

Forfás



**STATISTICS
AT A GLANCE
2011**

About Forfás

Forfás is Ireland's policy advisory board for enterprise, trade, science, technology and innovation. It provides independent and rigorous research, advice and support in the areas of enterprise and science policy. This work informs the Department of Jobs, Enterprise and Innovation and wider Government. Forfás works with IDA Ireland, Enterprise Ireland and Science Foundation Ireland to ensure the coherence of policies across the enterprise development agencies.

Forfás manages the work of and provides research and analytical support to:

- ▣ Advisory Council for Science, Technology and Innovation
- ▣ Expert Group on Future Skills Needs
- ▣ National Competitiveness Council

Forfás manages the national awareness programme, Discover Science and Engineering (DSE), the accreditation services of the Irish National Accreditation Board (INAB) and hosts the Office of the Chief Scientific Adviser to Government.

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Introduction

Statistics at a Glance 2011 combines data on enterprise and R&D statistics from publications by Forfás, the Central Statistics Office and other international bodies such as Eurostat, the OECD, EU Commission, WTO, UNCTAD, etc. It contains a summary of statistics on a number of areas relevant to the performance of the Irish enterprise sector including: the economic context, economy expenditure and output, Ireland's international trade in goods and services, inward and outward foreign direct investment flows, as well as data on headline R&D figures, sectoral spend on R&D (business, higher education and public), the R&D workforce, innovation, and other STI indicators. The data cover various years/timescales, and in all cases the latest available data are used. The statistics in this booklet highlight some of the key trends in the activities of enterprises and R&D performers based in Ireland and help to describe how they are developing and changing over recent years. Some key messages that emerge from the data are summarised below.

The contribution of net exports to economic growth is continuing to play a major role in 2011. Personal consumption and investment in Ireland decreased in 2010 and have continued to decrease during the first half of 2011. The data indicate that, while investment recovered somewhat in 2011, the domestic economy remains extremely fragile, with consumption forecasted to remain in negative territory. The general government balance as a percentage of GDP is forecast to improve in 2011. In terms of exports, Ireland and other countries experienced increases in exports in 2010, as Forfás data published in the last Enterprise Statistics at a Glance (2010) predicted.

The total direct expenditure in the Irish economy by firms supported by the enterprise agencies amounted to €35bn in 2010, with similar contributions from foreign and Irish-owned companies. The growth in business sector R&D (BERD) in 2009 was driven primarily by Irish-owned companies. BERD rose by 16.5 per cent from the 2007 level to €1.868 billion in 2009. However, estimates for 2010 indicate a levelling-off of R&D expenditure. This is the first time in more than a decade that BERD estimates are not expected to rise. A key finding in this year's BERD relates to the shift in R&D away from manufacturing to the services sector.

Exports of goods and services performed very well in 2010. Exports of services rose by 10 per cent between 2009 and 2010, with a 5.9 percentage increase among merchandise exports; these increases follow on from significant declines in 2009.

Chemicals contributed 32 per cent of total exports of goods and services in 2010, an increase in share of almost 4 percentage points from 2008. The share of machinery and transport equipment to total goods' exports has decreased rapidly over the last decade, now standing at just over a third of the volume in 2000. Computer services stands out as one of the main growth sectors of services' exports, contributing 38 per cent to total services' exports and experiencing one of the highest annual growth rates over the last decade. Business services follow closely, and report year-on-year increases from 2008 up to and including 2010, now standing at 14 per cent of total exports. At the level of individual countries, the UK continues to be the main export destination for services, but the US is the main destination for goods. The annual growth rate in goods' exports to China remained at 30 per cent in 2010 and, if this trend continues, it will result in China becoming one of Ireland's main trading partners for goods' exports in the near future.

Business services and royalties/licences remain the main goods' and services' import sectors in Ireland. Some categories of imports continued to experience decreased values in 2010 - the decrease in machinery and transport equipment was the highest in monetary terms and proportionately. In contrast to exports, the UK remains Ireland's main source of goods' imports, while the US continues to be the main origin of services' imports.

Services contributed 91 per cent to total Irish ODI stock abroad in 2010. The level of FDI stock in Ireland has lagged growth rates in the world and the EU FDI over recent years.

Gross R&D spending in the government, higher education and business sectors of the economy has contracted by 2.6 per cent in current prices in 2010. The overall R&D intensity ratio is expected to reach 2.16 per cent of GNP in 2009, up from 1.43 per cent in 2006. This increase is expected to bring Ireland closer to the OECD and the EU-27 averages, although this ratio improvement has been assisted by the rapid decline in Gross National Product during 2008 and 2009.

Overall improvements in R&D spending continue to be a strong driver of innovation performance in the business sector. In 2008 44.9 per cent of firms were engaged in some form of technological innovation, with 42.6 per cent of firms engaged in some form of non-technological activity. About 40 per cent of small firms undertake some form of innovation, compared to 61 per cent of medium-sized firms and 76 per cent of large firms, while indigenous firms are, overall, less likely to engage in innovation than foreign-owned firms.

The percentage of gross R&D performed by industry in 2009 was reported to be 66 per cent, with the higher education sector accounting for 29 per cent and the public sector at 5 per cent.

Looking at the individual sectors of R&D performance, business sector-performed R&D (BERD) rose to €1.83 billion in 2010, with the BERD intensity ratio expected to grow to 1.47 per cent of GNP in 2010 from 0.95 per cent in 2006 so that it now exceeds the EU-27 average of 1.17 per cent, but falls just short of the OECD average of 1.63 per cent. The business sectors performing the largest percentage of R&D are the manufacturing sectors (39.8 per cent of total BERD), and information and communication services (26.1 per cent).

Expenditure on R&D in the higher education sector (HERD) rose to an estimated €829 million in 2009. The HERD intensity ratio (HERD as a per cent of GNP) is now 0.63 per cent which is above the OECD (0.4 per cent) and EU-27 averages (0.46 per cent).

Total expenditure on R&D performed in the State sector (GOVERD) fell to €131 million in 2010 (including R&D performed in hospitals). The anticipated GOVERD/GNP intensity ratio for 2010 is 0.1 per cent; this remains considerably below the EU and OECD averages (0.26 per cent).

Finally, the total number of researchers engaged in R&D in all sectors in 2009 was 21,393, with the number of support staff and technicians totalling 11,462. The total number of full-time equivalent researchers in 2009 was 14,526. The number of full-time equivalent (FTE) researchers employed per thousand total employment in Ireland in 2009 was 7.6.

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1.1 Economic Environment at a Glance, 2006-2012

	2006	2007	2008	2009	2010	2011 (f)	2012(f)
GDP, €million	178,297	189,933	179,990	160,596	155,992	155,699	159,087
Personal consumption change %	6.7%	6.4%	-1.1%	-6.9%	-0.8%	-2.6%	-0.8%
Investment change %	4.5%	2.9%	-10.2%	-28.7%	-24.9%	-9.2%	-0.5%
General Government (Exchequer) Balance as % of GDP	3.0%	0.1%	-7.3%	-14.2%	-32.0%	-10.0%	-8.6%
Current account as % of GNP	-4.1%	-6.2%	-6.6%	-3.6%	0.6%	0.4%	2.5%

Note: (f) forecast

Source: CSO National Income and Expenditure, September 2011; Central Bank of Ireland Quarterly Bulletin, Q4, October 2011; Department of Finance Budgetary and Economic Statistics, September 2011.

1.2 GDP Growth of Main Trading Partners, 2009-2012

% change	2009	2010	2011 (f)	2012(f)
Ireland	-7.0%	-0.4%	1.0%	1.8%
Euro area	-4.1%	1.8%	1.6%	1.1%
UK	-4.9%	1.3%	1.1%	1.6%
US	-2.7%	3.0%	1.5%	1.8%
World Growth	-0.9%	5.1%	4.0%	4.0%

Source: IMF World Economic Outlook, September 2011; Central Bank Quarterly Bulletin, Q4, October 2011.

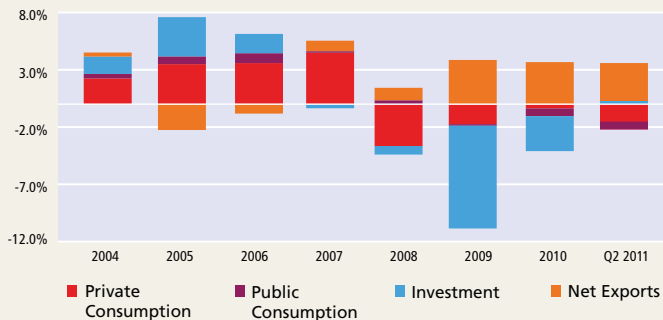
1.3 Number Employed and Unemployment Rate in Ireland, 2006-2011

	2006	2007	2008	2009	2010	2011 (f)
Employment (Q1 for each year, '000s)	2,009	2,089	2,124	1,966	1,858	1,821
Unemployment rate (%)	4.4	4.6	6.3	11.8	13.6	14.3
Unemployment (seasonally adjusted, Q1 for each year, '000s)	93.5	98.9	110.4	223.0	275.3	304.5
Live register (month of May for each year, '000s)				394.1	437.9	440.9

Source: Central Bank Quarterly Bulletin, Q2, April 2011; CSO Quarterly National Household Survey, June 2011, CSO Live Register, June 2011

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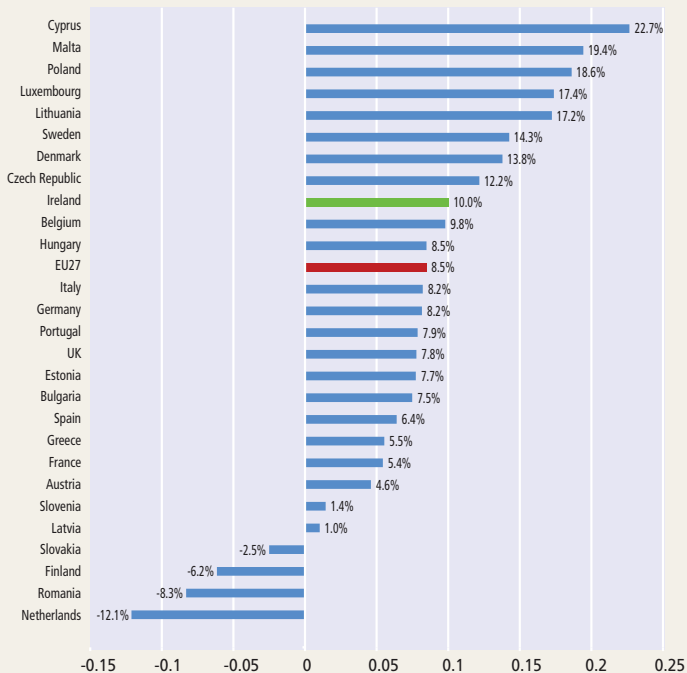
1.4 Contribution of Net Exports to Irish Economic Growth, constant prices¹, 2004-Q2 2011



