4	15	14.9	18	1.4	28
Netherlands	5.1	20	0.047	18	0.038	6	0.143	10	0.156	15	8.4	3	56.1	3	79.9	1
New Zealand	-8.5	26	0.045	15	0.048	18	0.152	14	0.149	12	1.8	18	62.3	2	13.5	19
Norway	3.8	22	0.036	4	0.036	4	0.117	5	0.163	19	4.3	6	20.3	15	25.2	9
Poland	15.5	6	0.066	25	0.048	17	0.105	3	0.149	9	4.2	8	20.7	14	9.4	22
Portugal	10.8	10	0.048	19	0.049	20	0.126	6	0.142	7	0.5	24	20.8	13	9.5	21
Russia	-13.9	28	-		-		-		-		-		9	25	4.7	27
Spain	13.1	8	0.045	14	0.043	15	0.152	13	0.158	16	1.6	19	18.9	17	16.4	16
Sweden	11.3	9	0.031	1	0.038	8	0.173	20	0.170	21	25	1	28.9	8	44.5	6
Switzerland	7.8	14	0.043	12	0.054	22	0.165	18	0.127	4	1.3	22	28.5	9	77.9	2
Turkey	16.8	5	0.061	23	0.038	9	0.129	8	0.161	18	0.4	25	4.5	28	0.9	29
UK	10.5	11	0.035	3	0.034	3	0.178	22	0.161	17	5.8	5	27.8	10	46.9	4
US	8.4	13	0.040	8	0.039	10	0.200	24	0.171	23	3.1	12	11.8	21	12.2	20
EU	9.5										2.5		29.6		41.8	
OECD	-										-		-		-	

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

Detailed Tables for Capital

Complete List of Indicators for Capital Cost of Capital

- | | |
|--|-------|
| 1. Long-term interest rates (%) | 2001e |
| 2. Short-term interest rates (%) | 2001e |
| 3. Interest rate spread – absolute (%) | 1998 |

Return to Capital

- | | |
|---|-----------|
| 4. Rate of return on capital in the business sector (%) | 1998e |
| 5. Average return on US investment abroad | 1995-1999 |

Venture Capital

- | | |
|---|------|
| 6. Cumulative venture capital raised as a percentage of GDP (GNP for Ireland) | 1999 |
|---|------|

Stock Market

- | | |
|---|------|
| 7. Stock market capitalisation as a percentage of GDP | 1999 |
|---|------|

Table 3 Capital

Indicator	Cost of Capital						Return to Capital				Venture Capital		Stock Market	
	1		2		3		4		5		6		7	
	Key Indicator: Long-term interest rates (%)		Key Indicator: Short-term interest rates (%)		Key Indicator: Interest rate spread - absolute (%)		Key Indicator: Rate of return on capital in the business sector (%)		Key Indicator: Average return on US investment abroad		Key Indicator: Cumulative venture capital raised as a percentage of GDP (GNP for Ireland)		Key Indicator: Stock market capitalisation as a percentage of GDP	
Year	2001e		2001e		1998 (UNLESS STATED)		1998e		1995-1999		1999		1999	
Source	OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		IMF International Financial Yearbook 1999		OECD Economic Outlook December 1998		U.S Department of Commerce		European Venture Capital Association Yearbook 2000		World Competitiveness Yearbook 2001	
Country	26	Rank	29	Rank	27	Rank	19	Rank	28	Rank	17	Rank	30	Rank
Australia	5.3	18	4.3	4	-	-	14.1	11	9.5	20	-	-	110.2	9
Austria	5.1	12	4.4	5	-	-	15.7	7	12.8	12	0.2	16	16.0	30
Belgium	5.1	12	4.4	5	4.2	16	14.4	10	9.4	21	1.2	7	75.7	14
Canada	5.4	19	4.7	18	1.6	2	12.8	14	2.1	27	-	-	125.3	8
Czech Republic	-	-	5.4	20	4.4	18	-	-	6.6	26	-	-	22.2	28
Denmark	5.1	12	4.8	19	4.8	20	8.9	18	11.2	14	0.4	15	60.6	20
Finland	5.0	6	4.4	5	3.3e	9	12.9	13	18.2	3	1.3	6	277.1	1
France	4.9	4	4.4	5	3.3	11	16.4	6	6.7	25	1.5	4	103.8	11
Germany	4.8	3	4.4	5	6.4e	23	15.3	8	9.5	19	0.7	11	68.5	16
Greece	5.4	19	4.4	5	7.9	24	24.3	1	15.8	6	0.2	17	100.0	12
Hungary	-	-	11.1	25	3.3	10	-	-	20.6	1	-	-	32.9	25
Iceland	10.5	24	11.1	25	9.6e	25	-	-	-	-	1.2	8	25.0	27
Ireland	5.0	6	4.4	5	5.8	21	17.0	5	19.8	2	1.5	4	46.7	22
Italy	5.1	12	4.4	5	4.7	19	14.6	9	11.0	15	0.7	9	63.1	18
Japan	1.4	1	0.3	1	2.1	5	11.7	16	9.1	22	-	-	104.1	10
Korea	7.0	23	5.9	22	1.9	3	-	-	10.9	16	-	-	75.8	13
Luxembourg	5.0	6	4.4	5	2.0	4	-	-	17.0	4	-	-	192.0	4
Mexico	15.1	25	14.3	27	15.0	26	-	-	13.4	11	-	-	31.9	26
Netherlands	5.0	6	4.4	5	3.4	13	18.9	3	15.3	8	1.7	3	181.3	5
New Zealand	6.0	21	6.2	23	4.4	17	19.1	2	8.8	23	-	-	53.3	21
Norway	6.0	21	7.4	24	67.0	1	6.5	19	15.9	5	0.7	10	41.8	23
Poland	-	-	16.8	28	6.3	22	-	-	10.8	17	-	-	20.4	29
Portugal	5.2	17	4.4	5	3.4	14	-	-	15.4	7	0.7	11	65.7	17
Russia	-	-	-	-	27.4	27	-	-	-53.4	28	-	-	39.7	24
Spain	5.0	6	4.4	5	2.1	6	18.2	4	10.8	18	0.6	14	72.4	15
Sweden	4.9	4	4.1	3	4.0	15	11.8	15	11.3	13	2.2	2	158.4	7
Switzerland	3.5	2	3.1	2	3.4	12	13.5	12	14.7	10	0.7	13	270.2	2
Turkey	96.2	26	91.1	29	-	-	-	-	14.8	9	-	-	60.8	19
UK	5.0	6	5.4	20	2.7	7	11.1	17	8.3	24	4.6	1	206.9	3
US	5.1	12	4.6	17	2.9	8	-	-	-	-	-	-	179.9	6

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Detailed Tables for Education

Compete List of Indicators for Education

Population

1. Percentage of population aged 5-19 1999

Education Expenditure

2. Public expenditure on educational institutions as a percentage of GDP (GNP for Ireland) 1998
3. Public and private expenditure on educational institutions as a percentage of GDP (GNP for Ireland) 1998
4. Public and private expenditure on educational institutions as a percentage of GDP (GNP for Ireland) 1995
5. Public and private expenditure on educational institutions as a percentage of GDP (GNP for Ireland) 1990
6. Annual expenditure per student, US\$ PPP: Primary 1998
7. Annual expenditure per student, US\$ PPP: Secondary 1998
8. Annual expenditure per student, US\$ PPP: All Tertiary 1998
9. Ratio of students to teaching staff (public and private institution): Primary 1999
10. Ratio of students to teaching staff (public and private institution): Secondary 1999

Participation in Education

11. Educational participation: age 16 (%) 1999
12. Educational participation: age 17 (%) 1999
13. Net enrolment in education - age 20 (%) 1999
14. Total enrolment in tertiary education growth (1995=100) 1999
15. Percentage of 25-64 year-olds participating in continuing education and training Years specified
16. Mean number of hours per adult of participation in continuing education and training Years specified

Educational Attainment

17. Percentage of population aged 25-64 years that has at least upper secondary level education 1999
18. Percentage of population aged 25-64 years that has attained 3rd level education 1999
19. Percentage of population aged 25-34 years that has attained 3rd level education 1999
20. Average achievement in maths - age 13 1995
21. Average achievement in science - age 13 1995
22. Number of science graduates at university level per 100,000 persons in the Labour Force aged 25-34 years 1999
23. Percentage of the population scoring at IALS literacy level 3 or higher on the document scale - 16-25 years 1994-95
24. Percentage of the population scoring at IALS literacy level 3 or higher on the document scale - 46-55 years 1994-95
25. Average number of foreign languages per pupil 1996-97

Table 4 Education

Indicator	Population		Education Expenditure													
	1	2	3	4	5	6	7	8								
Year	1999	1998	1998	1995	1990	1998	1998	1998								
Source	OECD Education at a Glance 2001															
Country	29	Rank	28	Rank	26	Rank	22	Rank	17	Rank	24	Rank	24	Rank	24	Rank
Australia	21	9	4.3	22	5.5	14	5.5	14	4.9	10	3981	10	5830	11	11539	5
Austria	18	18	6.0	6	6.4	7	6.6	4	5.1	9	6065	3	8163	2	11279	6
Belgium	18	18	5.0	14	5.0	19	5.0	18	4.8	12	3743	13	5970	9	6508	16
Canada	21	9	5.5	10	6.2	9	7.0	2	6.2	1	-	-	-	-	14579	3
Czech Republic	19	12	4.1	24	4.7	24	5.4	15	-	-	1645	22	3182	21	5584	19
Denmark	17	25	6.8	1	7.2	1	6.7	3	6.2	3	6713	1	7200	5	9562	11
Finland	19	12	5.8	8	5.7	11	6.3	8	6.0	4	4641	9	5111	15	7327	14
France	20	11	5.9	7	6.2	8	6.3	7	5.7	7	3752	12	6605	6	7226	15
Germany	17	25	4.4	21	5.6	13	5.8	10	-	-	3531	14	6209	8	9481	12
Greece	18	18	3.4	27	4.8	21	-	-	4.8	-	2368	20	3287	20	4157	23
Hungary	19	12	4.5	19	5.0	17	5.5	13	-	-	2028	21	2140	22	5073	20
Iceland	24	3	6.6	4	6.9	4	-	-	4.8	14	-	-	-	-	-	-
Ireland	24	3	5.0	13	5.4	15	5.9	9	5.9	5	2745	19	3934	18	8522	13
Italy	15	29	4.8	15	5.0	18	4.6	21	5.8	6	5653	6	6458	7	6295	18
Japan	16	28	3.6	26	4.7	23	4.8	19	4.8	11	5075	8	5890	10	9871	9
Korea	22	6	4.1	24	7.0	2	-	-	-	-	2838	18	3544	19	6356	17
Luxembourg	18	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mexico	34	1	4.1	23	4.8	22	5.6	11	-	-	863	24	1586	23	3800	24
Netherlands	18	18	4.5	18	4.6	25	4.7	20	4.8	12	3795	11	5304	13	10757	8
New Zealand	22	6	6.1	5	-	-	-	-	-	-	-	-	-	-	-	-
Norway	19	12	6.8	2	6.9	3	7.2	1	6.2	2	5761	5	7343	4	10918	7
Poland	24	3	5.4	12	-	-	-	-	-	-	1496	23	1438	24	4262	22
Portugal	18	18	5.6	9	5.7	12	5.3	16	4.2	16	3121	17	4636	16	-	-
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	17	25	4.4	20	5.3	16	5.5	12	4.7	15	3267	16	4274	17	5038	21
Sweden	19	12	6.6	3	6.8	5	6.4	5	5.3	8	5579	7	5648	12	13224	4
Switzerland	18	18	5.4	11	5.9	10	-	-	-	-	6470	2	9348	1	16563	2
Turkey	32	2	2.9	28	3.5	26	2.5	22	3.2	17	-	-	-	-	-	-
UK	19	12	4.7	17	4.9	20	5.1	17	-	-	3329	15	5230	14	9699	10
US	22	6	4.8	15	6.4	6	6.4	6	-	-	6043	4	7764	3	19802	1
EU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OECD	-	-	4.6	-	5.8	-	-	-	-	-	3915	-	5625	-	11720	-