Source: CSO Database Direct, National Accounts, Forfás calculations

	Private Consumption	Public Consumption	Investment	Net Exports	GDP
2004	2.2%	0.4%	1.5%	0.3%	4.5%
2005	3.5%	0.7%	3.4%	-2.3%	5.3%
2006	3.6%	0.9%	1.7%	-0.8%	5.3%
2007	4.5%	0.1%	-0.4%	0.9%	5.2%
2008	-3.7%	0.3%	-0.7%	1.1%	-3.0%
2009	-1.7%	-0.1%	-9.0%	3.9%	-7.0%
2010	-0.4%	-0.7%	-3.1%	3.7%	-0.4%
Q2 2011	-1.6%	-0.7%	0.1%	3.4%	1.3%

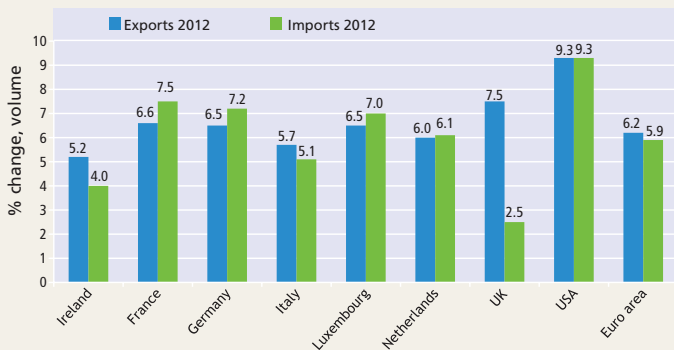
1.5 Services Exports, Growth Rate 2009-2010



Source: Eurostat, *International Trade in Services*.

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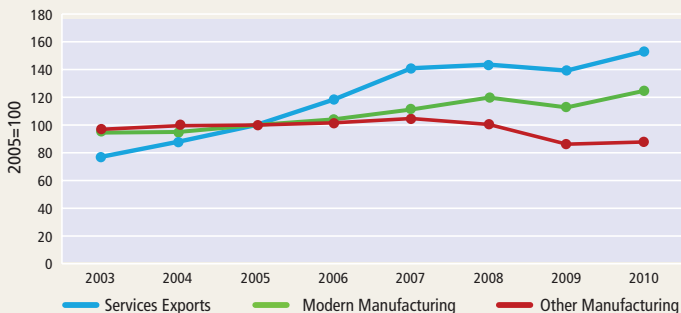
1.6 Trade of Goods and Services, Outlook 2010-2012, Various Countries



Source: EU Commission, European Economic Forecast, Spring 2011.

% change, volume	2010		2011		2012	
	Exports	Imports	Exports	Imports	Exports	Imports
Ireland	9.4	6.6	6.0	3.2	5.2	4.0
France	10.5	8.2	6.7	6.8	6.6	7.5
Germany	14.1	12.6	7.6	7.5	6.5	7.2
Italy	9.1	10.5	6.0	4.6	5.7	5.1
Luxembourg	6.3	6.7	6.8	8.0	6.5	7.0
Netherlands	10.9	10.5	6.4	5.8	6.0	6.1
UK	5.3	8.5	8.9	4.0	7.5	2.5
USA	11.9	12.7	7.8	6.7	9.3	9.3
Euro Area	11.2	9.3	6.9	5.4	6.2	5.9

1.7 Index of Manufacturing Output Volume and Services Exports, 2003-2010

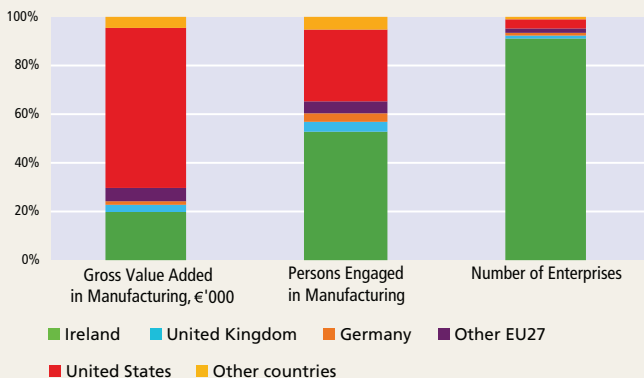


Source: CSO, *Industrial Production and Turnover, April 2011*; *Balance of International Payments, June 2011*

Base year = 2005	2003	2004	2005	2006	2007	2008	2009	2010
Services Exports	77	88	100	118	141	144	139.2	153.1
Modern Manufacturing ²	95	95	100	104	111	120	113	124.7
Other Manufacturing	97	100	100	102	105	100	86	87.8

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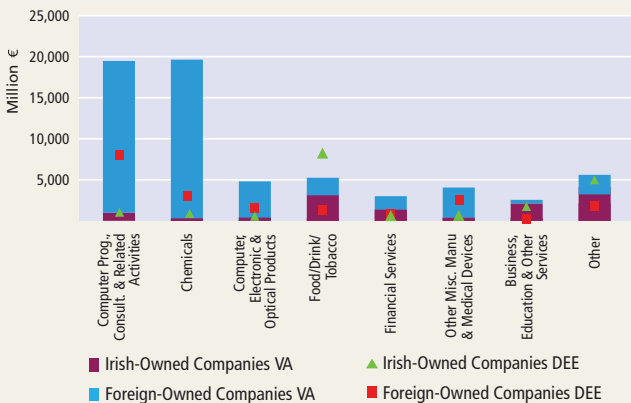
1.8 Gross Value Added³, Persons Engaged⁴ and Number of Enterprises in Manufacturing in Ireland, by Ownership, 2009



Source: CSO, *Census of Industrial Production, 2009*.

Country of Ownership	Gross Value Added in Manufacturing, €'000	Persons Engaged in Manufacturing	Number of Manufacturing Enterprises
Ireland	4,759,371	90,511	4,018
United Kingdom	699,766	7,171	53
Germany	449,156	6,350	58
Other EU27	1,576,992	10,105	84
United States	20,986,312	51,941	188
Other countries	1,145,301	8,137	48
All countries	29,616,898	174,215	4,449

1.9 Value Added (VA)⁵ and Direct Economy Expenditure (DEE)⁶ of Agency Assisted⁷ Firms by sector, current prices, 2010



Source: Forfás, Annual Business Survey of Economic Impact (ABSEI), 2010

SECTION 1

1.9 Continued

Million €	Irish-Owned Companies VA	Foreign-Owned Companies VA	Irish-Owned Companies DEE	Foreign-Owned Companies DEE
Computer prog., consult. & related activities	807	18,697	797	7,970
Chemicals	119	19,531	219	2,870
Computer, electronic & optical products	356	4,385	328	1,440
Food/Drink/ Tobacco	3,104	2,133	8,374	1,238
Financial services	1,309	1,541	384	626
Other misc. manu & medical devices	233	3,703	386	2,035
Business, education & other services	2,096	347	1,594	94
Other	3,152	2,407	4,914	1,681
<i>Energy, water, waste & construction</i>	890	-	1,810	-
<i>Machinery & equipment</i>	304	396	424	304
<i>Non-metallic minerals</i>	341	107	623	75
<i>Basic & fabricated metal products</i>	421	189	562	187
<i>Textiles, clothing, footwear & leather</i>	80	15	104	14
<i>Wood & wood products</i>	103	19	308	135
<i>Paper & printing</i>	222	94	293	92
<i>Rubber & plastics</i>	225	497	265	216
<i>Electrical equipment</i>	107	276	150	207
<i>Transport Equipment</i>	44	291	39	212
<i>Publishing, broadcasting & telecommunications</i>	174	42	182	19
<i>Other IT & computer services</i>	238	481	155	220
Total	11,176	52,745	16,996	17,954

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International Exports of Goods and Services

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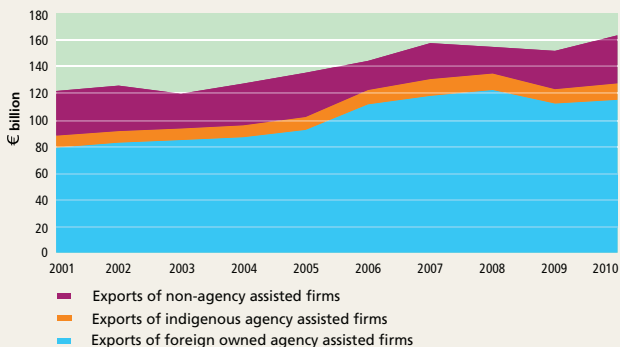
2.1 Ireland's Merchandise and Services Exports, Value & Volume, Current Prices, 2001-2010



Source: World volumes from WTO International Trade Statistics 2009.
Irish data from CSO, StatBank.

Million €	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	CAGR ⁸ 2006- 2010
Services Exports, value	28,562	31,589	37,133	42,424	48,219	57,069	67,960	67,947	67,134	73,837	8.90%
of which											
IFSC ⁹	5,727	8,303	9,131	14,546	14,122	20,137	21,157	20,669	19,062	20,428	7.66%
Merchandise Exports, value	92,690	93,675	82,076	84,410	86,732	86,772	89,226	86,394	84,239	89,193	0.56%
Total Exports	121,252	125,264	119,209	126,834	134,951	143,841	157,186	154,341	151,373	163,030	3.85%
Volume Index, base = 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Irish Merchandise Exports Volume	105	108	104	111	114	114	120	121	117	121	

2.2 Exports of Agency-Assisted Companies as a share of total economy exports, current prices, 2001-2010

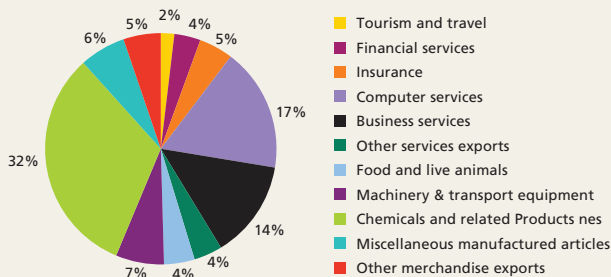


Source: CSO, External Trade and Balance of Payments data and Forfás, Annual Business Survey of Economic Impact (ABSEI), 2010

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	CAGR ⁸ , %, 2005-2010
Total economy exports	150,563	121,253	125,264	119,209	126,834	134,951	143,841	157,186	154,341	151,373	163,030	3.85%
Total agency-assisted company exports	82,391	87,756	91,152	93,095	95,489	101,723	121,996	130,224	134,403	122,632	126,994	4.54%
Total indigenous agency-assisted company exports	8,966	9,026	8,692	8,685	8,943	9,663	10,753	12,624	12,368	10,786	12,369	5.06%
Percentage manufacturing	82.7%	80.8%	82.5%	80.7%	77.6%	75.6%	76.3%	75.9%	75.4%	72.0%	73.7%	
Percentage services	17.3%	19.2%	17.5%	19.3%	22.4%	24.4%	23.7%	24.1%	24.6%	28.0%	26.3%	

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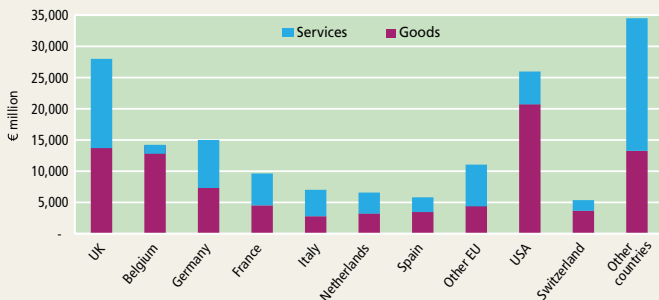
2.3 Composition of Ireland's Goods and Services Exports¹⁰, Current Prices, 2010



Source: CSO, StatBank and External Trade Bulletin June 2011.

Million €	2003	2004	2005	2006	2007	2008	2009	2010
Tourism and travel	3,409	3,536	3,863	4,258	4,426	4,287	3,506	3,075
Financial services	3,365	4,267	4,850	6,214	7,440	6,595	5,794	5,978
Insurance	7,691	7,821	6,909	8,738	8,799	8,155	7,300	7,777
Computer services	12,575	15,100	15,755	18,298	21,726	23,876	24,352	28,186
Business services	6,957	8,439	13,072	15,399	20,571	20,047	20,901	22,333
Other services exports	3,136	3,261	3,770	4,162	4,998	4,987	5,277	6,488
Food and live animals	5,779	6,063	6,380	7,034	7,603	7,085	6,271	6,982
Machinery & transport equipment	23,521	22,935	22,710	23,186	21,806	18,365	13,585	11,001
Chemicals and related products nes	35,785	37,492	40,421	39,696	43,069	44,225	47,988	52,226
Miscellaneous manufactured articles	9,457	9,910	9,066	8,651	8,489	8,902	9,190	10,475
Other merchandise exports	7,533	8,010	8,156	8,205	8,259	7,817	7,205	8,510
Total	119,209	126,834	134,951	143,841	157,186	154,341	151,369	163,030

2.4 Destination of Ireland's Goods and Services Exports¹¹, current prices, 2010

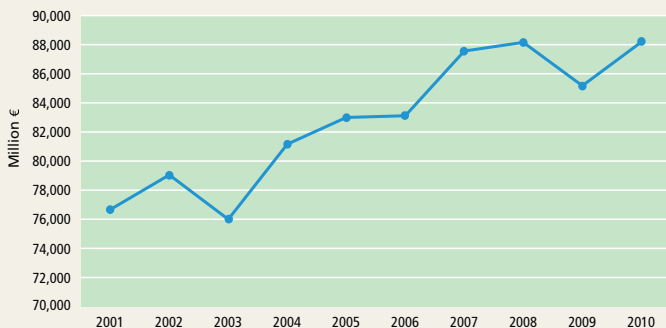


Source: CSO, External Trade Bulletin (March 2011), CSO, Services Exports and Imports (September 2011), and CSO, StatBank

€ million	Goods	Services	Total	% of Total
UK	13,768	14,395	28,163	17%
Belgium	12,819	1,341	14,160	9%
Germany	7,215	7,760	14,975	9%
France	4,493	5,109	9,602	6%
Italy	2,713	4,204	6,917	4%
Netherlands	3,093	3,422	6,515	4%
Spain	3,362	2,350	5,712	4%
Other EU	4,294	6,703	10,997	7%
USA	20,763	5,234	25,997	16%
Switzerland	3,557	1,752	5,309	3%
Other countries	13,116	21,567	34,683	21%
Total	89,193	73,837	163,030	100%

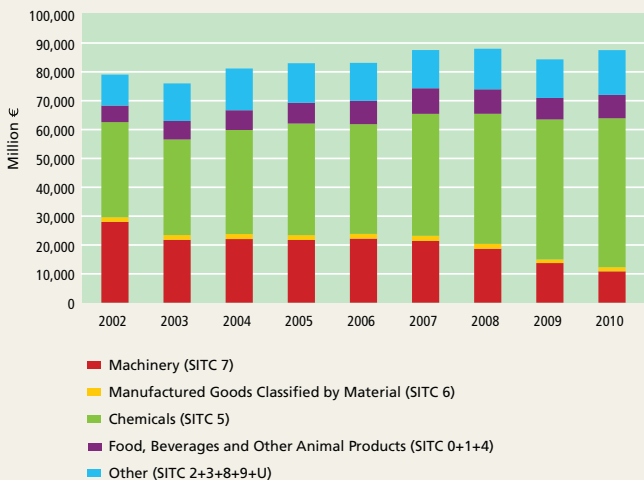
SECTION 2

2.5 Ireland's Goods Exports by Value, Constant Prices¹², 2001-2010



Source: CSO, StatBank

2.6 Composition of Ireland's Goods Exports, Constant Prices¹³, 2002-2010



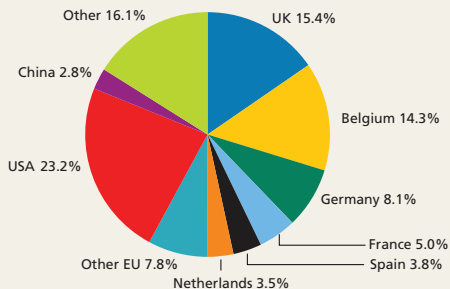
Source: CSO, Database Direct.

SECTION 2

2.6 Continued

SITC ¹⁴ Product Groups	Section									
	Million €	2002	2003	2004	2005	2006	2007	2008	2009	2010
0	Food and live animals	4,877	5,351	5,830	6,105	6,738	7,461	7,230	6,340	6,899
1	Beverages and tobacco	846	1,025	997	1,056	1,302	1,381	1,262	1,091	1,190
2	Crude materials, inedible, except fuels	728	801	953	1,031	1,430	1,510	1,340	983	1,426
3	Mineral fuels, lubricants and related products	305	186	384	590	539	674	849	601	1,015
4	Animal and vegetable oils, fats and waxes	22	29	24	18	19	27	42	20	27
5	Chemicals ¹⁵ and related products	32,963	33,135	36,050	38,680	38,023	42,266	45,128	48,521	51,606
6	Manufactured goods classified chiefly by material	1,625	1,659	1,747	1,679	1,642	1,784	1,695	1,257	1,434
7	Machinery & transport equipment	27,992	21,779	22,053	21,732	22,209	21,400	18,739	13,736	10,870
8	Miscellaneous manufactured articles	6,991	8,756	9,529	8,676	8,286	8,331	9,084	9,292	10,351
9	Commodities and transactions not classified elsewhere	2,700	3,273	3,595	3,432	2,922	2,728	2,022	2,491	2,679
U	Unclassified	-	-	-	-	6	0	0	-	-
	Total	79,051	75,996	81,163	82,997	83,115	87,562	87,391	84,334	88,135

2.7 Destination of Ireland's Goods' Exports, Current Prices, 2010

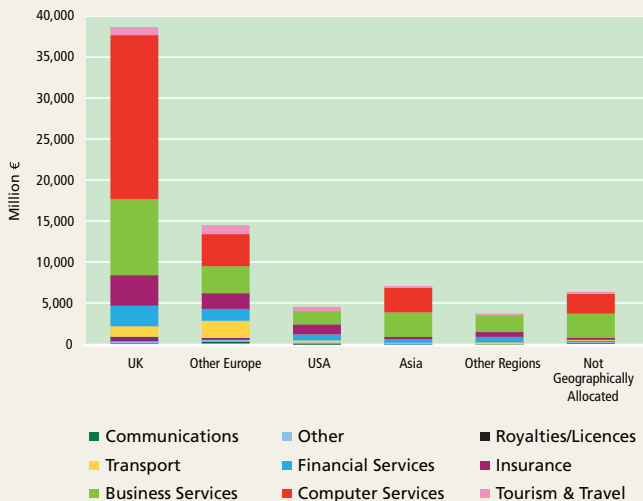


Source: CSO, External Trade Bulletin, March 2011. Note: at the time of writing updated data on the breakdown of exports by destination was unavailable, resulting in the total value of goods exports differing from table 2.1.

Million €		
	2010	CAGR 2006-2010
UK	13,768	-2.97%
Belgium	12,819	-2.53%
Germany	7,215	1.05%
France	4,493	-2.88%
Spain	3,362	0.79%
Netherlands	3,093	-2.03%
Other EU	7,008	-4.36%
USA	20,763	6.37%
China	2,502	29.99%
Other	14,370	-0.93%

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2.8 Composition and Geographical Distribution of Ireland's Services Exports, current prices, 2010



Source: CSO, Services Exports and Imports 2009 and 2010

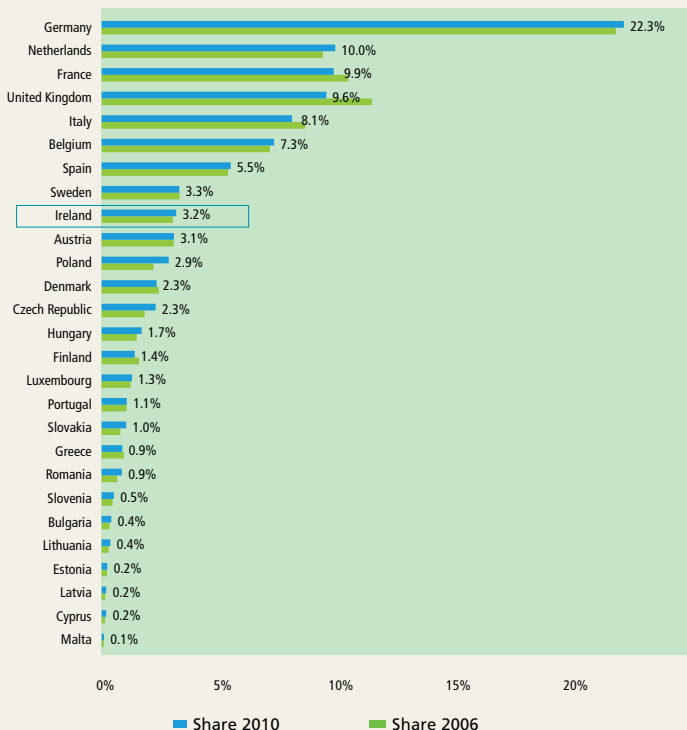
2.8 Continued

Million €	Other Europe	UK	USA	Asia	Other Regions	Not Geographically Allocated	Total		
Total	35,615	14,395	5,234	7,052	5,287	6,254	73,837		
% of total Services Exports	48.2%	19.5%	7.1%	9.6%	7.2%	8.5%	100.0%		
% CAGR 2005 and 2009	11.9	4.1	6.1	15.1	7.8	52.5	11.2		
Million €	Other Europe	UK	USA	Asia	Other Regions	Not Geographically Allocated	Total	% share 2008	CAGR, %, 2005-2009
Communications	147	183	26	9	32	152	549	0.7	6.2
Other	47	340	120	24	28	81	640	0.9	2.4
Royalties/Licences	572	103	*	*	*	137	1695	2.3	28.4
Transport	1,271	2,092	161	*	11	70	3605	4.9	14.0
Financial Services	2,505	1,443	731	476	669	154	5978	8.1	5.4
Insurance	3,747	1,923	1239	218	591	59	7777	10.5	3.0
Business Services	9,285	3,287	1615	3010	2,204	2933	22334	30.2	14.3
Computer Services	20,051	3,933	*	3085	*	2401	28186	38.2	15.7
Tourism & Travel	988	1,094	531	134	53	275	3075	4.2	-5.5

Note: * indicates that data is unavailable.