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

Table 4 Education continued

		Participation in Education														
	9		10		11		12		13		14		15		16	
Indicator	Ratio of students to teaching staff (public and private institutions): Primary		Ratio of students to teaching staff (public and private institutions): Secondary		Educational participation - age 16 (%)		Key Indicator: Educational participation - age 17 (%)		Net enrolment in education - age 20 (%)		Total enrolment in tertiary education growth (1995 = 100)		Key Indicator: Percentage of 25-64-year-olds participating in continuing education and training		Key Indicator: Mean number of hours per adult of participation in continuing education and training	
Year	1999		1999		1999		1999		1999		1999		Years specified		Years specified	
Source	OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001	
Country	27	Rank	26	Rank	29	Rank	29	Rank	28	Rank	21	Rank	18	Rank	16	Rank
Australia	17.3	15	12.7	9	92	14	84	14	52	7	108	15	36 g	9	167 g	9
Austria	14.5	10	9.8	2	92	14	87	13	29	24	106	16	-	-	-	-
Belgium	13.9	9	8.8	1	98	3	96	2	63	1	109	14	22 g	13	126 g	14
Canada	18.7	17	19.3	24	93	11	84	14	46	14	98	19	36 h	9	205 h	3
Czech Republic	23.4	24	14.7	16	100	2	88	11	25	25	137	4	27 d	12	135 d	12
Denmark	10.6	1	12.4	8	93	11	82	18	40	21	115	11	56 d	2	206 d	2
Finland	17.4	16	13.5	12	94	9	96	2	47	10	113	13	58 d	1	185 d	5
France	19.6	18	12.8	10	95	7	91	9	54	5	98	19	-	-	-	-
Germany	21	20	15.2	18	97	5	93	7	48	9	97	21	-	-	-	-
Greece	13.5	8	10.6	5	92	14	65	27	62	2	131	5	-	-	-	-
Hungary	10.9	2	10.6	5	93	11	88	11	41	18	164	2	18 d	16	156 d	11
Iceland	13.3	6	-	-	90	18	77	23	47	10	-	-	-	-	-	-
Ireland	21.6	22	14.6	15	92	14	81	20	42	17	118	9	22 g	13	230 g	1
Italy	11.3	3	10.3	4	79	27	73	25	35	23	105	17	22 g	13	173 d	8
Japan	21.2	21	15.4	19	95	7	94	6	-	-	-	-	-	-	-	-
Korea	32.2	27	22.2	25	98	3	96	2	53	6	140	3	-	-	-	-
Luxembourg	12.5	4	9.9	3	87	23	81	20	25	25	-	-	-	-	-	-
Mexico	27.2	25	32.2	26	43	28	35	28	17	27	120	7	-	-	-	-
Netherlands	16.6	14	17.7	23	107	1	95	5	57	3	-	-	36 h	9	182 h	6
New Zealand	20.5	19	16.1	21	89	21	75	24	43	16	-	-	46 g	5	205 g	3
Norway	12.6	5	-	-	94	9	93	7	47	10	103	18	48 d	4	180 d	7
Poland	-	-	-	-	90	18	89	10	51	8	184	1	14 h	17	166 h	10
Portugal	-	-	-	-	83	26	84	14	41	18	119	8	13 d	18	-	-
Russia	-	-	13.6	13	-	-	-	-	-	-	-	-	-	-	-	-
Spain	15.4	11	12.9	11	85	24	79	22	56	4	117	10	-	-	-	-
Sweden	13.3	6	14.5	14	97	5	97	1	46	14	-	-	54 h	3	-	-
Switzerland	16.1	12	12.3	7	90	18	84	14	41	18	-	-	42 d	7	123 d	15
Turkey	30	26	16.1	21	37	29	25	29	15	28	125	6	-	-	-	-
UK	22.5	23	14.7	16	84	25	73	25	47	10	115	11	45 g	6	127 g	13
US	16.3	13	15.6	20	88	22	82	18	38	22	-	-	42 h	7	115 h	16
EU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OECD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

Table 4 Education continued

Educational Attainment																		
	17		18		19		20		21		22		23		24		25	
Indicator	Key Indicator: Percentage of population aged 25-64 years that has at least upper secondary level education		Key Indicator: Percentage of population aged 25-64 years that has attained 3rd level education		Key Indicator: Percentage of population aged 25-34 years that has attained 3rd level education		Key Indicator: Average achievement in maths - age 13		Key Indicator: Average achievement in science - age 13		Key Indicator: Number of science graduates at university level per 100,000 persons in the labour force aged 25-34 years		Key Indicator: Percentage of the population scoring at IALS literacy level 3 or higher on the document scale - 16-25 years		Percentage of the population scoring at IALS literacy level 3 or higher on the document scale - 46-55 years		Average number of foreign languages per pupil	
Year	1999		1999		1999		1995		1995		1999		1994-95		1994-95		1996/97	
Source	OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD Education at a Glance 2001		OECD and Statistics Canada/IALS		OECD and Statistics Canada/IALS		Key Data on Education in Europe, 2000	
Country	29	Rank	24	Rank	24	Rank	23	Rank	23	Rank	19	Rank	12	Rank	12	Rank	18	Rank
Australia	57	18	27	6	29	11	530	10	545	8	-	62	7	49	6	-	-	-
Austria	74 d	10	11 d	23	13 d	23	539	7	558	5	-	-	-	-	-	-	1.20	12
Belgium	57	18	26	10	34	6	546	4	511	19	-	76	3	52	3	1.67	7	-
Canada	79	8	39	1	47	1	527	11	531	13	1240	8	67	4	45	8	-	-
Czech Republic	86	2	-	-	-	-	564	3	574	1	671	17	-	-	-	-	1.16	14
Denmark	80	7	27	6	29	11	502	18	478	24	-	-	-	-	-	-	1.98	3
Finland	72	12	31 d	3	38 d	3	-	-	-	-	1785	3	-	-	-	-	2.46	2
France	62	16	21	17	31	10	538	8	498	20	2063	2	-	-	-	-	1.61	8
Germany	81	5	23	13	22	20	509	14	531	13	835	12	66	6	58	2	1.23	11
Greece	50	24	18 d	21	26 d	16	484	22	497	21	-	-	-	-	-	-	1.53	9
Hungary	67	13	-	-	-	-	537	9	554	6	775	13	-	-	-	-	1.12	16
Iceland	56	20	23	13	27	14	487	20	494	22	750	15	-	-	-	-	1.73	4
Ireland	51 d	23	21 d	17	29 d	11	527	11	538	9	2789	1	50	10	34	11	0.99	18
Italy	42	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.15	15
Japan	81	5	31	3	45	2	605	2	571	2	1614	5	-	-	-	-	-	-
Korea	66 d	14	23	13	35	5	607	1	565	3	-	-	-	-	-	-	-	-
Luxembourg	56	20	19	20	21	21	-	-	-	-	-	-	-	-	-	-	2.89	1
Mexico	20	29	13	22	16	22	-	-	-	-	606	18	-	-	-	-	-	-
Netherlands	64 d	15	22	16	25	19	541	6	560	4	581	19	77	2	52	3	1.49	10
New Zealand	74	10	27	6	26	16	508	15	526	16	1494	6	53	9	45	8	-	-
Norway	85d	3	27 d	6	33 d	7	503	17	527	15	759	14	-	-	-	-	-	-
Poland	54 d	22	-	-	-	-	-	-	-	-	743	16	35	12	17	12	1.69	6
Portugal	21	28	10	24	12	24	454	23	480	23	-	-	-	-	-	-	1.00	17
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	35	26	21	17	33	7	487	20	517	18	1359	7	-	-	-	-	1.19	13
Sweden	77	9	29	5	32	9	519	13	535	11	1029	10	80	1	73	1	1.72	5
Switzerland	82	4	24	12	26	16	545*	5	522*	17	-	-	67	4	45	8	-	-
Turkey	22	27	-	-	-	-	-	-	-	-	978	11	-	-	-	-	-	-
UK	62	16	25	11	27	14	506*	16	552	7	1620	4	56	8	47	7	-	-
US	87	1	35	2	38	3	500	19	534*	12	1098	9	45	11	51	5	-	-
EU	-	-	-	-	-	-	509	-	520	-	-	-	-	-	-	-	1.37	-
OECD	-	-	20	-	-	-	524	-	523	-	-	-	-	-	-	-	-	-

* Data for UK refers to England. Data for Switzerland refers to the French-speaking part of the country.

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

**Detailed Tables for Productivity, Labour
Compensation and Unit Labour Costs**

Complete List of Indicators for Productivity, Labour Compensation and Unit Costs

Productivity

1. Productivity per employee per annum (US\$ '000s)	1999
2. Productivity (US\$ per hour worked)	1999
3. Productivity (annual average change)	1991-2000e
4. Productivity (annual average change)	1996-2000e
5. Productivity (annual average change)	1999-2000e
6. Productivity breakdown (US\$1000 PPP per capita): Agricultural	1999-2000e
7. Productivity breakdown (US\$1000 PPP per capita): Industrial	1999
8. Productivity breakdown (US\$1000 PPP per capita): Services	1999

Labour Compensation and Unit Costs

9. Real compensation per employee (annual average change)	1994-1999
10. Unit labour costs in the total economy (percentage increase)	1999-2000
11. Unit labour costs in the total economy (projected percentage increase)	2000-2001e
12. Unit labour costs in the total economy (cumulative increase over five years)	1996-2000
13. Unit labour costs in the total economy (cumulative increase over ten years)	1991-2000
14. Hourly compensation costs for production workers in manufacturing (US\$)	1999
15. Nominal compensation per employee, total economy (€000 per annum)	2000e
16. Nominal compensation per employee, total economy (€000 per annum)	2001e
17. Nominal compensation per employee (percentage change)	2000-2001e

Table 5 Productivity, Labour Compensation and Unit Labour Costs

	Productivity														Labour Compensation and Unit Costs			
	1		2		3		4		5		6		7		8		9	
Indicator	Key Indicator: Productivity per employee per annum (US\$ '000s)		Key Indicator: Productivity (US\$ per hour worked)		Productivity (annual average change)		Productivity (annual average change)		Key Indicator: Productivity (annual average change)		Productivity breakdown (US\$1000 PPP per capita): Agriculture		Productivity breakdown (US\$1000 PPP per capita): Industry		Productivity breakdown (US\$1000 PPP per capita): Services		Real compensation per employee (annual average change)	
Year	1999		1999		1991 - 2000 e		1996 - 2000 e		1999 - 2000 e		1999-2000e		1999		1999		1994-1999	
Source	Forfás Calculation		Forfás Calculation		EC Economic Data Pocket Book		EC Economic Data Pocket Book		EC Economic Data Pocket Book		EC Economic Data Pocket Book		Forfás Calculation		Forfás Calculation		EC Economic Data Pocket Book No.1 2000	
Country	29	Rank	27	Rank	17	Rank	17	Rank	17	Rank	29	Rank	29	Rank	29	Rank	17	Rank
Australia	46.0	18	25.5	18	-		-		-		26.0	16	47.7	19	37.0	19	-	
Austria	51.8	17	34.2	14	1.7	7	1.7	8	2.1	5	19.6	21	58.7	15	55.2	15	0.55	7
Belgium	63.9	8	39.1	6	1.5	11	1.1	14	1.7	9	36.5	11	65.5	13	63.3	11	0.37	3
Canada	43.7	19	24.7	19	-		-		-		28.2	15	50.0	17	29.5	21	-	
Czech Republic	11.4	27	5.7	27	-		-		-		4.1	27	5.0	29	4.3	29	-	
Denmark	64.4	6	42.2	5	2.2	3	1.3	12	2.1	5	43.3	9	79.0	7	83.8	3	1.77	13
Finland	56.5	15	33.8	15	2.7	2	2.5	2	2.0	7	37.2	10	72.0	10	59.4	12	1.98	15
France	61.5	9	38.5	7	1.4	12	1.5	9	1.5	12	50.2	4	69.0	11	65.7	9	0.53	6
Germany	58.5	11	37.0	10	2.1	5	1.8	6	2.3	4	28.6	14	58.5	16	68.4	7	0.83	9
Greece	31.6	21	16.4	22	1.4	13	2.3	3	2.4	2	10.0	22	24.1	22	31.8	20	2.25	16
Hungary	13.0	26	7.3	26	-		-		-		4.4	25	5.4	26	5.8	27	-	
Iceland	64.1	7	36.7	11	-		-		-		104.7	1	82.8	5	69.1	6	-	
Ireland	58.1	12	32.3	17	3.2	1	3.9	1	3.6	1	23.7	17	86.4	4	50.4	17	0.95	10
Italy	57.1	14	34.7	13	1.4	14	0.8	16	1.4	13	29.1	13	48.4	18	57.0	13	-0.52	1
Japan	67.3	4	36.5	12	1.2	16	1.2	13	1.1	15	30.8	12	110.6	3	91.4	2	0.48	5
Korea	20.1	25	8.7	25	-		-		-		4.2	26	15.9	25	7.9	25	-	
Luxembourg	77.6	1	47.1	2	1.7	8	1.3	11	1.4	13	23.6	18	72.5	9	93.0	1	0.55	7
Mexico	25.4	23	11.9	24	-		-		-		4.7	24	16.8	23	17.8	24	-	
Netherlands	57.8	13	42.3	4	1.2	15	0.9	15	1.1	15	44.7	7	67.3	12	54.7	16	0.37	3
New Zealand	31.1	22	18.5	21	-		-		-		20.6	20	29.8	21	23.8	22	-	
Norway	67.6	3	48.3	1	-		-		-		46.2	5	124.8	1	72.8	5	-	
Poland	9.7	28	-		-		-		-		1.2	29	5.2	28	5.5	28	-	
Portugal	24.5	24	14.1	23	2.2	4	1.9	5	2.4	2	5.4	23	16.6	24	19.5	23	1.87	14
Russia	-		-		-		-		-		-		-		-		-	
Spain	43.2	20	23.7	20	1.2	17	0.7	17	1.0	17	21.0	19	35.8	20	37.6	18	-0.40	2
Sweden	58.7	10	37.8	8	2.1	6	1.7	7	1.7	9	58.1	2	79.9	6	65.0	10	2.25	16
Switzerland	66.9	5	42.4	3	-		-		-		56.8	3	112.6	2	79.3	4	-	
Turkey	8.4	29	-		-		-		-		1.3	28	5.4	27	5.9	26	-	
UK	52.5	16	33.1	16	1.6	9	1.3	10	2.0	7	43.7	8	61.9	14	55.8	14	1.62	12
US	68.9	2	37.6	9	1.6	10	2.1	4	1.6	11	45.0	6	77.5	8	66.9	8	1.55	11
EU					1.6												0.53	
OECD					-												-	