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2.9 Share of Total Extra- and Intra-EU27 Goods and Services Exports, Current Prices, 2006 and 2010



Source: Eurostat Statistical Database.

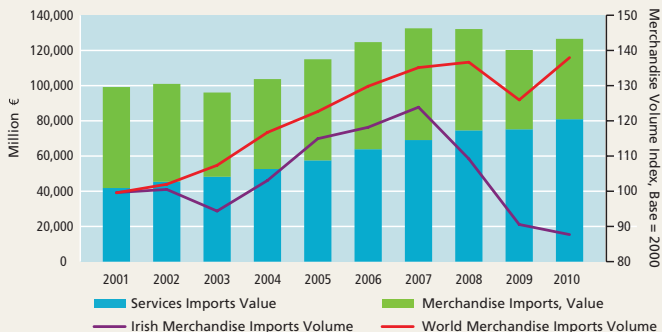
Section 3

International Imports of Goods and Services

- 3.1 Ireland's Merchandise and Services Imports, Value & Volume, Current Prices, 2001-2010
- 3.2 Composition of Goods and Services Imports, Current Prices, 2010
- 3.3 Origin of Ireland's Goods and Services Imports, current prices, 2010
- 3.4 Composition of Ireland's Goods Imports, Constant Prices, 2000-2010
- 3.5 Composition and Geographical Distribution of Ireland's Services Imports, current prices, 2010
- 3.6 Share of Total Extra- and Intra-EU27 Goods and Services Imports, Current Prices, 2006 and 2010

SECTION 3

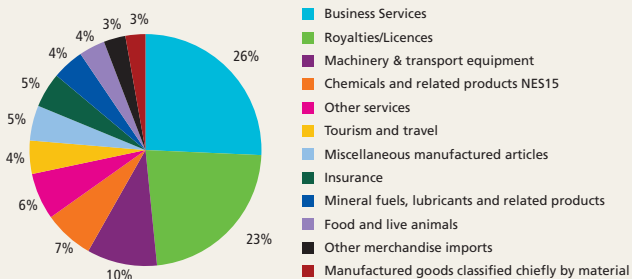
3.1 Ireland's Merchandise and Services Imports, value & volume, current prices, 2001-2010



Source: World volumes calculated from WTO Time Series Database; Irish data from CSO, Balance of Payments Quarter 1, June 2011 and External Trade Bulletin October 2011.

Million €	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	CAGR ⁴ 2006-2010
Services Imports Value	41,822	45,370	48,223	52,625	57,521	63,867	69,081	74,574	75,186	80,931	6.10%
Of Which: IFSC		5,966	5,581	9,692	8,908	12,557	12,955	13,657	12,613	13,403	1.64%
Merchandise Imports, Value	57,384	55,628	47,864	51,105	57,465	60,857	63,486	57,585	45,061	45,764	-6.88%
Total Imports	99,206	100,998	96,087	103,730	114,986	124,724	132,567	132,159	120,247	126,599	0.37%
Volume Index Base = 2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Irish Merchandise Imports Volume	100	101	94	103	115	118	124	109	91	88	
World Merchandise Imports Volume	100	102	107	117	123	130	135	137	126	138	

3.2 Composition of Goods and Services Imports, Current Prices, 2010



Note: total of breakdown differs from total imports figure in 3.1

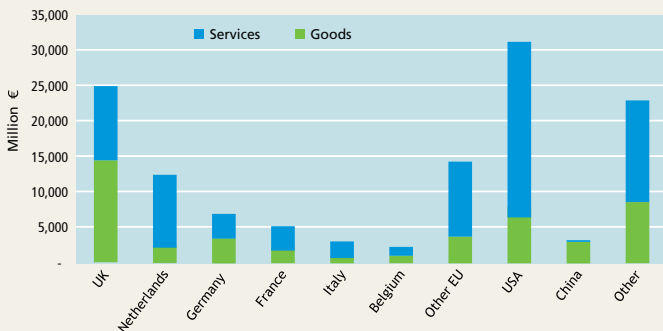
Source: CSO, StatBank.

SECTION 3

3.2 Continued

Million €	2002	2003	2004	2005	2006	2007	2008	2009	2010
Business services	20,517	19,472	22,146	25,313	26,203	28,674	29,700	29,876	32,279
Royalties/licences	11,697	14,208	15,169	15,482	17,534	18,621	24,275	25,148	28,533
Machinery & transport equipment	28,317	20,732	21,964	25,002	25,571	25,379	20,049	14,292	12,324
Chemicals and related products NES ¹⁵	6,922	6,897	7,140	7,419	7,964	8,127	8,282	7,372	8,758
Other services	5,027	4,808	5,087	5,852	7,445	8,353	8,301	7,679	8,174
Tourism and travel	3,942	4,188	4,184	4,898	5,446	6,300	7,046	6,287	5,826
Miscellaneous manufactured articles	6,116	6,303	6,332	7,086	7,360	7,610	6,861	6,122	6,153
Insurance	4,187	5,547	6,039	5,976	7,239	7,133	6,295	6,196	6,119
Mineral fuels, lubricants and related products	1,932	1,969	2,814	4,020	4,719	5,728	6,595	4,445	5,608
Food and live animals	3,157	3,160	3,273	3,681	4,086	4,593	4,681	4,417	4,579
Other merchandise imports	4,846	4,559	4,964	5,309	5,588	4,632	4,468	3,925	3,851
Manufactured goods classified chiefly by material	4,338	4,245	4,620	4,947	5,569	6,082	5,457	3,428	3,499
Total imports	100,998	96,088	103,730	114,986	124,724	131,232	132,009	119,188	125,702

3.3 Origin of Ireland's Goods and Services Imports, current prices, 2010



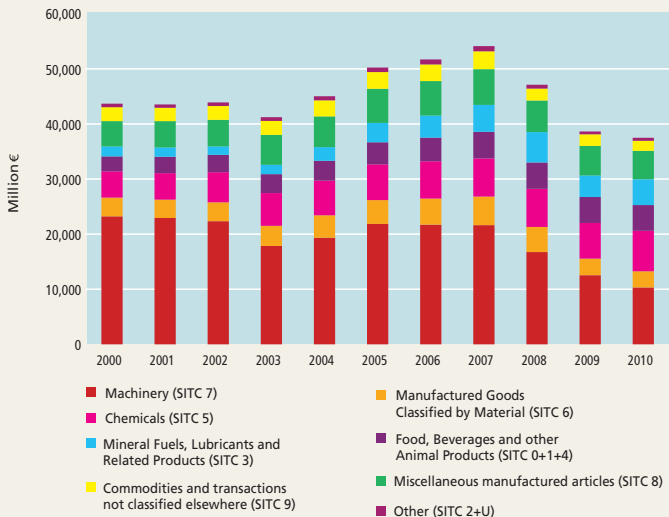
Source: CSO External Trade Bulletin and Services Imports and Exports.

Note: at the time of writing updated data on the breakdown of imports by origin was unavailable, resulting in the total value of goods imports differing from table 3.1.

Million €	Goods	Services	Total
UK	14,588	10,466	25,054
Netherlands	2,211	10,243	12,454
Germany	3,499	3,482	6,981
France	1,832	3,364	5,196
Italy	767	2,335	3,102
Belgium	1,080	1,123	2,203
Other EU	3,633	10,768	14,401
USA	6,414	24,644	31,058
China	2,755	302	3,057
Other	8,729	14,204	22,933
Total	45,507	80,931	126,438

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3.4 Composition of Ireland's Goods Imports, Constant Prices¹⁶, 2000-2010



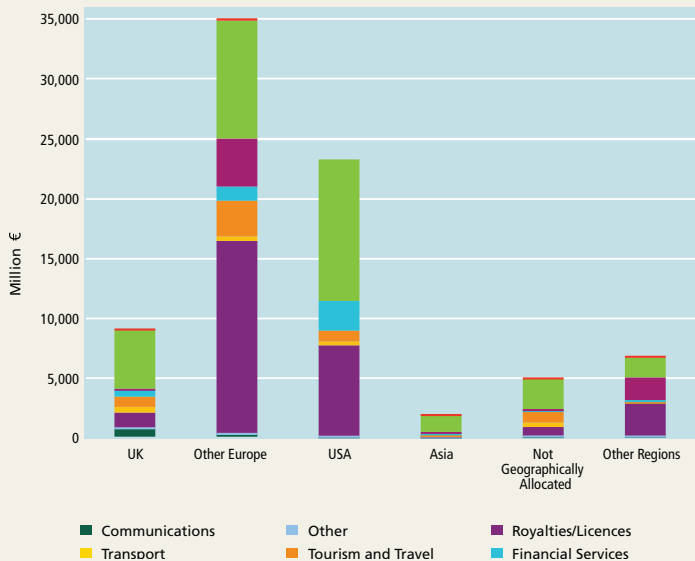
Source: CSO, StatBank and External Trade Bulletin. Note: at the time of writing, fully updated data on the breakdown of imports by category was unavailable, resulting in the total value of goods imports differing from table 3.1.

3.4 Continued

SITC Product Groups	Section	Million €										
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
0	Food and live animals	2,208	2,364	2,491	2,722	2,884	3,218	3,472	3,916	3,911	3,878	3,841
1	Beverages and tobacco	408	515	575	608	613	678	684	770	698	676	689
2	Crude materials, inedible, except fuels	640	606	632	681	743	817	908	940	695	512	569
3	Mineral fuels, lubricants and related products	1,797	1,683	1,525	1,696	2,479	3,514	4,010	4,883	5,509	3,903	4,699
4	Animal and vegetable oils, fats and waxes	95	93	91	104	103	113	138	137	174	155	152
5	Chemicals and related products NES15	4,770	4,811	5,464	5,941	6,290	6,485	6,766	6,928	6,919	6,472	7,347
6	Manufactured goods classified chiefly by material	3,399	3,331	3,424	3,656	4,070	4,325	4,732	5,185	4,559	3,009	2,935
7	Machinery & transport equipment	23,234	22,932	22,350	17,857	19,351	21,855	21,725	21,636	16,749	12,548	10,339
8	Miscellaneous manufactured articles	4,604	4,780	4,827	5,429	5,579	6,194	6,253	6,488	5,731	5,375	5,161
9	Commodities and transactions not classified elsewhere	850	935	1,081	1,090	1,152	1,096	970	2,102	2,166	2,104	1,821
U	Unclassified	0	0	11	0	-	-	0	1	-		
	Total	42,005	42,051	42,470	39,783	43,265	48,295	49,658	52,986	47,111	38,632	37,555

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3.5 Composition and Geographical Distribution of Ireland's Services Imports, current prices, 2010



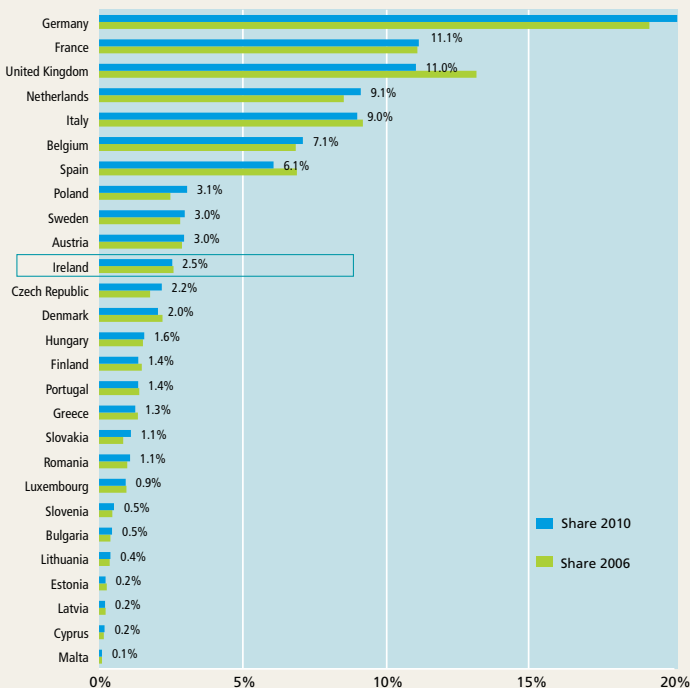
Source: CSO, Services Exports and Imports 2009 and 2010.

3.5 Continued

Million €	UK	Other Europe	USA	Asia	Not Geographically Allocated	Other Regions	Total		
Total	10,466	33,662	24,644	1,906	5,049	5,204	80,931		
% of total Services Imports	12.9	41.6	30.5	2.4	6.2	6.4	100.0		
% CAGR 2005 and 2009	4.7	13.4	5.5	5.9	15.7	5.5	8.9		
Million €	UK	Other Europe	USA	Asia	Not Geographically Allocated	Other Regions	Total	Share of Total, %, 2009	% CAGR 2005 and 2009
Communications	725	298	40	6	56	84	1,209	1.5	14.3
Other	64	22	40	7	43	16	192	0.2	4.8
Royalties/ Licences	1,230	16,082	7,576	98	711	2,836	28,533	35.3	16.5
Transport	483	381	329	33	375	12	1,613	2.0	-5.0
Tourism and Travel	857	2,994	903	18	997	57	5,826	7.2	4.4
Financial Services	600	1,182	2,486	122	58	65	4,513	5.6	14.2
Insurance	68	4,025	*	125	81	1,900	6,199	7.7	0.9
Business Services	4,907	9,875	11,857	1,469	2,537	1,634	32,279	39.9	6.3
Computer Services	134	201	*	25	110	178	648	0.8	16.5

* indicates data is unavailable

3.6 Share of Total Extra- and Intra-EU27 Goods and Services Imports, Current Prices, 2006 and 2010



Source: Eurostat Statistical Database. 2010 data are provisional.

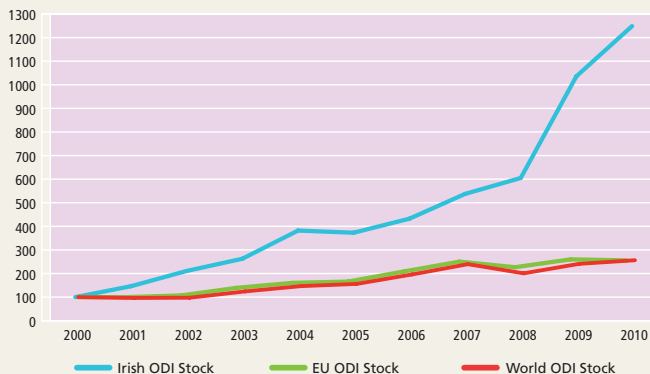
Section 4

Direct Investment Position

- 4.1 Index of Outward Direct Investment (ODI) Stock, 2000-2010
- 4.2 Ireland's ODI Stock and Flow by Destination of Investment, 2010
- 4.3 ODI Stock, selected activities, 2010
- 4.4 Cumulative Stock of ODI as a Percentage of GDP, Selected Countries, 2007, 2010
- 4.5 Index of Foreign Direct Investment (FDI) Stock, 2000-2010
- 4.6 FDI Stock and Flow in Ireland by Location of Investor, 2010
- 4.7 FDI Stock, Selected Activities, 2010
- 4.8 Cumulative Stock of FDI as a Percentage of GDP, Selected Countries, 2007, 2010

SECTION 4

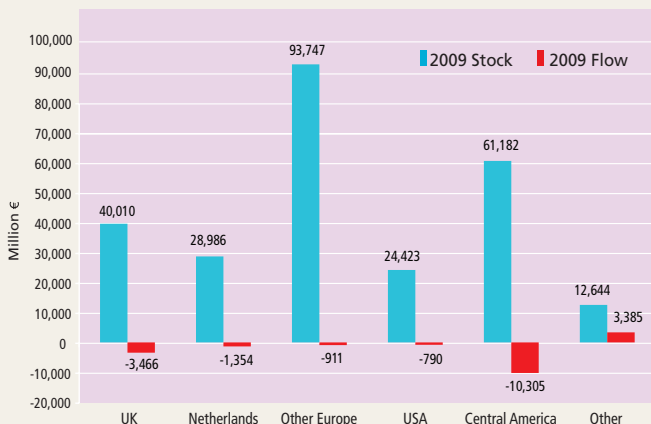
4.1 Index of Outward Direct Investment (ODI¹⁷) Stock¹⁸, 2000-2010



Source: UNCTAD, *World Investment Report 2011*.

Base = 2000	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Irish ODI Stock	100	146	211	263	382	373	432	537	605	1036	1249
EU ODI Stock	100	100	107	139	160	166	209	250	227	260	256
World ODI Stock	100	96	97	124	147	156	196	240	201	241	256

4.2 Ireland's ODI Stock and Flow¹⁹ by Destination of Investment, 2010

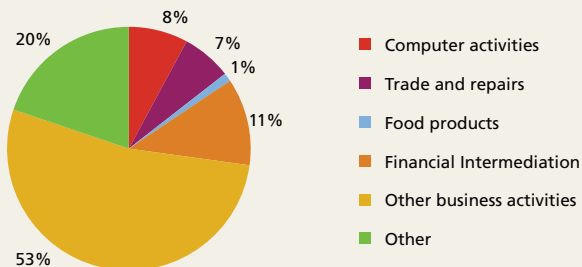


Source: CSO, Foreign Direct Investment 2010.

Million €	2008 Stock	2008 Flow	2010 Stock	2010 Flow	Stock % change 2008 and 2010
UK	33,591	-5,157	40,010	-3,466	19.1
Netherlands	6,973	636	28,986	-1,354	315.7
Other Europe	46,250	-1,966	93,747	-911	102.7
USA	18,682	-3,318	24,423	-790	30.7
Central America	8,201	-2,844	61,182	-10,305	646.0
Other	7,684	-287	12,644	3,385	64.5
Total	121,381	-12,936	260,992	-13,441	115.0

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4.3 ODI Stock, selected activities, 2010



Source: CSO, Foreign Direct Investment 2010

Note: data is not available on all activities, so only some were selected for inclusion in the chart.

Million €	2010 Stock	2010 Flow
Total Manufacturing	13,341	-947
Total Services	236,824	-12,923
Computer activities	20,541	*
Trade and repairs	17,231	-3,764
Food products	2,942	288
Financial Intermediation	30,231	2,982
Other business activities	138,362	-7,823
Other	51,685	*
Total	260,992	-13,441

4.4 Cumulative Stock of ODI as a Percentage of GDP, Selected Countries, 2007-2010

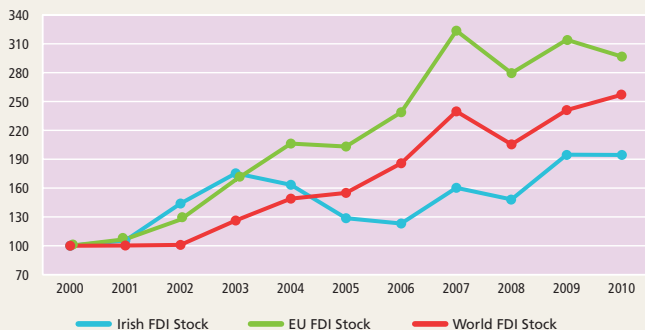


Source: UNCTAD, World Investment Report 2011

% GDP	2007	2010
Singapore	127.2	139.4
Ireland	57.9	171.1
Netherlands	120.4	113.9
UK	65.3	75.3
Sweden	71.8	73.2
France	69.0	58.9
EU	51.5	54.9
Germany	40.0	42.9
USA	37.4	32.8
Italy	19.8	23.2
Czech Republic	4.9	8.0