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 5 Productivity, Labour Compensation and Unit Labour Costs *continued*

	10		11		12		13		14		15		16		17	
Indicator	Unit labour costs in the total economy (percentage increase)		Key Indicator: Unit labour costs in the total economy (projected percentage increase)		Key Indicator: Unit labour costs in the total economy (cumulative increase over five years)		Unit labour costs in the total economy (cumulative increase over ten years)		Key Indicator: Hourly compensation costs for production workers in manufacturing (US\$)		Key Indicator: Nominal compensation per employee, total economy (€'000 per annum)		Nominal compensation per employee, total economy (€'000 per annum)		Key Indicator: Nominal Compensation per employee, percentage change	
Year	1999-2000		2000-2001e		1996-2000		1991-2000		1999		2000e		2001e		2000-2001e	
Source	OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		OECD Economic Outlook June 2001		US Bureau of Labour Statistics		AMECO Database, DG ECFIN		AMECO Database, DG ECFIN		AMECO Database, DG ECFIN	
Country	28	Rank	28	Rank	26	Rank	24	Rank	23	Rank	28	Rank	28	Rank	28	Rank
Australia	3.0	20	3.2	18	8.3	13	14.6	6	15.89	9	34.90	19	35.65	18	2.1	7
Austria	0.2	4	0.6	3	0.9	4	17.8	11	21.83	18	32.50	14	33.15	14	2.0	5
Belgium	0.9	6	2.0	7	4.3	6	18.0	12	22.82	19	38.65	24	39.46	24	2.1	6
Canada	2.4	15	2.6	10	6.3	9	10.4	4	15.60	8	28.48	11	28.60	11	0.4	2
Czech Republic	2.4	15	4.6	24	31.5	23	-	-	-	-	6.03	3	6.35	3	5.3	26
Denmark	1.8	11	2.6	10	11.4	16	17.4	10	22.96	20	35.92	21	37.15	22	3.4	16
Finland	0.2	4	2.2	8	2.4	5	2.9	1	21.10	16	30.97	13	32.21	13	4.0	20
France	1.1	8	1.7	5	5.0	8	14.9	7	17.98	12	36.66	23	37.55	23	2.4	9
Germany	0.0	3	0.5	2	-0.1	2	14.5	5	26.18	23	33.27	16	34.06	15	2.4	8
Greece	3.5	22	2.6	10	30.7	22	91.7	23	8.91	4	17.97	8	18.49	8	2.9	14
Hungary	8.7	27	13.6	28	71.3	25	-	-	-	-	6.66	4	6.89	4	3.5	18
Iceland	5.2	26	5.7	26	48.9	20	-	-	-	-	41.81	26	43.69	26	4.5	23
Ireland	2.1	13	5.5	25	7.4	10	19.4	14	13.57	7	32.5	15	34.9	16	7.3	28
Italy	1.5	10	1.7	5	9.4	14	25.7	17	16.60	11	28.49	12	29.25	12	2.7	13
Japan	-1.1	1	-0.7	1	-4.2	1	5.7	2	20.89	14	49.11	28	50.90	28	3.6	19
Korea	4.3	24	2.2	8	14.4	17	58.9	21	6.71	3	17.97	8	19.22	9	7.0	27
Luxembourg	2.1	13	3.0	16	-	-	-	-	-	-	40.21	25	41.20	25	2.5	11
Mexico	9.4	28	6.9	27	74.4	26	172.3	24	2.12	1	5.89	1	6.00	2	1.9	4
Netherlands	2.9	19	3.1	17	10.4	15	19.7	15	20.94	15	35.80	20	37.03	20	3.4	17
New Zealand	0.9	6	2.6	10	4.8	7	7.0	3	9.14	5	16.92	7	17.15	7	1.4	3
Norway	3.1	21	3.2	18	21.5	21	23.9	16	23.91	22	35.97	22	37.10	21	3.1	15
Poland	2.6	17	3.9	23	59.6	24	-	-	-	-	7.67	5	8.00	5	4.3	21
Portugal	4.9	25	3.6	21	20.4	20	60.7	22	5.48	2	13.92	6	14.57	6	4.7	24
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	4.1	23	3.6	21	15.7	18	43.0	19	12.11	6	23.92	10	24.55	10	2.6	12
Sweden	2.0	12	2.6	10	8.2	11	15.5	8	21.58	17	34.89	18	36.42	19	4.4	22
Switzerland	-0.5	2	1.2	4	0.4	3	15.9	9	23.56	21	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-	-	5.94	2	5.71	1	-3.9	1
UK	2.7	18	2.8	15	16.7	19	29.2	18	16.56	10	34.60	17	35.45	17	2.5	10
US	1.3	9	3.5	20	8.3	12	19.3	13	19.20	13	47.70	27	50.03	27	4.9	25
EU	1.6	-	1.9	-	8.2	-	23.7	-	20.31	-	-	-	-	-	-	-
OECD	2.2	-	3.4	-	15.0	-	38.4	-	-	-	-	-	-	-	-	-

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

**Detailed Tables for
Non-Labour Enterprise Costs**

Compete List of Indicators for Non-Labour Enterprise Costs

Telecommunication Costs

1. 2 Mbit/s leased lines national circuits - connection (euros)	2000
2. Fixed-to-Fixed interconnection cost (national) cents per minute	2000
3. Cost of internet use (30 minutes, peak rate, US\$)	Nov 2000
4. Cost of internet use (30 minutes, off-peak rate, US\$)	Nov 2000
5. Composite business basket cost of calls (national & international)	May 2001
6. OECD national (GSM) mobile basket	May 2001

Energy Costs

7. Automotive diesel oil prices for commercial use (US\$/toe)	Q3 2000
8. Heavy fuel oil prices for industry (US\$ per toe)	Q3 2000
9. Industrial electricity prices - 24GWh per annum - VAT excluded (euro)	Jan 2001
10. Industrial electricity Prices -10GWh per annum - VAT excluded (euro)	Jan 2001
11. Industrial electricity Prices -1.25 GWh per annum - VAT excluded (euro)	Jan 2001
12. Gas Prices - Industrial Rate exclusive VAT (4186 GJ/200 days) (euros)	Jan 2001
13. Gas Prices - Industrial Rate exclusive VAT (41860 GJ/250 days/ 4000 hours) (euros)	Jan 2001

Property Costs

14. Office Rent: total occupation costs (US\$/sq.M per year) capital cities	2001
15. Residential Property Prices Inflation- Adjusted Indices 1995=100	1999

Table 6 Non-Labour Enterprise Costs

Indicator	Telecommunication Costs										Energy Costs					
	1		2		3		4		5		6		7		8	
Year	2000		2000		Nov-00		Nov-00		May-01		May-01		Quarter 3 2000		Quarter 3 2000	
Source	DG XIII Tariff Data 2000		DG XIII Tariff Data 2000		Teligen		Teligen		Teligen		Teligen		International Energy Agency, Energy Prices and Taxes, 3rd Quarter 2000		International Energy Agency, Energy Prices and Taxes, 3rd Quarter 2000	
Country	15	Rank	15	Rank	29	Rank	29	Rank	29	Rank	29	Rank	25	Rank	16	Rank
Australia	-	-	-	-	0.078	2	0.078	2	982.5	19	1563	24	-	-	-	-
Austria	1204	2	2.58	14	0.504	13	0.256	11	952.5	16	528	2	663.8	11	-	-
Belgium	4214	9	1.92	8	1.065	28	0.553	26	920.8	14	1313	21	671.7	12	186.8	5
Canada	-	-	-	-	0.000	1	0.000	1	504.0	1	1176	17	514.8	2	190.8	7
Czech Republic	-	-	-	-	0.910	26	0.377	20	977.8	18	1228	19	602.7	5	116.5	2
Denmark	2789	6	1.35	1	0.768	22	0.552	25	858.6	11	1093	15	787.3	20	-	-
Finland	1346	3	2.63	15	0.295	5	0.295	14	988.6	20	898	11	709.8	14	-	-
France	9147	15	2.01	9	0.885	23	0.524	23	843.2	9	1185	18	729.4	15	181.6	4
Germany	2556	5	2.28	13	0.333	6	0.333	16	884.7	12	865	10	731.7	16	-	-
Greece	2247	4	2.22	11	0.148	4	0.148	4	737.8	7	820	6	603	6	-	-
Hungary	-	-	-	-	0.705	21	0.333	17	774.3	8	858	9	856.8	23	128.6	3
Iceland	-	-	-	-	0.435	11	0.242	9	609.2	3	599	3	-	-	-	-
Ireland	3174	8	1.54	2	0.406	9	0.202	7	938.3	15	1681	26	703.5	13	271.3	14
Italy	310	1	1.8	6	0.442	12	0.274	13	1003.8	22	1017	13	787.1	19	231.7	12
Japan	-	-	-	-	0.899	25	0.899	29	1984.2	28	1511	23	663.5	10	245.9	13
Korea	-	-	-	-	0.378	8	0.264	12	855.4	10	702	5	585.1	4	300.7	16
Luxembourg	2975	7	1.69	3	0.625	19	0.340	18	544.3	2	506	1	637.6	8	-	-
Mexico	-	-	-	-	0.139	3	0.139	3	2457.9	29	1989	28	-	-	-	-
Netherlands	4538	11	1.71	5	0.572	16	0.227	8	650.4	4	901	12	772.8	18	-	-
New Zealand	-	-	-	-	0.546	14	0.546	24	1000.8	21	1412	22	325.8	1	298.4	15
Norway	-	-	-	-	0.604	17	0.400	21	724.9	6	670	4	991.4	24	-	-
Poland	-	-	-	-	0.637	20	0.637	28	1306.0	26	1279	20	559.1	3	111.8	1
Portugal	4240	10	2.25	12	0.364	7	0.177	5	1024.9	23	1030	14	642.2	9	229.9	11
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	6611	12	2.16	10	0.606	18	0.248	10	1065.6	24	843	8	610.8	7	192.1	8
Sweden	6979	13	1.7	4	0.569	15	0.302	15	669.1	5	1756	27	833.2	21	-	-
Switzerland	-	-	-	-	1.028	27	0.463	22	887.3	13	1122	16	839.6	22	-	-
Turkey	-	-	-	-	0.890	24	0.623	27	1084.1	25	833	7	769.5	17	209.6	10
UK	7464	14	1.8	6	1.413	29	0.357	19	1332.5	27	1587	25	1178.3	25	194.9	9
US	-	-	-	-	0.431	10	0.178	6	955.1	17	2084	29	-	-	187.5	6
EU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
OECD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	225.7	-

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 6 Non-Labour Enterprise Costs *continued*

												Property Costs		
	9		10		11		12		13		14		15	
Indicator	Industrial electricity prices - 24GWh per annum - VAT excluded (euro)		Key Indicator: Industrial electricity prices - 10GWh per annum - VAT excluded (euro)		Industrial electricity prices - 1.25 GWh per annum - VAT excluded (euro)		Key Indicator: Gas prices - industrial rate excl. VAT (4186 GJ/200 days)		Gas prices - industrial rate excl. VAT (4186 GJ / 250 days/4000 hours)		Key Indicator: Office Rent: total occupation costs (US\$/sq.M per year) capital cities		Key Indicator: Residential Property Prices Inflation-Adjusted Indices 1995=100	
Year	Jan-01		Jan-01		Jan-01		Jan-01		Jan-01		2001		1999	
Source	Statistics in Focus Environment and Energy, 10/2001		Statistics in Focus Environment and Energy, 10/2001		Statistics in Focus Environment and Energy, 10/2001		Statistics in Focus Environment and Energy, 12/2001		Statistics in Focus Environment and Energy, 12/2001		The World Competitiveness Yearbook, 2001		Bank of International Settlements, August 2000	
Country	13	Rank	13	Rank	15	Rank	13	Rank	13	Rank	29	Rank	17	Rank
Australia	-		-		-		-		-		223	3	115	9
Austria	-		-		-		7.91	8	6.4	8	291	9	-	-
Belgium	5.72	10	6.89	10	8.76	12	7.06	6	5.4	3	291	9	115	9
Canada	-		-		-		-		-		290	8	99	5
Czech Republic	-		-		-		-		-		281	5	-	-
Denmark	-		-		4.97 b	4	11.09	13	6.6	9	287	6	131	14
Finland	3.76	3	4.11	3	4.67	3	9.21	11	6	5	335	13	141	15
France	4.81	6	5.55	6	6.48	7	5.96	4	6	5	673	27	102	6
Germany	5.96	11	7.03	11	8.84	13	8.48	10	7.9	12	483	21	92	4
Greece	4.8	5	5.7	7	6.16	5	-		-		-	-	-	-
Hungary	-		-		-		-		-		269	4	-	-
Iceland	-		-		-		-		-		152	2	-	-
Ireland	5.31	8	6.17	9	8.06	11	5.66	2	4.7	2	450	20	176	17
Italy	8.54	13	10.04	13	11.53	15	8.25	9	6.9	11	351	14	91	3
Japan	-		-		-		-		-		1478	29	88	2
Korea	-		-		-		-		-		671	25	-	-
Luxembourg	3.94	4	4.51	4	7.98	9	6.99	5	6.6	9	409	17	-	-
Mexico	-		-		-		-		-		392	16	-	-
Netherlands	-		-		8.03 b	10	7.53	7	6.1	7	363	15	141	15
New Zealand	-		-		-		-		-		116	1	-	-
Norway	2.38	1	2.96	2	4.03	2	-		-		329	12	129	13
Poland	-		-		-		-		-		427	19	-	-
Portugal	7.6	12	8.2	12	9.07	14	-		-		297	11	-	-
Russia	-		-		-		-		-		671	25	-	-
Spain	5.14	7	5.41	5	6.39	6	5.87	3	5.4	3	426	18	109	7
Sweden	2.42	2	2.7	1	3.7	1	11.02	12	9.1	13	579	24	127	12
Switzerland	-		-		-		-		-		506	23	87	1
Turkey	-		-		-		-		-		287	6	-	-
UK	5.32	9	5.72	8	7.34 b	8	4.95	1	3.8	1	1051	28	126	11
US	-		-		-		-		-		484	22	109	7
EU	-		-		-		-		-		-		-	
OECD	-		-		-		-		-		-		-	