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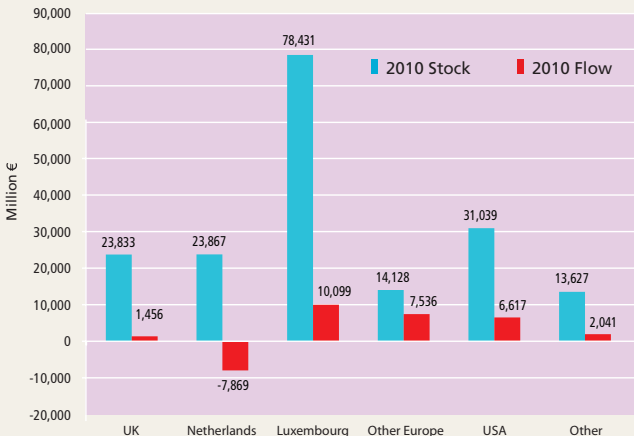
4.5 Index of Foreign Direct Investment (FDI²⁰) Stock, 2000-2010



Source: UNCTAD, World Investment Report 2011

Base = 2000	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Irish FDI Stock	100	105	144	175	163	129	123	160	148	195	194
EU FDI Stock	100	107	127	169	206	203	239	324	280	314	297
World FDI Stock	100	100	101	126	149	155	186	240	205	241	257

4.6 FDI Stock and Flow in Ireland by Location of Investor, 2010

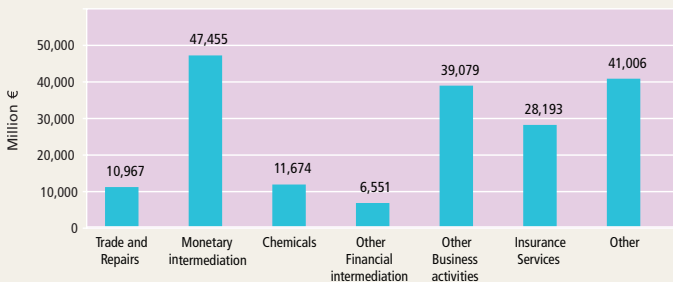


Source: CSO, Foreign Direct Investment 2010

Million €	2008 Stock	2008 Flow	2010 Stock	2010 Flow	Stock % change 2008 and 2010
UK	14,661	4,116	23,833	1,456	62.6
Netherlands	35,267	-459	23,867	-7,869	-32.3
Other Europe	60,439	3,078	78,431	10,099	29.8
USA	11,280	-16,862	14,128	7,536	25.2
Central America	14,808	3,534	31,039	6,617	109.6
Other	-1,160	-4,639	13,627	2,041	-1274.7
Total	135,295	-11,232	184,925	19,880	36.7

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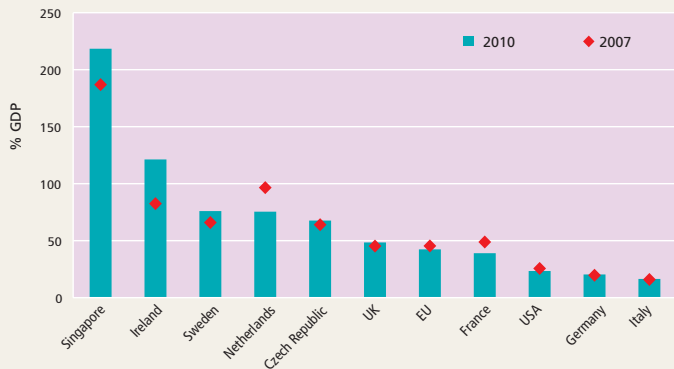
4.7 FDI Stock, Selected Activities, 2010



Source: CSO, Foreign Direct Investment 2010

Million €	2010 Stock	2010 Flow
Total Manufacturing	28,895	-5,175
Total Services	155,625	25,101
Trade and Repairs	10,967	231
Monetary intermediation	47,455	1,456
Chemicals	11,674	-6,388
Other Financial Intermediation	6,551	15,143
Other Business activities	39,079	*
Insurance Services	28,193	3,155
Other	41,006	6,283
Total	184,925	19,880

4.8 Cumulative Stock of FDI as a Percentage of GDP, Selected Countries, 2007, 2010



Source: UNCTAD, World Investment Report 2011.

% GDP	2007	2010
Singapore	188.26	218.38
Ireland	78.58	121.26
Sweden	63.44	75.96
Netherlands	97.96	75.44
Czech Republic	64.52	67.64
UK	44.22	48.44
EU	44.28	42.37
France	48.47	39.01
USA	25.18	23.38
Germany	20.89	20.36
Italy	17.79	16.44

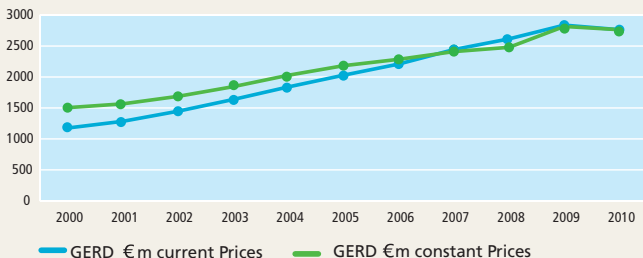
Section 5

National Expenditure on R&D: Headline Figures

- 5.1 Gross Expenditure on R&D (GERD) – Ireland 2000-2010
- 5.2 Gross Expenditure on R&D (GERD) as a Percentage of GDP/GNP – Ireland, EU and OECD, 2000-2010
- 5.3 Gross Expenditure on R&D (GERD) as a Percentage of GDP/GNP – Ireland and Selected Countries
- 5.4 Performance of National R&D by Sector, 2003, 2009
- 5.5 Gross Expenditure on R&D (GERD) – Performers, 2009
- 5.6
 - (i) Government Budget Appropriations or Outlays on R&D (GBAORD) as a Percentage of GDP/GNP
 - (ii) Government Budget Appropriations or Outlays on R&D (GBAORD) as a Percentage of GDP/GNP, Excluding Defence

SECTION 5

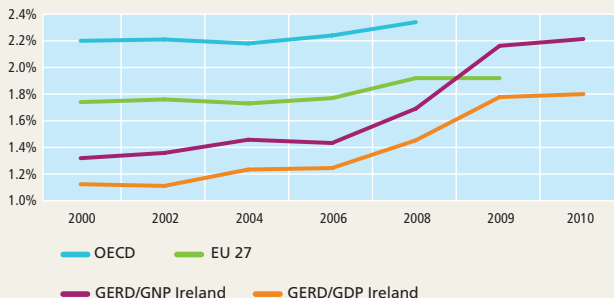
5.1 Gross Expenditure on R&D (GERD²¹) - Ireland 2000-2010



Sources: CSO/Forfás, Derived from the Survey of R&D in the Business Sector, 2009/10; Forfás Survey of R&D in the Higher Education Sector, 2008; Forfás R&D Funding and Performance in the State Sector 2009/2010.

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
GERD € Million Current Prices	1176	1284	1447	1637	1840	2029	2209	2443	2616	2838	2765
% Annual Change		9.2%	12.7%	13.1%	12.4%	10.3%	8.9%	10.6%	7.1%	8.5%	-2.6%

5.2 Gross Expenditure on R&D (GERD²¹) as a Percentage of GDP/GNP - Ireland, EU and OECD, 2000-2010

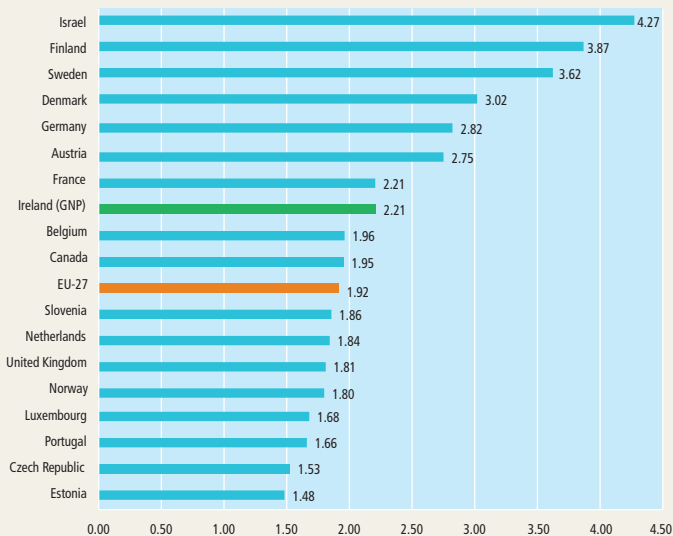


Sources: CSO/Forfás, Derived from the Survey of R&D in the Business Sector, 2009/10; Forfás Survey of R&D in the Higher Education Sector, 2008; Forfás R&D Funding and Performance in the State Sector 2009/2010; OECD, Main Science and Technology Indicators database, Volume 2010/2, February 2011.

	2000	2002	2004	2006	2008	2009*	2010*
OECD	2.20%	2.21%	2.18%	2.24%	2.34%	-	-
EU 27	1.74%	1.76%	1.73%	1.77%	1.92%	1.92%	-
GERD/GNP Ireland	1.32%	1.36%	1.46%	1.43%	1.69%	2.16%	2.21%
GERD/GDP Ireland	1.12%	1.11%	1.23%	1.25%	1.45%	1.78%	1.80%

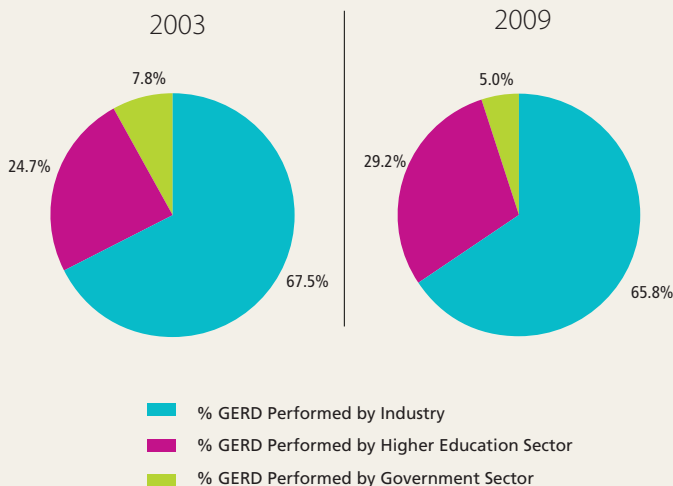
* Estimate

5.3 Gross Expenditure on R&D (GERD²¹) as a Percentage of GDP/GNP - Ireland and Selected Countries



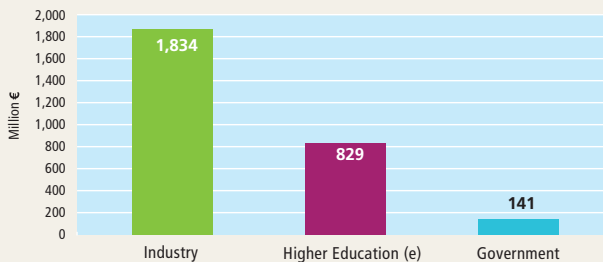
Sources: CSO/Forfás, Derived from the Survey of R&D in the Business Sector, 2009/10; Forfás Survey of R&D in the Higher Education Sector, 2008; Forfás R&D Funding and Performance in the State Sector 2009/2010; OECD, Main Science and Technology Indicators database, Volume 2010/2, February 2011.