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

Detailed Tables for Taxation

Complete List of Indicators for Taxation

Taxation

1. Total tax revenue as percentage of GDP	1998
2. General government current receipts as a percentage of GDP	2000
3. Marginal rate of income tax plus employee contributions (married 100, 0, 2 children)	1999
4. Marginal rate of income tax plus employee contributions (married 100, 67, 2 children)	1999
5. Marginal rate of income tax plus employee contributions (single 100, no children)	1999
6. Pay for time not worked, irregular bonuses and pay in kind (percentage of compensation costs)	1999
7. Social insurance expenditures and other labour taxes (percentage of compensation costs)	1999
8. Employees' and employers' social security contributions and personal income tax less transfer payments as a percentage of gross labour costs (married)	2000
9. Employees' and employers' social security contributions and personal income tax less transfer payments as % of gross labour costs (single)	2000
10. Standard/top corporate tax rate (%)	2000
11. Taxes on corporate income as a percentage of GDP	1998

Table 7 Taxation

Taxation																
	1		2		3		4		5		6		7		8	
Indicator	Key Indicator: Total tax revenue as a percentage of GDP		General government current receipts as a percentage of GDP		Key Indicator: Marginal rate of income tax plus employee contributions (married 100, 0, 2 children)		Key Indicator: Marginal rate of income tax plus employee contributions (married 100, 67, 2 children)		Key Indicator: Marginal rate of income tax plus employee contributions (single 100, no children)		Pay for time not worked, irregular bonuses and pay in kind (percentage of compensation costs)		Social insurance expenditures and other labour taxes (percentage of compensation costs)		Key Indicator: Employees' & employers' soc. sec. contrib.s and personal inc. tax less transfer payments as a percentage of gross labour costs (married)	
Year	1998		2000		1999		1999		1999		1999		1999		2000	
Source	OECD Revenue Statistics 2000		EC Economic Data Pocketbook 2000		Taxing Wages OECD 2000		Taxing Wages OECD 2000		Taxing Wages OECD 2000		Swedish Employers' Confederation International Outlook November 2000		Swedish Employer's Confederation International Outlook November 2000		Taxing Wages OECD 2000	
Country	29	Rank	15	Rank	29	Rank	29	Rank	29	Rank	20	Rank	20	Rank	29	Rank
Australia	29.9	6	-	-	44.5	22	44.5	23	44.5	23	9.6	3	18.9	10	7.7	2
Austria	44.4	24	48.8	10	42.4	20	42.4	22	42.4	21	21.6	19	28.1	16	29.6	17
Belgium	45.9	26	49.7	12	51.7	29	55.9	29	55.9	29	19.1	14	6.3	2	40.4	28
Canada	37.4	16	-	-	49.1	26	48.6	24	43.6	22	9.6	3	16.0	6	21.2	10
Czech Republic	38.3	18	-	-	43.8	21	25.6	7	30	10	7.7	2	28.6	18	24.8	13
Denmark	49.8	28	56.3	14	45.5	23	51.0	26	51	25	12.7	10	6.3	2	31.2	18
Finland	46.2	27	51.1	13	48.6	25	48.6	24	48.6	24	19.3	15	22.8	14	39.8	26
France	45.2	25	49.3	11	21	6	27.0	8	34.8	14	16.0	11	31.8	20	39.0	25
Germany	37	14	45.6	7	48.3	24	53.7	28	55.7	28	18.0	12	25.1	15	33.1	19
Greece	33.7	9	47.1	9	28.5	10	28.5	9	28.5	7	19.3	15	22.2	12	35.8	21
Hungary	38.7	19	-	-	40.5	18	40.5	21	40.5	19	-	-	-	-	37.0	23
Iceland	33.6	8	-	-	36	15	36.0	18	36	16	-	-	-	-	-1.3	1
Ireland	32.2	7	34.8	2	30.5	11	30.5	12	52.5	26	9.8	5	14.5	5	15.5	6
Italy	42.7	22	46.0	8	40.1	17	40.1	20	40.1	18	20.7	18	29.1	19	36.3	22
Japan	28.4	3	30.8	1	18.6	4	18.6	3	21.6	5	25.6	20	16.0	6	20.1	9
Korea	21.1	2	-	-	12.1	1	12.1	1	13.6	1	-	-	-	-	15.8	7
Luxembourg	41.5	21	-	-	13.7	2	35.2	16	42.3	20	-	-	-	-	10.9	3
Mexico	16	1	-	-	16	3	16.0	2	16	2	-	-	-	-	15.0	4
Netherlands	41	20	44.6	6	40.8	19	53.0	27	53	27	19.6	17	22.6	13	35.4	20
New Zealand	35.2	13	-	-	51	27	21.0	5	21	4	12.4	9	5.9	1	15.2	5
Norway	43.6	23	-	-	35.8	14	35.8	17	35.8	15	12.2	8	17.3	9	27.3	15
Poland	37.9	17	-	-	34.2	13	34.2	15	34.2	13	-	-	-	-	38.1	24
Portugal	34.2	10	43.8	5	25	9	25.0	6	26	6	-	-	-	-	26.2	14
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	34.2	10	39.1	3	23.2	7	28.9	10	28.9	8	-	-	-	-	30.6	17
Sweden	52	29	58.5	15	36.6	16	36.6	19	36.6	17	11.7	6	28.1	16	42.8	29
Switzerland	35.1	12	-	-	24.5	8	30.5	12	31.1	11	18.1	13	17.2	8	18.1	8
Turkey	28.7	4	-	-	20.5	5	20.5	4	20.5	3	-	-	-	-	40.2	27
UK	37.2	15	40.6	4	33	12	33.0	14	33	12	11.9	7	12.9	4	22.6	12
US	28.9	5	-	-	51	27	29.9	11	29.9	9	6.9	1	20.7	11	21.6	11
EU	41.3	-	45.7	-							-	-	-	-	-	-
OECD	37										-	-	-	-	-	-

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 7 Taxation continued

	9		10		11	
Indicator	Key Indicator: Employees' & employers' soc. sec. contrib.s and personal inc. tax less transfer payments as a percentage of gross labour costs (single)		Key Indicator: Standard/top corporate tax rate (%)		Key Indicator: Taxes on corporate income as a percentage of GDP.	
Year	2000		2000		1998	
Source	Taxing Wages OECD 2000		KPMG Corporate Tax Rates Survey		OECD Revenue statistics 1965-1999	
Country	29	Rank	29	Rank	27	Rank
Australia	22.6	4	36.0	19	4.5	26
Austria	45.1	22	34.0	15	2.1	4
Belgium	56.2	29	40.2	25	3.9	20
Canada	31.3	11	44.6	28	3.7	16
Czech Republic	43.0	18	31.0	11	3.7	16
Denmark	44.4	20	32.0	12	2.8	11
Finland	47.2	24	29.0	6	4.2	23
France	48.1	25	36.7	20	2.7	10
Germany	51.3	27	51.6	29	1.6	2
Greece	35.7	14	40.0	23	-	-
Hungary	51.4	28	18.0	1	2.2	6
Iceland	24.5	6	30.0	7	1.1	1
Ireland	28.8	7	24.0	2	3.5	15
Italy	46.4	23	41.3	26	3	14
Japan	24.0	5	42.0	27	3.8	18
Korea	16.6	2	30.8	10	2.6	8
Luxembourg	35.2	13	37.5	22	8.2	27
Mexico	15.0	1	35.0	16	-	-
Netherlands	45.0	21	35.0	16	4.3	25
New Zealand	19.4	3	33.0	13	3.8	18
Norway	37.3	15	28.0	4	4.2	23
Poland	43.0	18	30.0	7	2.8	11
Portugal	33.5	12	37.4	21	4	21
Russia	-	-	-	-	-	-
Spain	37.6	16	35.0	16	2.5	7
Sweden	49.5	26	28.0	4	2.9	13
Switzerland	30.0	8	25.1	3	2.1	4
Turkey	40.2	17	33.0	13	1.7	3
UK	30.3	9	30.0	7	4.1	22
US	30.9	10	40.0	23	2.6	8
EU						
OECD	-	-	-	-	3.2	-
	-	-	-	-	3.3	-

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

**Detailed Tables for
Science and Technology**

Compete List of Indicators for Science and Technology

Research and Development – Activity and Inputs

- | | |
|--|----------------------------|
| 1. Gross domestic expenditure on R&D (GERD) as a percentage of GDP | Year specified |
| 2. Real percentage change in gross domestic expenditure on R&D (GERD) | 1996-1997 |
| 3. Real percentage change in gross domestic expenditure on R&D/real GDP growth | 1997 |
| 4. Business R&D expenditure (BERD) as a percentage of GDP | 1999 (unless specified) |
| 5. Percentage of manufacturing R&D accounted for by three largest fields | 1997 |
| 6. Share of foreign affiliates in manufacturing R&D | 1997 |
| 7. Higher Education R&D expenditure (HERD) as a percentage of GDP | 1997 (unless specified) |
| 8. Government R&D expenditure (GovERD) as a percentage of GDP | 1997 (unless specified) |
| 9. Share of Government budget allocated to R&D | 2000 (unless specified) |
| 10. Researchers per ten thousand labour force | 1997 |
| 11. Science and engineering degrees awarded as a percentage of the total number of degrees awarded | 1998 |
| 12. Total new science and technology PhDs per thousand population aged 25-34 years | 1999
(unless specified) |

Innovation Outputs

- | | |
|--|-----------|
| 13. Inventiveness Coefficient (resident patent applications per 10,000 population) | 1997 |
| 14. USPTO patents granted by country of origin per million population | 1998 |
| 15. EPO patent applications: average annual growth rate | 1990-1996 |
| 16. Annual Average number of scientific publications per 100,000 population | 1995-1997 |

Table 8 Science and Technology

R&D Activity and Inputs																
	1		2		3		4		5		6		7		8	
Indicator	Key Indicator: Gross domestic expenditure on R&D (GERD) as a percentage of GDP		Real percentage change in gross domestic expenditure on R&D (GERD)		Real percentage change in gross domestic expenditure on R&D/real GDP growth		Key Indicator: Business R&D expenditure (BERD) as a percentage of GDP		Percentage of manufacturing R&D accounted for by three largest fields		Share of foreign affiliates in manufacturing R&D		Higher Education R&D expenditure (HERD) as a percentage of GDP		Government R&D expenditure (GovERD) as a percentage of GDP	
Year	Year specified		1996-1997		1997		1999 (unless specified)		1997		1997		1997 (Unless Specified)		1997 (Unless Specified)	
Source	Main Science and Technology Indicators, No 2 2000		OECD, Science Technology and Innovation Outlook 2000		OECD, Science Technology and Innovation Outlook 2000/Forfás		Main Science and Technology Indicators, No 2 2000		OECD, Science Technology and Innovation Outlook 2000/Forfás		OECD, Science Technology and Innovation Outlook 2000, Forfás R&D Survey 1999		OECD, Science Technology and Innovation Outlook 2000		OECD, Science Technology and Innovation Outlook 2000	
Country	28	Rank	25	Rank	25	Rank	27	Rank	15	Rank	17	Rank	27	Rank	24	Rank
Australia	1.49 d	17	-	-	-	-	0.67 d	18	41	2	33.6	12	0.44 d	7	0.39 f	4
Austria	1.78 b	14	2.7	21	2.3	11	-	-	-	-	-	-	-	-	-	-
Belgium	1.98 c	10	-	-	-	-	1.33 d	9	-	-	-	-	0.44	7	-	-
Canada	1.58 c	16	5.2	15	1.2	18	1.00	14	66	14	40.9	15	0.37 c	13	0.22	13
Czech Republic	1.27 c	19	12.5	6	12.5	1	0.80	16	-	-	30.8	10	0.16 c	25	0.31	7
Denmark	2.07c	9	8.2	11	2.6	7	1.26	10	61	12	-	-	0.42 c	10	0.3	8
Finland	3.3 b	2	13.7	5	2.2	12	2.14	3	68	15	10.7	3	0.57 c	3	-	-
France	2.17 c	8	-1.8	25	-0.9	25	1.35 d	8	52	8	16.1	6	0.37 d	13	0.45	1
Germany	2.46 b	7	2.8	20	2.0	13	1.63 e	7	48	7	13.6	5	0.41	11	0.33	6
Greece	0.51 e	26	5.5	14	1.6	16	0.13 e	26	-	-	9.8	2	0.26	20	0.12	21
Hungary	0.68 c	25	16.1	3	3.5	3	0.27	23	-	-	77.1	17	0.15 c	26	0.18	16
Iceland	1.88 c	12	14.7	4	3.1	4	0.76	17	-	-	-	-	0.50 c	5	-	-
Ireland	1.39 e	18	10.2	7	1.0	21	1.01 e	13	65	13	58.5	16	0.26 d	20	0.1	22
Italy	1.04 c	21	-0.4	23	0.2	24	0.56	19	52	8	20.2	8	0.26 d	20	0.2	15
Japan	3.04 d	3	4.5	18	2.8	5	2.17 d	2	42	3	0.9	1	0.45 d	6	0.25	10
Korea	2.55 d	6	8.6	10	1.7	14	1.79 d	6	-	-	-	-	0.28 d	17	0.43	2
Luxembourg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mexico	0.34 e	28	18.7	1	2.8	6	0.07 e	27	-	-	-	-	0.14	27	0.13	19
Netherlands	1.94 d	11	5.2	15	1.4	17	1.06 d	12	45	5	40.6	14	0.53 d	4	0.35	5
New Zealand	1.13 e	20	10.2	7	3.5	2	0.32 e	21	-	-	-	-	0.41	11	0.4	3
Norway	1.73 c	15	4.5	18	1.0	20	0.94 e	15	47	6	-	-	0.44	7	0.27	9
Poland	0.75 c	24	6.7	13	1.0	19	0.31	22	-	-	-	-	0.21 c	24	0.23	12
Portugal	0.78 b	23	8.8	9	2.4	9	0.14 e	25	-	-	-	-	0.25	23	0.15	17
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	0.9 c	22	2.6	22	0.7	22	0.47	20	38	1	32.7	11	0.28 c	17	0.14	18
Sweden	3.7 e	1	4.9	17	2.5	8	2.77 e	1	58	11	20.1	7	0.80	1	0.13	19
Switzerland	2.73 f	4	-	-	-	-	1.93 f	5	-	-	-	-	0.63 d	2	0.07 f	23
Turkey	0.49 e	27	17	2	2.3	10	0.16 e	24	-	-	22.6	9	0.28	17	0.05	24
UK	1.87 c	13	-0.9	24	0.3	23	1.2d	11	53	10	39.6	13	0.36 d	16	0.25	10
US	2.65 b	5	7.3	12	1.7	15	2.01	4	44	4	11.8	4	0.37 c	13	0.22 f	13
EU	1.8	-	1.6	-	-	-	1.13	-	44	-	-	-	0.37 d	-	0.27	-
OECD	2.6	-	5.1	-	-	-	1.42	-	40.3	-	-	-	0.37 d	-	0.25	-

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
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**Detailed Tables for
Information Society**

Complete List of Indicators for Information Society

Access to Information Communication Technologies

1. Broadband access – lines per 100 population	2000
2. International internet bandwidth (M/bps) per 1000 population	1999
3. Internet hosts per 1000 population	Jan 2001
4. Web Sites including gTLDs per 1000 population (estimated)	1999
5. Secure web servers for electronic commerce per million population	March 2000
6. Mobile subscriptions (per 100 capita)	August 2000
7. Number of PCs per 100 population (index: US = 100)	2000 (autumn)
8. Percentage of population using internet (index: US = 100)	2000 (autumn)
9. Percentage of primary schools linked to the internet (as of Feb 2001)	2000
10. Percentage of secondary schools linked to the internet (as of Feb 2001)	2000

E-Business

11. Value of online Business-to-consumer transactions billions(\$) per million population	2000
12. Value of online Business-to-consumer transactions billions(\$) per million population (forecast)	2002e
13. Value of online Business-to-business transactions billions(\$) per million population	2000
14. Value of online Business-to-business transactions billions(\$) per million population (forecast)	2002e
15. Business-to-consumer e-commerce sales – number of buyers per '000 population	1998
16. Percentage of SMEs connected to the internet	1999
17. Percentage of SMEs using the internet for information purposes	1999
18. Percentage of SMEs using the internet for distribution purposes	1999

Investment in Information Communication Technology

19. Technology Achievement Index (TAI)	2001
20. Total ICT expenditure (as a percentage of GDP)	1997
21. Value of IT markets (growth rate)	1998-2000
22. Information Communication Technology R&D expenditure as a percentage of GDP (GNP for Ireland)	1997
23. ICT employment as a percentage of total business sector employment	1997

Table 9 Information Society

Access to Information Communication Technologies																
Indicator	1		2		3		4		5		6		7		8	
	Key Indicator: Broadband access - lines per 100 population		International internet bandwidth (M/bps) per 1000 population		Internet hosts per 1000 population		Web Sites including gTLDs per 1000 population (estimated)		Key Indicator: Secure web servers for electronic commerce per million population		Mobile subscriptions (per 100 capita)		Key Indicator: Number of PCs per 100 population (index: US = 100)		Percentage of population using internet (index: US = 100)	
Year	2000		1999		January-01		1999		2000 (March)		2000 (August)		2000 (autumn)		2000 (autumn)	
Source	OECD and e-commerce		OECD Local Asset Pricing		Internet Software Consortium		OECD Local Asset Pricing and e-commerce		OECD, Science Technology and Innovation Outlook 2000		DG XIII		Teligen		Teligen	
Country	29	Rank	22	Rank	30	Rank	29	Rank	29	Rank	15	Rank	12	Rank	12	Rank
Australia	0.39	13	0.04	17	85.2	6	9.1	14	119.1	3	-	-	-	-	-	-
Austria	1.7	4	0.12	11	62.4	11	9.9	13	42.1	13	66.0	3	-	-	-	-
Belgium	1.42	6	0.61	3	40.9	12	7.2	16	23.6	17	39.0	15	62.0	8	49.0	8
Canada	3.91	2	0.27	6	77.5	9	12.1	8	87.1	6	-	-	-	-	-	-
Czech Republic	0.1	20	0.02	20	14.9	23	3.5	20	13.0	21	-	-	-	-	-	-
Denmark	1.05	8	0.24	7	81.9	8	17.1	4	39.8	14	60.0	5	82.0	2	80.0	5
Finland	0.58	10	0.13	10	149.2	2	7.9	15	54.4	10	70.0	1	76.0	5	82.0	4
France	0.31	15	0.16	8	20.8	19	3.8	19	18.0	18	42.0	14	45.0	11	28.0	11
Germany	0.24	18	0.14	9	26.4	17	11.4	9	34.5	15	44.0	13	66.0	7	41.0	10
Greece	0	26	-	-	14.2	24	1.5	24	6.5	24	49.0	11	-	-	-	-
Hungary	0.05	22	-	-	15.8	22	1.5	24	4.9	25	-	-	-	-	-	-
Iceland	0.7	9	-	-	160.7	1	15.4	5	193.9	1	-	-	-	-	-	-
Ireland	0.01	25	0.06	14	23.6	18	5.3	17	47.8	12	48.0	12	59.0	9	46.0	9
Italy	0.05	22	0.04	16	28.6	15	2.6	22	10.8	22	63.0	4	-	-	-	-
Japan	0.5	11	0.02	19	36.6	14	1.4	26	15.4	20	-	-	-	-	-	-
Korea	9.2	1	0.02	18	8.5	26	3.9	18	3.3	26	-	-	-	-	-	-
Luxembourg	0	26	-	-	27.6	16	11.1	11	86.8	7	59.0	6	-	-	-	-
Mexico	0.02	24	-	-	5.7	28	0.3	29	1.3	29	-	-	-	-	-	-
Netherlands	1.68	5	0.69	2	83.4	7	13.5	7	29.4	16	57.0	7	69.0	6	80.0	5
New Zealand	0.27	16	0.04	15	90.6	4	10.7	12	92.7	4	-	-	-	-	-	-
Norway	0.34	14	0.11	12	118.1	3	11.2	10	49.3	11	-	-	81.0	3	91.0	3
Poland	0	26	-	-	9.6	25	1.4	26	3.1	27	-	-	-	-	-	-
Portugal	0.25	17	-	-	17.8	20	1.7	23	9.0	23	53.0	9	-	-	-	-
Russia	-	-	-	-	2.0	29	-	-	-	-	-	-	-	-	-	-
Spain	0.14	19	0.02	21	16.8	21	2.7	21	15.6	19	53.0	9	32.0	12	22.0	12
Sweden	1.21	7	0.50	4	86.3	5	15.0	6	71.0	8	67.0	2	79.0	4	94.0	2
Switzerland	0.43	12	0.95	1	64.6	10	18.0	3	91.5	5	-	-	-	-	-	-
Turkey	0	26	0.005	22	1.7	30	0.9	28	1.5	28	-	-	-	-	-	-
UK	0.09	21	0.31	5	38.7	13	19.2	2	55.2	9	54.0	8	57.0	10	61.0	7
US	2.25	3	0.10	13	8.3	27	20.3	1	170.4	2	-	-	100.0	1	100.0	1
EU	-	-	-	-	29.1	-	-	-	-	-	-	-	-	-	-	-
OECD	-	-	-	-	60.1	-	-	-	-	-	-	-	-	-	-	-

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 9 Information Society continued

		E-Business														
	9	10		11		12		13		14		15		16		
Indicator	Percentage of primary schools linked to the internet (as of Feb 2001)	Percentage of secondary schools linked to the internet (as of Feb 2001)		Key Indicator: Value of online Business-to-consumer transactions billions (\$) per million population		Value of online Business-to-consumer transactions billions (\$) per million population (forecast)		Key Indicator: Value of online Business-to-business transactions billions (\$) per million population		Value of online Business-to-business transactions billions (\$) per million population (forecast)		Key Indicator: Business-to-consumer e-commerce sales - number of buyers per 000 population		Percentage of SME's connected to the internet		
Year	2000	2000		2000		2002e		2000		2002e		1998		1999		
Source	European Network for SME Research 2001	European Network for SME Research 2001		Netprofit Statistics		Netprofit Statistics		Netprofit Statistics		Netprofit Statistics		OECD Local Asset Pricing and e-commerce		European Network for SME Research 2001		
Country	15	Rank	15	Rank	16	Rank	16	Rank	16	Rank	16	Rank	19	Rank	15	Rank
Australia	-	-	-	-	-	-	-	-	-	-	-	-	42.8	2	-	-
Austria	63	10	100	1	0.02	9	0.09	8	0.89	12	0.53	8	14.9	12	50	6
Belgium	70	8	95	10	0.02	10	0.08	10	1.00	6	0.45	10	8.8	14	48	7
Canada	-	-	-	-	-	-	-	-	-	-	-	-	26.8	5	-	-
Czech Republic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Denmark	94	3	100	1	0.03	4	0.29	1	0.25	16	1.61	1	17.0	9	57	4
Finland	95	2	90	14	-	-	-	-	-	-	-	-	31.0	3	60	2
France	35	14	98	8	0.01	12	0.07	12	1.00	6	0.41	12	5.3	17	39	10
Germany	80	6	100	1	0.02	8	0.08	11	1.38	4	0.43	11	16.7	10	55	5
Greece	1	15	45	15	0.00	16	0.01	16	1.00	6	0.08	16	2.9	19	24	14
Hungary	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ireland	100	1	100	1	0.02	11	0.18	4	0.36	15	1.03	4	10.8	13	58	3
Italy	75	7	95	11	0.01	13	0.05	13	1.00	6	0.26	13	6.3	15	36	12
Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Korea	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	40	13	100	1	0.05	1	0.21	3	3.00	1	1.13	3	-	-	47	8
Mexico	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Netherlands	67	9	92	13	0.02	6	0.16	5	0.83	13	0.91	5	20.4	7	44	9
New Zealand	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Norway	-	-	-	-	0.03	3	0.22	2	0.67	14	1.21	2	22.6	6	-	-
Poland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	50	12	100	1	0.00	15	0.02	15	1.00	6	0.09	15	5.0	18	22	15
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	85	5	98	8	0.00	14	0.03	14	1.00	6	0.17	14	5.6	16	35	13
Sweden	57	11	99	7	0.03	5	0.11	7	1.40	3	0.65	7	29.4	4	70	1
Switzerland	-	-	-	-	0.04	2	0.16	6	3.00	1	0.91	6	18.3	8	-	-
Turkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
UK	86	4	98	8	0.02	7	0.09	9	1.29	5	0.51	9	16.4	11	38	11
US	-	-	-	-	-	-	-	-	-	-	-	-	73.1	1	-	-
EU	-	-	-	-	0.02	-	-	-	-	-	-	-	-	-	-	-
OECD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