5.4 Performance of National R&D by Sector, 2003, 2009



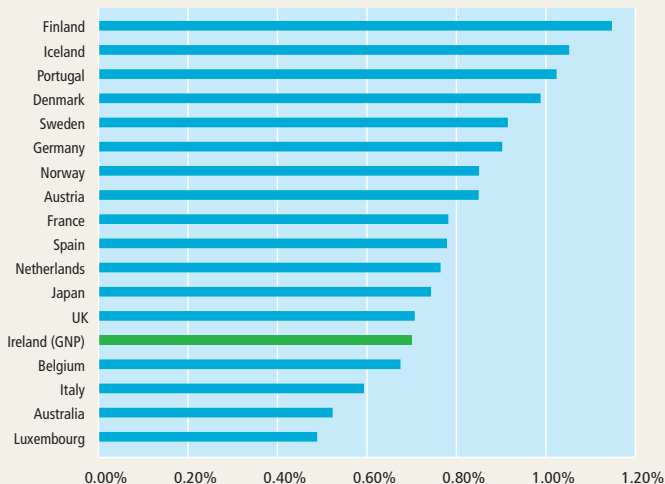
Sources: CSO/Forfás, Derived from the Survey of R&D in the Business Sector, 2009/10; Forfás Survey of R&D in the Higher Education Sector, 2008; Forfás R&D Funding and Performance in the State Sector 2009/2010.

5.5 Gross Expenditure on R&D (GERD²¹) - Performers, 2009



Sources: CSO/Forfás, Derived from the Survey of R&D in the Business Sector, 2009/10; Forfás Survey of R&D in the Higher Education Sector, 2008; Forfás R&D Funding and Performance in the State Sector 2009/2010.

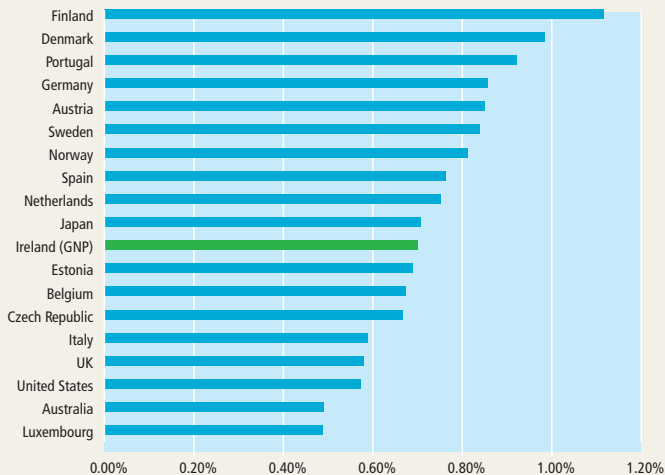
5.6 (i) Government Budget Appropriations or Outlays on R&D (GBAORD²²) as a Percentage of GDP/GNP*



*2010 Figures (except Luxembourg, Belgium, Austria, Germany, Sweden, Denmark, Portugal – 2009 Figs)

Sources: Forfás, Derived from R&D Funding and Performance in the State Sector 2009/2010; OECD, Main Science and Technology Indicators database, Volume 2010/2, February 2011.

5.6 (ii) Government Budget Appropriations or Outlays on R&D (GBAORD²²) as a Percentage of GDP/GNP Excluding Defence*



*2010 Figures (except Belgium, Estonia, Spain, Sweden, Portugal - 2009 Figs)

Sources: Forfás, Derived from R&D Funding and Performance in the State Sector 2009/2010; OECD, Main Science and Technology Indicators Database, Volume 2010/2, February 2011.

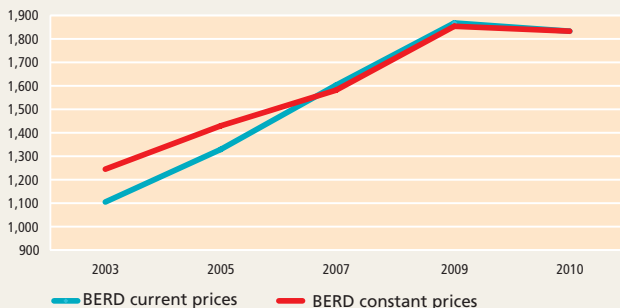
Section 6

Expenditure on R&D by Sector: Business, Higher Education and Public

- 6.1 Business Sector-Performed R&D (BERD) in Current and Constant Prices, 2003-2010
- 6.2 Business Sector-Performed R&D (BERD) as a Percentage of GDP/GNP, Ireland, OECD, EU27, 2000-2010
- 6.3 Business Sector-Performed R&D (BERD) by Industrial Sector, 2009
- 6.4 Distribution of Business Sector R&D Expenditure (BERD) by Size of Spend, 2005, 2009
- 6.5 Higher Education Sector-Performed R&D (HERD) in Current and Constant Prices, Ireland, 2000-2009
- 6.6 Higher Education Sector-Performed R&D (HERD) as a Percentage of GDP/GNP, Ireland, OECD and EU27, 2000-2009
- 6.7 Government Sector-Performed R&D (GovERD) – in Current and Constant Prices, 2000-2010
- 6.8 Government Sector-Performed R&D (GovERD) as a Percentage of GDP/GNP, Ireland, OECD and EU27, 2000-2010

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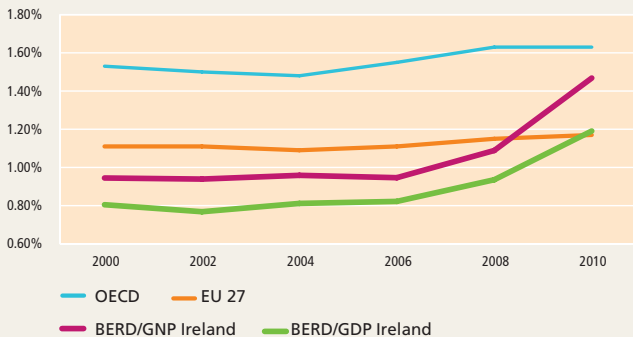
6.1 Business Sector-Performed R&D (BERD) in Current and Constant Prices, 2003-2010



Source: CSO/Forfás, Derived from Business Expenditure on R&D, 2009/10 and CSO Consumer Price Index, March 2011.

	2003	2005	2007	2009	2010
BERD €m Current Prices	1,105	1,329	1,603	1,868	1,833
BERD €m Constant Prices	1,245	1,430	1,582	1,854	1,833

6.2 Business Sector-Performed R&D (BERD) as a Percentage of GDP/GNP, Ireland, OECD, EU27, 2000-2010

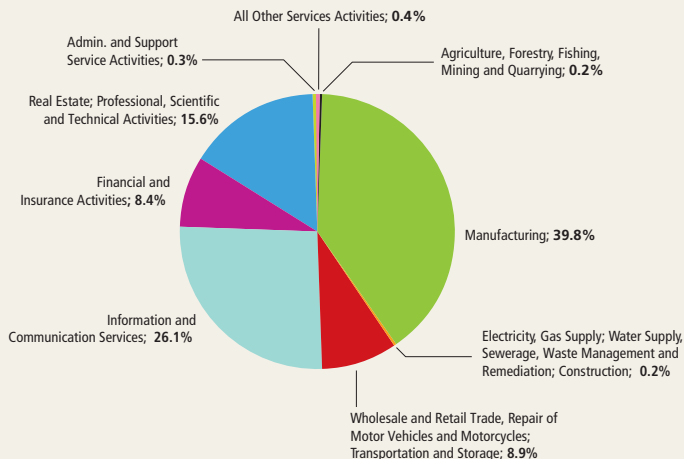


	2000	2002	2004	2006	2008	2010*
OECD	1.53%	1.50%	1.48%	1.55%	1.63%	1.63%
EU 27	1.11%	1.11%	1.09%	1.11%	1.15%	1.17%
BERD/GNP Ireland	0.94%	0.94%	0.96%	0.95%	1.09%	1.47%
BERD/GDP Ireland	0.80%	0.77%	0.81%	0.82%	0.94%	1.19%

* Estimate

Sources: CSO/Forfás, Derived from Business Expenditure on R&D 2009/10; OECD, Main Science and Technology Indicators Database, Volume 2010/2, February 2011 and CSO Quarterly National Accounts, March 2011.

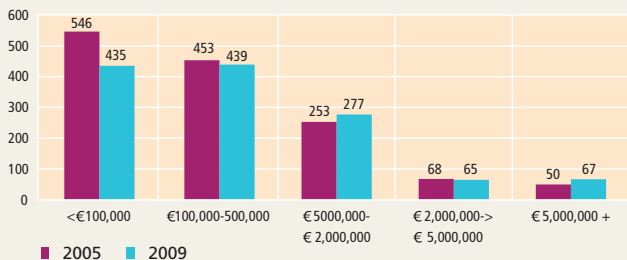
6.3 Business Sector-Performed R&D (BERD) by Industrial Sector, 2009



Sector	€m	%
Agriculture, Forestry, Fishing, Mining and Quarrying	3.6	0.2%
Manufacturing	743.3	39.8%
Electricity, Gas Supply; Water Supply, Sewerage, Waste Management and Remediation; Construction	4.6	0.2%
Wholesale and Retail Trade, Repair of Motor Vehicles and Motorcycles; Transportation and Storage	166.6	8.9%
Information and Communication Services	487.9	26.1%
Financial and Insurance Activities	157.5	8.4%
Real Estate; Professional, Scientific and Technical Activities	291.0	15.6%
Admin. and Support Service Activities	6.0	0.3%
All Other Services Activities	7.9	0.4%
Total - All Enterprises	1,868.5	100.0%

Source: CSO/Forfås, Business Expenditure on R&D 2009/10.

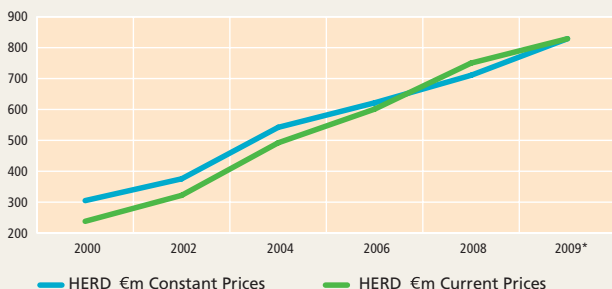
6.4 Distribution of Business Sector R&D Expenditure (BERD) by Size of Spend, 2005, 2009



Source: CSO/Forfás, Business Expenditure on R&D 2009/2010.