Table 9 Information Society continued

Investment in Information Communication Technology														
	17		18		19		20		21		22		23	
Indicator	Percentage of SME's using the internet for information purposes		Key Indicator: Percentage of SME's using the internet for distribution purposes		Key Indicator: Technology Achievement Index (TAI)		Total ICT expenditure (as a percentage of GDP)		Value of IT market (growth rate)		Key Indicator: Information Communication Technology R&D expenditure as a percentage of GDP (GNP for Ireland)		Key Indicator: ICT employment as a percentage of total business sector employment	
Year	1999		1999		2001		1997		1998 -2000		1997		1997	
Source	European Network for SME Research 2001		European Network for SME Research 2001		Human Development Report 2001		OECD, Science Technology and Innovation Outlook 2000		Eurostat Information Society Statistics		OECD Measuring the ICT sector		OECD Measuring the ICT sector	
Country	15	Rank	15	Rank	24	Rank	27	Rank	15	Rank	27	Rank	24	Rank
Australia			-	-	0.59	9	8.10	3	-	-	0.20	15	2.6	21
Austria	33	2	13	3	0.54	15	5.10	19	19.0	13	0.00	27	4.9	7
Belgium	15	12	7	7	0.55	13	6.00	14	21.1	12	0.26	12	4.2	11
Canada	-	-	-	-	0.59	8	7.50	7	-	-	0.43	7	4.6	10
Czech Republic	-	-	-	-	0.47	19	6.50	10	-	-	0.03	24	3.3	18
Denmark	20	10	9	5	-	-	6.50	10	23.4	7	0.24	13	5.1	6
Finland	21	8	10	4	0.74	1	6.00	14	23.3	8	0.91	1	5.6	4
France	24	5	3	11	0.54	16	6.40	12	24.5	6	0.35	8	4.0	13
Germany	32	3	14	2	0.58	10	5.60	18	21.1	11	0.31	9	3.1	19
Greece	11	14	1	15	0.44	21	4.00	24	30.0	2	0.05	20	-	-
Hungary	-	-	-	-	0.46	20	4.40	21	-	-	0.03	23	5.7	3
Iceland	-	-	-	-	-	-	-	-	-	-	0.16	16	4.2 f	12
Ireland	22	6	3	11	0.57	12	5.70	16	23.1	9	0.50	6	4.6	9
Italy	22	6	7	7	0.47	18	4.30	22	24.7	5	0.14	17	3.5	16
Japan	-	-	-	-	0.70	4	7.40	8	-	-	0.84	3	3.4	17
Korea	-	-	-	-	0.67	5	6.10	13	-	-	0.85	2	2.5	22
Luxembourg	28	4	6	9	-	-	-	-	-	-	-	-	-	-
Mexico	-	-	-	-	0.39	24	3.50	25	-	-	0.00	26	-	-
Netherlands	21	8	8	6	0.63	6	7.00	9	22.3	10	0.23	14	3.8	15
New Zealand	-	-	-	-	0.55	14	8.60	1	-	-	0.06	19	2.1	23
Norway	-	-	-	-	0.58	11	5.70	16	-	-	0.27	10	5.3	5
Poland	-	-	-	-	0.41	23	2.70	26	-	-	0.02	25	-	-
Portugal	6	15	3	11	0.42	22	5.00	20	28.6	4	0.03	21	2.7	20
Russia	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Spain	17	11	2	14	0.48	17	4.10	23	30.2	1	0.09	18	-	-
Sweden	34	1	15	1	0.70	3	8.30	2	15.5	14	0.79	4	6.3	1
Switzerland	-	-	-	-	-	-	7.70	5	-	-	-	-	6.0	2
Turkey	-	-	-	-	-	-	2.60	27	-	-	0.03	22	0.5	24
UK	15	12	5	10	0.61	7	7.60	6	29.2	3	0.27	11	4.8	8
US	-	-	-	-	0.73	2	7.80	4	-32.7	15	0.77	5	3.9	14
EU	21		7				5.90	-	24.0				3.9	
OECD							6.90	-	-				3.6	

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

**Detailed Tables for
Transport Infrastructure**

Complete List of Indicators for Transport Infrastructure

Transport Infrastructure

1. Rail infrastructure indicator	1998
2. Percentage of railway lines electrified	1998
3. Length of road network per 1000 km ²	1997
4. Length of motorway per 1000 km ²	1997
5. Transport infrastructure investment per capita (ECU millions) annual average 1994 prices	1990-1996
6. Average time commuting to and from work, minutes per day	1996
7. Number of passenger cars per 1000 inhabitants	1998
8. Buses and coaches 000s per 1000 inhabitants	1997
9. Percentage of total goods transported by road	1998
10. Percentage of total goods transported by rail	1998

Table 10 Transport Infrastructure

	1		2		3		4		5		6		7	
Indicator	Key Indicator: Rail infrastructure Indicator		Key Indicator: Percentage of railway lines electrified		Key Indicator: Length of road network per 1000 Km2		Key Indicator: Length of motorway per 1000 Km2		Transport infrastructure investment per capita (ECU millions) annual average 1994 prices		Average time commuting to and from work, minutes per day		Number of passenger cars per 1000 inhabitants	
Year	1998		1998		1997		1997		1990-1996		1996		1998	
Source	EU Transport in Figures Statistical Pocket Book August 2000		EU Transport in Figures Statistical Pocket Book August 2000		OECD Environmental Compendium, 1999		OECD Environmental Compendium, 1999		EU Transport in Figures Statistical Pocket Book August 2000		EU Transport in Figures Statistical Pocket Book August 2000		EU Transport in Figures Statistical Pocket Book August 2000	
Country	15	Rank	15	Rank	29	Rank	28	Rank	15	Rank	15	Rank	15	Rank
Australia	-		-		121	28	0.18	28	-	-	-		-	
Austria	47265	3	60	6	1538	11	19.23	8	207.0	4	36	4	481	4
Belgium	37658	4	74	2	4787	1	55.05	1	181.8	7	39	7	440	6
Canada	-		-		91	29	1.72	22	-	-	-		-	
Czech Republic	-		-		710	18	6.15	16	-	-	-		-	
Denmark	22228	7	28	13	1647	8	21.55	7	161.1	9	38	6	343	12
Finland	20069	8	35	10	231	25	1.31	24	163.6	8	41	12	392	10
France	31925	5	45	9	1626	10	18.03	10	223.7	3	36	4	456	5
Germany	50029	2	48	8	1838	6	31.68	5	239.7	2	45	14	508	3
Greece	4551	15	0	15	311	22	4.01	18	42.7	15	40	8	254	15
Hungary	-		-		2269	4	4.71	17	-	-	-		-	
Iceland	-		-		126	27	-	-	-	-	-		-	
Ireland	14517	11	2	14	1366	12	1.34	23	110.2	13	40	8	309	14
Italy	14933	10	65	5	1022	14	21.59	6	188.0	6	23	1	545	2
Japan	-		-		3052	2	16.19	12	-	-	-		-	
Korea	-		-		957	15	19.02	9	-	-	-		-	
Luxembourg	72551	1	95	1	1923	5	45.38	3	416.8	1	40	8	572	1
Mexico	-		-		164	26	3.37	19	-	-	-		-	
Netherlands	12427	12	73	3	3036	3	53.61	2	145.6	10	44	13	376	11
New Zealand	-		-		341	20	0.53	26	-	-	-		-	
Norway	-		-		281	24	0.31	27	-	-	-		-	
Poland	-		-		1206	13	0.84	25	-	-	*		-	
Portugal	8534	13	30	11	750	17	8.66	15	103.5	14	33	2	321	13
Russia	-		-		-	-	-	-	-	-	-		-	
Spain	7661	14	56	7	322	21	17.91	11	144.3	11	33	2	408	8
Sweden	31536	6	68	4	309	23	2.94	20	202.3	5	40	8	428	7
Switzerland	-		-		1719	7	39.06	4	-	-	-		-	
Turkey	-		-		795	16	2.00	21	-	-	-		-	
UK	19918	9	30	11	1629	9	13.72	13	137.4	12	46	15	404	9
US	-		-		674	19	9.50	14	-	-	-		-	
EU			48						183.6		38		451	
OECD														

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 10 Transport Infrastructure continued

	8		9		10	
Indicator	Buses and coaches per 1000 inhabitants		Percentage of total goods transported by road		Percentage of total goods transported by rail	
Year	1997		1998		1998	
Source	EU Transport in Figures Statistical Pocket Book August 2000		EU Transport in Figures Statistical Pocket Book August 2000		EU Transport in Figures Statistical Pocket Book August 2000	
Country	15	Rank	15	Rank	15	Rank
Australia	-	-	-	-	-	-
Austria	1.20	13	38.3	1	35.4	2
Belgium	1.43	10	69.3	5	15.2	7
Canada	-	-	-	-	-	-
Czech Republic	-	-	-	-	-	-
Denmark	2.62	1	71.9	7	8.1	13
Finland	1.73	4	72.0	8	27.6	3
France	1.39	11	75	9	16.9	5
Germany	1.02	14	67.4	4	16.2	6
Greece	2.50	2	98.1	15	1.9	15
Hungary	-	-	-	-	-	-
Iceland	-	-	-	-	-	-
Ireland	1.62	7	92.7	14	8.4	12
Italy	1.47	8	86.1	12	9.5	10
Japan	-	-	-	-	-	-
Korea	-	-	-	-	-	-
Luxembourg	2.25	3	70.9	6	20.3	4
Mexico	-	-	-	-	-	-
Netherlands	0.70	15	47.9	2	3.6	14
New Zealand	-	-	-	-	-	-
Norway	-	-	-	-	-	-
Poland	-	-	-	-	-	-
Portugal	1.70	5	87.4	13	14.3	8
Russia	-	-	-	-	-	-
Spain	1.31	12	84.6	10	10.1	9
Sweden	1.66	6	63.1	3	36.6	1
Switzerland						
Turkey						
UK	1.44	9	84.7	11	9.3	11
US	-	-	-	-	-	-
EU	1.34		73.7		14.5	
OECD						

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
1999 = c 1995 = g 1991 = k
1998 = d 1994 = h 1990 = l

**Detailed Tables for
Environmental Protection
and Management**

Complete List of Indicators for Environmental Protection and Management

Land and Forest

1. Major protected areas (percentage of total area) 1999
2. Wooded area (percentage of land area) 1998
3. Nitrogenous fertilisers used (tonnes per square km of arable land) 1998
4. Pesticides used (tonnes per square km of arable land) 1998
5. Threatened species: mammals (percentage of known species) 1998
6. Threatened species: birds (percentage of known species) 1998

Water

7. Public waste water plants (percentage of population connected) 1998
8. Water withdrawal (percentage of gross annual availability) 1998
9. Water quality of selected rivers: dissolved oxygen mg O₂/litre (average) 1994-1997
10. Water quality of selected lakes: phosphorus mgP/litre (average) 1994-1997

Energy Use

11. Total final consumption of energy per unit of GDP 1997
12. Total final consumption of energy per unit of GDP (percentage change) 1980-1997
13. Total final consumption of energy per capita 1997
14. Total final consumption of energy per capita (percentage change) 1980-1997
15. Commercial energy use per capita (Kg of oil equivalent) 1997

Air Pollution

16. CO₂ emissions per unit of GDP 1998
17. Methane emissions CH₄ tonnes per capita 1997 (unless specified)
18. Nitrous oxide N₂O tonnes per capita 1997 (unless specified)
19. Nitrogen Oxide NO_x emissions(per unit of GDP) 1997 (unless specified)
20. Sulphur Oxide SO_x emissions (per unit of GDP) 1997 (unless specified)

Waste and Recycling

21. Industrial waste generated per unit of GDP (tonnes per million US\$) 1997 (unless specified)
22. Municipal waste generated (kg per capita) 1997 (unless specified)
23. Waste recycling: paper and cardboard (as % of apparent consumption) 1997
24. Waste recycling: glass (as % of apparent consumption) 1997

Pollution Abatement

25. Pollution abatement and control: total expenditure (% GDP) 1997 (unless specified)
26. Pollution abatement and control: Government R&D budget as % of total government R&D budget 1997 (unless specified)

Table 11 Environmental Protection and Management

Indicator	Land and Forest										Water					
	1		2		3		4		5		6		7		8	
	Key Indicator: Major protected areas (percentage of total area)		Wooded area (percentage of land area)		Key Indicator: Nitrogenous fertilisers used (tonnes per square km of arable land)		Pesticides used (tonnes per square km of arable land)		Threatened Species: Mammals (percentage of known species)		Threatened Species: Birds (percentage of known species)		Key Indicator: Public waste water plants (percentage of population connected)		Water withdrawal (percentage of gross annual availability)	
Year	1999		1998		1998		1998		1998		1998		1998		1998	
Source	Human Development Report, 2000		OECD in Figures 2000		OECD in Figures 2000		OECD in Figures 2000		OECD in Figures 2000		OECD in Figures 2000		OECD in Figures 2000		OECD in Figures 2000	
Country	30	Rank	29	Rank	28	Rank	25	Rank	28	Rank	29	Rank	28	Rank	28	Rank
Australia	7.0	17	19	23	1.7	1	0.2	8	15	6	6	1	-		4	9
Austria	29.2	2	48	5	7.6	13	0.2	8	35	24	37	26	75	12	3	6
Belgium	2.8	29	22	22	18.8	23	0.9	21	32	19	28	24	27	23	42	28
Canada	9.1	12	45	6	4.1	3	0.1	1	19	13	11	9	78	9	2	3
Czech Republic	15.8	7	34	9	6.8	10	0.1	1	33	21	66	29	59	17	16	17
Denmark	32.0	1	11	25	12.3	18	0.2	8	24	18	11	9	87	7	16	17
Finland	5.5	24	76	1	7.1	11	-		12	5	7	3	77	10	2	3
France	13.5	9	31	15	13.4	21	0.6	18	20	14	14	13	77	10	24	23
Germany	26.9	3	30	16	14.8	22	0.3	14	37	25	29	25	89	4	24	23
Greece	3.6	26	23	20	7.8	14	0.2	8	38	26	13	11	45	22	12	13
Hungary	7.0	17	19	23	5.4	6	0.1	1	71	28	19	19	22	24	5	10
Iceland	9.5	11	1	29	8.9	16	-		-		13	11	4	28	-	
Ireland	0.9	30	9	27	43.2	28	0.3	14	6	1	22	20	61	15	3	6
Italy	7.3	16	23	20	8.4	15	0.8	20	32	19	25	21	61	15	32	25
Japan	6.8	20	67	3	11.5	17	1.5	25	8	3	8	7	55	18	21	22
Korea	6.9	19	65	4	23.1	25	1.3	24	17	10	15	16	53	19	36	26
Luxembourg	14.4	8	34	9	-		-		54	27	50	28	88	5	3	6
Mexico	3.4	27	33	11	4.4	5	0.1	1	33	21	17	17	22	24	17	19
Netherlands	5.7	23	9	27	37.7	27	1.1	23	16	9	27	23	97	1	5	10
New Zealand	23.4	5	30	16	37.3	26	0.9	21	15	6	25	21	80	8	1	1
Norway	6.5	22	39	7	12.3	18	0.1	1	6	1	6	1	67	14	1	1
Poland	9.1	12	30	16	6.1	8	0.1	1	15	6	17	17	47	21	19	20
Portugal	6.6	21	38	8	4	2	0.4	16	17	10	14	13	21	26	12	13
Russia	3.1	28	-	-	-		-		-		-		-		-	
Spain	8.4	14	32	13	5.4	6	0.2	8	21	15	14	13	48	20	37	27
Sweden	8.1	15	74	2	7.3	12	0.1	1	18	12	9	8	93	3	2	3
Switzerland	25.7	4	32	13	12.8	20	0.4	16	34	23	43	27	94	2	5	10
Turkey	5.5	24	27	19	4.3	4	-		22	16	7	3	12	27	15	15
UK	20.4	6	10	26	19.5	24	0.6	18	22	16	7	3	88	5	15	15
US	13.1	10	33	11	6.2	9	0.2	8	11	4	7	3	71	13	20	21
EU	11.2		0.4		-		-		73		21					
OECD	6.4		0.2		-		-		59		12					

2001 = a 1997 = e 1993 = i
 2000 = b 1996 = f 1992 = j
 1999 = c 1995 = g 1991 = k
 1998 = d 1994 = h 1990 = l

Table 11 Environmental Protection and Management continued

Indicator	Energy Use								Air Pollution					
	9	10	11	12	13	14	15	16	17					
Key Indicator: Water quality of selected rivers: Dissolved oxygen mg O ₂ /litre (average)	Key Indicator: Water quality of selected lakes: Phosphorus mgP/litre (average)	Key Indicator: Total final consumption of energy per unit of GDP	Key Indicator: Total final consumption of energy per unit of GDP (percentage change)	Total final consumption of energy per capita	Total final consumption of energy per capita (percentage change)	Commercial energy use per capita (Kg of oil equivalent)	Key Indicator: CO ₂ emissions per unit GDP	Methane emissions CH ₄ tonnes per capita						
Year	1994-1997	1994-1997	1997	1980-1997	1997	1980-1997	1997	1997 (unless specified)						
Source	OECD Environmental Data Compendium 1999.	OECD Environmental Data Compendium 1999	OECD Environmental Data Compendium 1999	OECD Environmental Data Compendium 1999	OECD Environmental Data Compendium 1999	OECD Environmental Data Compendium 1999	World Development Report 2000/2001	OECD in Figures 2000	OECD Environmental Data, Compendium 1999.					
Country	23	24	29	24	30	29	28	29	28					
	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank	Rank					
Australia	-	-	0.19	15	3.7	21	5484	22	0.286	27				
Austria	11.0	2	0.15	8	2.8	14	10.5	15	3439	10	0.33	5	0.055f	12
Belgium	10.5	10	0.21	19	4.0	23	19.6	20	5611	24	0.57	17	0.058f	14
Canada	9.5	19	0.30	28	6.2	28	-2.3	8	7930	27	0.72	20	0.142	25
Czech Republic	10.3	11	0.24	23	2.6	10	-30.2	1	3938	14	4.58	29	0.055	13
Denmark	10.0	13	0.14	4	3.0	18	1.1	10	3994	15	0.36	8	0.080	21
Finland	11.6	1	0.27	26	4.7	26	13.6	18	6435	26	0.40	10	0.053	11
France	10.0	13	0.14	4	2.8	14	6.4	13	4224	18	0.29	4	0.045	8
Germany	9.9	15	0.16	12	3.0	18	-8.3	4	4231	19	0.47	12	0.043	5
Greece	11.0	2	0.16	12	1.7	4	42.1	25	2435	4	0.88	23	0.044	6
Hungary	9.8	16	0.21	19	1.7	4	-20.1	3	2492	5	1.64	27	0.111f	23
Iceland	-	-	0.36	29	7.0	29	20.8	21	-	-	0.33	5	0.050	10
Ireland	11.0	2	0.15	8	2.5	9	30.5	22	3412	9	0.49	13	0.219f	26
Italy	10.9	6	0.12	1	2.2	8	17.7	19	2839	8	0.36	8	0.044g	7
Japan	11.0	2	0.13	2	2.7	12	35.3	23	4084	17	0.35	7	0.011	2
Korea	9.2	20	0.24	23	2.8	14	229.1	29	3834	12	0.96	25	0.064f	18
Luxembourg	9.1	21	0.26	25	7.6	30	-0.5	9	-	-	0.51	15	0.059	15
Mexico	8.3	22	0.16	12	1.0	2	-2.7	7	1501	2	1.09	26	-	-
Netherlands	9.6	18	0.20	17	3.7	21	3.1	12	4800	21	0.52	16	0.073	19
New Zealand	-	-	0.22	21	3.4	20	49.7	27	4435	20	0.62	18	0.424	28
Norway	-	0.004	0.19	15	4.4	25	9.6	14	5501	23	0.23	3	0.080	20
Poland	10.6	8	0.29	27	1.8	6	-21.0	2	2721	6	4.10	28	0.059	16
Portugal	-	-	0.14	4	1.6	3	89.4	28	2051	3	0.67	19	0.084g	22
Russia	-	-	-	-	2.6	10	-	-	4019	16	-	-	-	-
Spain	6.5	23	0.14	4	1.9	7	42.4	26	2729	7	0.45	11	0.060h	17
Sweden	-	0.017	0.23	22	4.0	23	-4.5	6	5869	25	0.22	2	0.029	3
Switzerland	10.7	7	0.13	2	2.8	14	3.0	11	3699	11	0.19	1	0.032	4
Turkey	9.8	16	0.15	8	0.8	1	41.2	24	1142	1	0.91	24	0.007g	1
UK	10.2	12	0.15	8	2.7	12	11.1	16	3863	13	0.50	14	0.047	9
US	10.6	8	0.20	17	5.4	27	-6.9	5	8076	28	0.78	21	0.118	24
EU											0.42			
OECD											0.59			

2001 = a 1997 = e 1993 = i
2000 = b 1996 = f 1992 = j
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Table 11 Environmental Protection and Management *continued*

				Waste and Recycling								Pollution Abatement						
	18		19		20		21		22		23		24		25		26	
Indicator	Nitrous Oxide N ₂ O tonnes per capita		Nitrogen Oxide NO _x emissions (per unit of GDP)		Sulphur Oxide SO _x emissions (per unit of GDP)		Key Indicator Industrial waste generated per unit of GDP (tonnes per million US\$)		Key Indicator: Municipal waste generated (kg per capita)		Waste Recycling: Paper and Cardboard (as % of apparent consumption)		Waste Recycling: Glass (as % of apparent consumption)		Key Indicator: Pollution Abatement and control: Total expenditure (% GDP)		Pollution abatement and control: Government R&D budget as % of total government R&D budget	
Year	1997 (unless specified)		1997 (unless specified)		1997 (unless specified)		1997 (unless specified)		1997 (unless specified)		1997		1997		1997 (unless specified)		1997 (unless specified)	
Source	OECD Environmental Data, Compendium 1999.		OECD Environmental Data, Compendium 1999		OECD Environmental Data, Compendium 1999.		OECD in Figures 2000		OECD Environmental Data Compendium 1999		OECD Environmental Data Compendium 1999		OECD Environmental Data Compendium 1999		OECD in Figures 2000		OECD in Figures 2000	
Country	27	Rank	28	Rank	28	Rank	27	Rank	28	Rank	25	Rank	24	Rank	25	Rank	24	Rank
Australia	0.0043	20	6.1	28	5.2	24	119	24	-	-	-	-	42 g	15	0.8f	19	2.7	10
Austria	0.0009f	4	1.1f	2	0.4f	3	75f	18	510f	21	69	2	88	2	1.7h	3	2.2d	15
Belgium	0.0034f	17	1.8f	8	1.3f	12	74	17	480	16	16	22	75	7	0.9f	16	1.7d	17
Canada	0.0069	25	3.4f	22	4.4f	22	-	-	490	19	33 j	18	17 j	23	1.1g	12	4.0d	3
Czech Republic	0.0028	14	3.8	25	6.4	26	345f	27	310f	2	33	18	-	-	2.0f	1	5.4d	1
Denmark	0.0062	24	2.2	11	1.0	9	25	5	560	22	50	10	70	9	0.9f	16	3.7d	6
Finland	0.0037	19	2.9	19	1.1	11	139h	25	410h	12	57 e	7	62	11	1.1	12	2.3d	13
France	0.0051	23	1.5f	4	0.9f	8	92g	20	480g	16	41	14	52	13	1.4f	9	2.2d	15
Germany	0.0026	11	1.2	3	1.0	9	45	10	460	13	70	1	79	4	1.5g	8	3.7	6
Greece	0.0029	15	3.4	22	4.6	23	60	13	370	7	29	21	26	20	0.8g	19	3.9f	5
Hungary	0.0005f	2	2.4	14	8.0f	27	86f	19	500f	20	49 f	11	-	-	0.7	23	-	-
Iceland	0.0014g	7	5.4	27	1.7	14	2	1	560	22	-	-	75 j	7	-	-	2.9d	9
Ireland	0.0071f	26	1.9	9	2.6	16	69g	15	560g	22	12	24	38	16	0.6	25	1.6	18
Italy	0.0028g	13	1.7g	7	1.3g	12	21	4	460	13	31	20	34	19	0.9h	16	2.5	12
Japan	0.0005	3	-	-	-	-	57h	11	400h	10	54	9	56 j	12	1.6h	5	0.6d	24
Korea	-	-	2.5f	16	2.9f	18	71f	16	400f	10	57	-	68	-	1.7	3	-	-
Luxembourg	0.0024	10	1.6	6	0.5	5	149h	26	460h	13	-	-	-	-	-	-	-	-
Mexico	-	-	2.8h	18	3.9h	21	60	13	300	1	2	25	4	24	0.8g	19	1.0d	19
Netherlands	0.0047f	21	1.5	4	0.4	3	30	7	560	22	62	5	82	3	1.8g	2	4.0d	3
New Zealand	0.0098	27	3.1	21	0.8	7	33	9	-	-	66 i	3	36	18	-	-	0.8	22
Norway	0.0036	18	2.2	11	0.3	2	30	7	630	27	44	12	76	5	1.2i	10	3.0d	8
Poland	0.0014	5	5.2f	26	10.7f	28	94	21	320	3	13 f	23	-	-	1.1	12	-	-
Portugal	0.0014h	6	3.4g	22	3.3g	19	4	2	380	8	40	16	44	14	0.7h	23	5.1d	2
Russia	-	-	-	-	-	-	-	-	340	5	-	-	-	-	-	-	-	-
Spain	0.0022g	9	2.4g	14	3.7g	20	26f	6	390f	9	42	13	37	17	0.8h	19	2.6d	11
Sweden	0.0027	12	2.2	11	0.6	6	97h	23	360h	6	62	5	76	5	1.2i	10	0.8d	22
Switzerland	0.0017	8	0.8	1	0.2	1	10	3	600	26	63	4	91	1	1.6i	5	0.9d	20
Turkey	0.00001g	1	2.5	16	5.2	24	94g	21	330g	4	-	-	-	-	-	-	-	-
UK	0.0033	16	2.0	10	2.0	15	57	11	480	16	40	16	26	20	1h	15	2.3	13
US	0.0048	22	3.0	20	2.6	16	-	-	720	28	41 f	14	26 f	20	1.6h	5	0.9d	20
EU	-	-	1.8	-	1.5	-	52	-	450	-	-	-	-	-	-	-	-	-
OECD	-	-	1.9	-	2.0	-	81	-	500	-	-	-	-	-	-	-	-	-

2001 = a 1997 = e 1993 = i
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**Detailed Tables for
Regulatory Environment**

Complete List of Indicators for Regulatory Environment

1. Overall Employment Protection Against Dismissal	Late 90s
2. Overall Strictness of Regulation for Temporary Employment	Late 90s
3. Competition Authority Ratings: Overall (Scale 1-5)	2000
4. Turnover limit for concession providing relief from VAT registration (US\$)	01/01/96
5. Time required to form a private limited company (weeks)	1996
6. Cost of forming a private limited company (euro)	1996

Table 12 Regulatory Environment

	1		2		3		4		5		6	
Indicator	Overall Employment Protection Against Dismissal		Overall Strictness of Regulation for Temporary Employment		Competition Authority Ratings: Overall (Scale: 1-5)		Turnover limit for concession providing relief from VAT registration (US\$)		Time required to form a private limited company (weeks)		Cost of forming a private limited company (euro)	
Year	Late 90s		Late 90s		2000		01/01/96		1996		1996	
Source	OECD Employment Outlook June 1999		OECD Employment Outlook June 1999		Global Competition Review		OECD/DAFFE/CFA/CT (96)24		OECD 'Fostering Entrepreneurship - A Thematic Review', 1998		OECD 'Fostering Entrepreneurship - A Thematic Review', 1998	
Country	26	Rank	25	Rank	20	Rank	17	Rank	12	Rank	12	Rank
Australia	1.0	4	0.9	7	4.5	1	-	-	1	1	300	2
Austria	2.6	17	1.8	13	3.5	4	28110	5	-	-	-	-
Belgium	1.5	6	2.8	17	2.0	17	7200	11	-	-	-	-
Canada	0.9	3	0.3	1	2.5	13	22760	6	-	-	-	-
Czech Republic	2.8	21	0.5	5	-	-	-	-	-	-	-	-
Denmark	1.6	7	0.9	7	3.5	4	2960	15	-	-	-	-
Finland	2.1	10	1.9	14	4.5	1	10590	9	-	-	-	-
France	2.3	13	3.6	21	2.5	13	1820	17	6	8	3400	11
Germany	2.8	21	2.3	16	3.0	10	4340	13	16	11	1400	8
Greece	2.4	15	4.8	23	2.0	17	7444	10	-	-	-	-
Hungary	2.1	10	0.6	6	-	-	-	-	-	-	-	-
Iceland	-	-	-	-	-	-	1920	16	1	1	1500	9
Ireland	1.6	7	0.3	1	3.0	10	57140	3	1	1	200	1
Italy	2.8	21	3.8	22	4.0	3	-	-	10	9	2100	10
Japan	2.7	20	2.1	15	2.5	13	269060	1	3	6	4000	12
Korea	-	-	-	-	-	-	-	-	-	-	-	-
Luxembourg	-	-	-	-	-	-	11040	8	-	-	-	-
Mexico	2.3	13	-	-	-	-	-	-	-	-	-	-
Netherlands	3.1	25	1.2	11	3.0	10	-	-	12	10	1000	6
New Zealand	1.7	9	0.4	4	2.5	13	6880	12	-	-	-	-
Norway	2.4	15	2.8	17	-	-	3990	14	-	-	-	-
Poland	2.2	12	1.0	10	-	-	-	-	-	-	-	-
Portugal	4.3	26	3.0	19	1.5	19	12790	7	-	-	-	-
Russia	-	-	-	-	-	-	-	-	-	-	-	-
Spain	2.6	17	3.5	20	3.3	8	-	-	24	12	300	2
Sweden	2.8	21	1.6	12	3.5	4	-	-	3	6	1100	7
Switzerland	1.2	5	0.9	7	3.5	4	50990	4	-	-	-	-
Turkey	2.6	17	4.9	24	-	-	-	-	-	-	-	-
UK	0.8	2	0.3	1	3.3	8	71440	2	1	1	400	4
US	0.2	1	0.3	1	4.3	3	-	-	2	5	500	5
EU	3.5	-	-	-	-	-	-	-	-	-	-	-
OECD	-	-	-	-	-	-	-	-	-	-	-	-

2001 = a 1997 = e 1993 = i
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Detailed Tables for Quality of Life

Complete List of Indicators for Quality of Life

Income, income inequality and poverty

1. Income inequality ratio: share of richest 20% to poorest 20% 1999
2. Share of persistent poor (had also been poor in previous two years) related to all poor 1996
3. Persistent poverty risk of children (persons under 18 years) (100 = country specific average persistent poverty risk) 1996
4. Redistributive effects: % of population whose original income (before social benefits) is below the poverty threshold (60% of median income) 1996
5. Redistributive effects: % of population whose total income (with social benefits) is below the poverty threshold (60% of median income) 1996

Gender Equality

6. Women in government at all levels (%) 1998
7. Seats held in parliament by women (%) 2001
8. Administrators and managers (% women) latest year
9. Women in government at ministerial level as a % of the total 1999

Crime

10. Prison population per 100,000 1994
11. Drug crimes (per 100,000 people) 1994

Public Health

12. Life expectancy at birth-years male 1999
13. Life expectancy at birth-years female 1999e
14. Responsiveness of health systems - Level WHO Index 1999

Table 13 Quality of Life

Indicator	Income, Income Inequality and Poverty										Gender Equality											
	1		2		3		4		5		6		7		8		9					
	Income inequality ratio: share of richest 20% to poorest 20%		Share of persistent poor (had also been poor in previous two years) related to all poor		Persistent poverty risk of children (persons under 18 years) (100 = country specific average persistent poverty risk)		Redistributive effects: % pop with original income (before social benefits) below poverty threshold (60% median income)		Redistributive Effects: % pop with total income (incl social benefits) below poverty threshold (60% median income)		Women in government at all levels (%)		Seats held in parliament by women (%)		Administrators and managers (% women)		Women in government at ministerial level as a % of total					
Year	1999		1996		1996		1996		1996		1998		2001		Latest year		1999					
Source	Eurostat		Eurostat, Statistics in Focus: Persistent income poverty and social exclusion in the European Union, 2000				Eurostat, Statistics in Focus: Persistent income poverty and social exclusion in the European Union, 2000				Social Benefits and their Redistributive Effect on the EU, Eurostat, 2001		Social Benefits and their Redistributive Effect on the EU, Eurostat, 2001		Human Development Report 2000		Human Development Report 2001		Human Development Report 2000		Human Development Report 2001	
Country	15	Rank	12	Rank	12	Rank	13	Rank	13	Rank	29	Rank	29	Rank	28	Rank	26	Rank				
Australia	-		-		-						16.5	8	25.4	10	24.0	19	19.5	17				
Austria	4.7	7	-		-		24.0	4	13	4	6.5	23	25.1	11	27.3	14	31.3	12				
Belgium	4.6	6	42	6	110	4	28.0	10	17	7	5.3	25	24.9	12	30.2	12	18.5	20				
Canada	-	-	-	-	-	-	-	-	-	-	-	-	23.6	13	37.3	4	24.3	16				
Czech Republic	-	-	-	-	-	-	-	-	-	-	14.1	10	13.9	19	23.2	20						
Denmark	3.2	2	24	1	37	1	30.0	11	11	1	16.8	7	37.4	2	23.1	21	45	2				
Finland	3.1	1	-		-						16.2	9	36.5	3	25.6	17	44.4	3				
France	4.5	4	40	4	122	5	27.0	8	16	5	12.4	13	9.1	25	-		37.9	6				
Germany	4.9	9	41	5	123	6	23.0	2	16	5	5.2	26	30.4	8	26.6	15	35.7	8				
Greece	6.2	14	47	11	66	2	23.0	2	21	12	6.1	24	6.3	27	22.0	23	7.1	25				
Hungary	-		-		-		-		-		10.9	16	8.3	26	35.3	6	35.9	7				
Iceland	-		-		-		-		-		6.8	21	34.9	5	25.4	18	33.3	9				
Ireland	6.0	13	43	7	152	12	33.0	13	18	8	10.9	16	13.7	21	26.2	16	18.8	18				
Italy	5.3	10	44	8	127	7	21.0	1	19	10	9.3	19	10	24	53.8	1	17.6	21				
Japan	-		-		-						2.2	28	10.8	23	9.5	27	5.7	27				
Korea	-		-		-				-		5.9	28	4.0	29	6.5	26						
Luxembourg	4.8	8	44	8	132	9	24.0	4	12	2	17.7	6	16.7	18	-		28.6	14				
Mexico	-		-		-						6.6	22	18.0	16	20.7	24	11.1	23				
Netherlands	3.9	3	25	2	134	10	24.0	4	12	2	13.9	11	32.9	6	22.8	22	31	13				
New Zealand	-		-		-						27.3	3	30.8	7	36.6	5	44	4				
Norway	-		-		-						22.2	4	36.4	4	30.6	11	42.1	5				
Poland	-		-		-						11.1	14	12.7	22	33.6	7	18.7	19				
Portugal	7.2	15	54	12	99	3	27.0	8	22	13	11.1	14	18.7	15	32.2	10	9.7	24				
Russia	-		-		-						4.7	27			37.9	3						
Spain	5.4	11	44	8	131	8	26.0	7	18	8	8	20	26.6	9	32.4	9	17.6	21				
Sweden	4.5	4	-		-						31.7	2	42.7	1	27.4	13	55	1				
Switzerland	-		-		-						9.4	18	22.4	14	20.1	25	28.6	14				
Turkey	-		-		-						13.3	12	4.2	28	11.5	26						
UK	5.5	12	39	3	148	11	32.0	12	19	10	20	5	17	17	33.0	8	33.3	9				
US	-		-		-						33	1	13.8	20	44.4	2	31.8	11				
EU	5.0		42		126										-							
OECD	-		-		-										-							

2001 = a 1997 = e 1993 = i
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Table 13 Quality of Life continued

Indicator	Crime						Public Health			
	10		11		12		13		14	
	Prison population per 100,000		Drug crimes (per 100,000 people)		Life expectancy at birth-years female		Life expectancy at birth-years female		Responsiveness of health systems - Level WHO Index	
Year	1994		1994		1999		1999e		1999	
Source	Home Office Research, Development and Statistics Directorate		Human Development Report 2000		World Health Organisation Annual Report 2000		World Health Organisation Annual Report 2000		World Health Organisation Annual Report 2000	
Country	30	Rank	23	Rank	29	Rank	29	Rank	30	Rank
Australia	110	18	398.4	21	76.8	3	82.2	4	6.86	11
Austria	85	10	148.4	16	74.4	16	80.4	15	6.86	11
Belgium	80	8	148.0	15	74.5	15	81.3	11	6.82	14
Canada	110	18	207.2	18	76.2	4	81.9	8	6.98	7
Czech Republic	225	28	-	-	71.3	24	78.2	23	5.78	25
Denmark	65	6	270.9	19	72.9	22	78.1	24	7.12	4
Finland	45	3	116.5	13	73.4	20	80.7	13	6.76	16
France	90	12	93.1	12	74.9	12	83.6	2	6.82	14
Germany	95	16	-	-	73.7	19	80.1	17	7.10	5
Greece	70	7	24.2	6	75.5	7	80.5	14	6.05	23
Hungary	150	25	2.5	1	66.3	28	75.1	27	5.47	28
Iceland	35	1	-	-	76.1	5	80.4	16	6.84	13
Ireland	80	8	128.6	14	73.3	21	78.3	22	6.52	19
Italy	90	12	67.3	11	75.4	8	82.1	7	6.65	17
Japan	40	2	18.4	5	77.6	1	84.3	1	7.00	6
Korea	150	25	3.9	2	-	-	-	-	6.12	22
Luxembourg	90	12	196.6	17	74.5	14	81.4	10	7.37	3
Mexico	145	23	-	-	71.0	25	77.1	25	5.66	27
Netherlands	90	12	39.4	7	75.0	11	81.1	12	6.92	9
New Zealand	150	25	-	-	73.9	17	79.3	21	6.65	17
Norway	60	4	533.4	22	75.1	10	82.1	5	6.98	7
Poland	145	23	10.4	4	67.9	27	76.6	26	5.73	26
Portugal	130	22	60.2	9	72.0	23	79.5	20	6.00	24
Russia	730	30	50.4	8	62.7	29	74.0	28	5.37	29
Spain	110	18	65.5	10	75.3	9	82.1	6	6.18	21
Sweden	60	4	350.5	20	77.1	2	81.9	9	6.90	10
Switzerland	85	10	563.2	23	75.6	6	83.0	3	7.44	2
Turkey	100	17	3.9	2	69.7	26	69.9	29	5.16	30
UK	125	21	-	-	74.7	13	79.7	18	6.51	20
US	680	29	-	-	73.8	18	79.7	19	8.10	1
EU	-	-	-	-	-	-	-	-	-	-
OECD	-	-	-	-	-	-	-	-	-	-

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