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6.5 Higher Education Sector-Performed R&D (HERD) in Current and Constant Prices - Ireland 2000-2009*

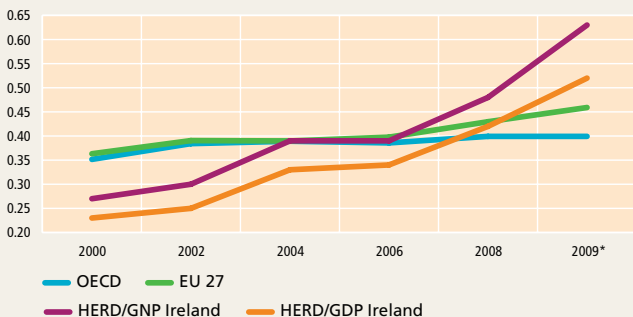


	2000	2002	2004	2006	2008	2009*
HERD €m Current Prices	238	322	492	601	750	829
HERD €m Constant Prices	307	378	547	627	716	829

* Estimate

Source: Forfás, Derived from the Survey of R&D in the Higher Education Sector, 2008; CSO, Consumer Price Index, March 2011.

6.6 Higher Education Sector-Performed R&D (HERD) as a Percentage of GDP/GNP, Ireland, OECD and EU27, 2000-2009*

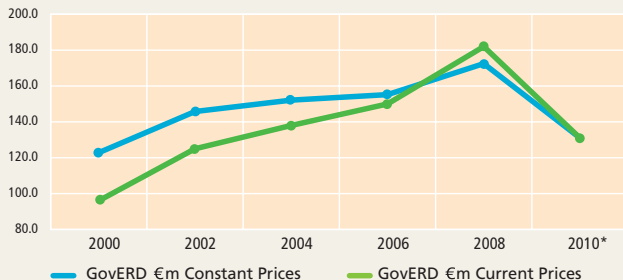


*Estimate

Sources: Forfás, Derived from The Higher Education R&D 2008 survey; OECD, Main Science and Technology Indicators Database, Volume 2010/2, February 2011 and CSO Quarterly National Accounts, March 2011.

SECTION 6

6.7 Government Sector-Performed R&D (GovERD²³) - in Current and Constant Prices – 2000-2010*



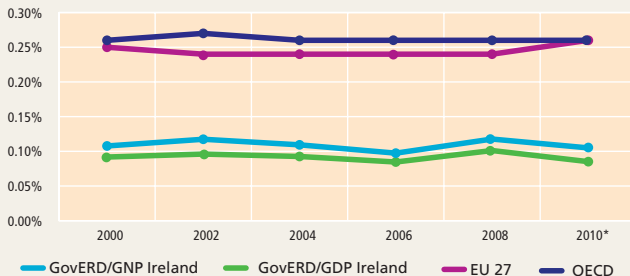
Includes Hospital R&D.

	2000	2002	2004	2006	2008	2010*
GovERD €m Current Prices	96.0	125.0	138.0	150.0	182.0	131.0
GovERD €m Constant Prices	122.8	145.8	152.1	155.2	172.5	131.0

* Estimate

Source: Forfás, Derived from R&D Funding and Performance in the State Sector 2009/2010 and CSO Consumer Price Index, March 2011.

6.8 Government Sector-Performed R&D (GovERD²³) as a Percentage of GDP/GNP, Ireland, OECD and EU27, 2000-2010



	2000	2002	2004	2006	2008	2010*
OECD	0.26%	0.27%	0.26%	0.26%	0.26%	0.26%
EU 27	0.25%	0.24%	0.24%	0.24%	0.24%	0.26%
GovERD/GNP Ireland	0.11%	0.12%	0.11%	0.10%	0.12%	0.10%
GovERD/GDP Ireland	0.09%	0.10%	0.09%	0.08%	0.10%	0.24%

* Estimate

Sources: Forfás, Derived from R&D Funding and Performance in the State Sector 2009/2010; OECD, Main Science and Technology Indicators database, Volume 2010/2, February 2011 and CSO Quarterly National Accounts, March 2011.

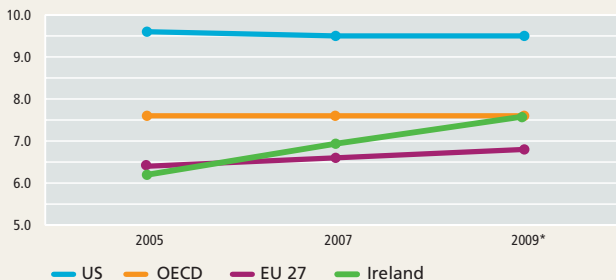
Section 7

R&D Workforce

- 7.1 Total Researchers (FTE) per 1,000 Total Employment, Ireland, OECD, EU27, US, 2005, 2007, 2009
- 7.2 Total Researchers (FTE) per 1,000 Total Employment, Ireland and Selected Countries, 2009
- 7.3 Headcount of PhD and Other Researchers in the Business Sector, 2003-2009
- 7.4 (i) FTE Research Personnel (Researchers plus Support Staff) by Sector of Employment, 2005, 2007, 2009
 - (ii) FTE Research Personnel (Researchers plus Support Staff) by Sector of Employment - Share of Total, 2009
 - (iii) FTE Research Personnel (Researchers plus Support Staff) by Sector and Category of Employment - 2009
- 7.5 (i) Total Headcount Research Personnel (Researchers plus Support Staff) by Sector and Gender - 2009
 - (ii) Percentage of Total Female Headcount Research Personnel (Researchers plus Support Staff) by Sector of Performance and Occupation, 2009
 - (iii) International Comparison of Women Researchers as a Percentage of Total Researchers (Headcount)
- 7.6 Science and Engineering Tertiary Students as a Percentage of all Tertiary Students, EU-27 and Selected Countries, 2008

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7.1 Total Researchers (FTE²⁴) per 1,000 Total Employment, Ireland, OECD, EU27, US, 2005, 2007, 2009*

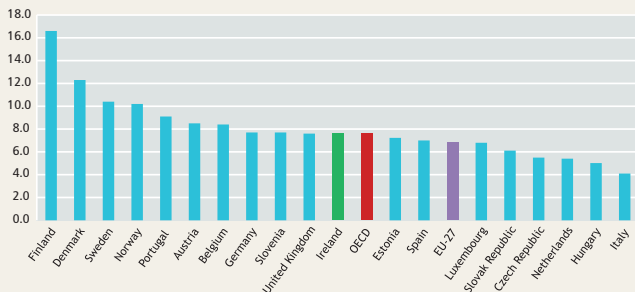


	2005	2007	2009*
US	9.6	9.5	9.5
OECD	7.6	7.6	7.6
EU 27	6.4	6.6	6.8
Ireland	6.2	6.9	7.6

*2009 Figures (except US and OECD 2007 Figures).

Sources: CSO/Forfás, Derived from Business Expenditure on R&D 2009/2010; Forfás, The Higher Education R&D Survey 2008; Forfás, R&D Funding and Performance in the State Sector 2009/2010; OECD, Main Science and Technology Indicators database, Volume 2010/2, February 2011.

7.2 Total Researchers (FTE²⁴) per 1,000 Total Employment, Ireland and Selected Countries, 2009*

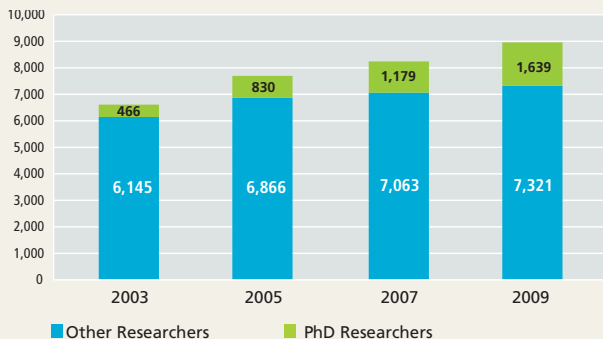


Finland	16.6	OECD	7.6
Denmark	12.3	Estonia	7.2
Sweden	10.4	Spain	7.0
Norway	10.2	EU-27	6.8
Portugal	9.1	Luxembourg	6.8
Austria	8.5	Slovak Republic	6.1
Belgium	8.4	Czech Republic	5.5
Germany	7.7	Netherlands	5.4
Slovenia	7.7	Hungary	5.0
United Kingdom	7.6	Italy	4.1
Ireland	7.6		

*2009 Figures (except OECD 2007 and UK 2010).

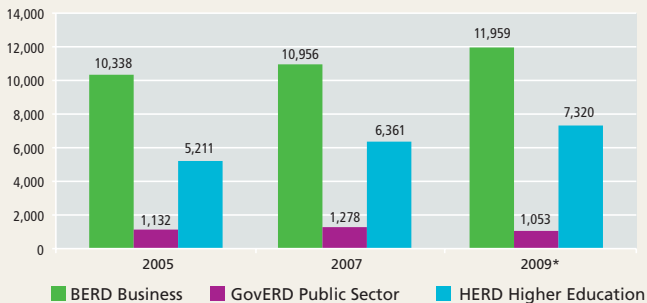
Sources: Forfás, Derived from Business Expenditure on R&D 2009/10; Forfás, The Higher Education R&D Survey 2008; Forfás R&D Funding and Performance in the State Sector 2009/2010; OECD, Main Science and Technology Indicators Database, Volume 2010/2, February 2011.

7.3 Headcount of PhD and Other Researchers in the Business Sector, 2003-2009

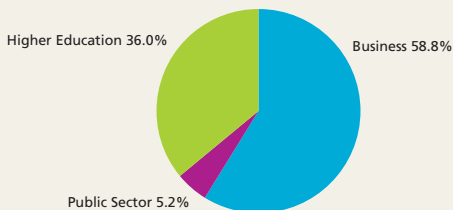


Source: CSO/Forfás, *Business Expenditure on R&D 2009/2010*.

7.4 (i) FTE²⁴ Research Personnel (Researchers plus Support Staff) by Sector of Employment, 2005, 2007, 2009*

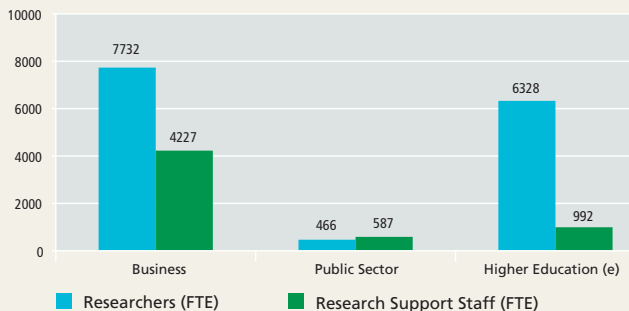


7.4 (ii) FTE²⁴ Research Personnel (Researchers plus Support Staff) by Sector of Employment - Share of Total, 2009



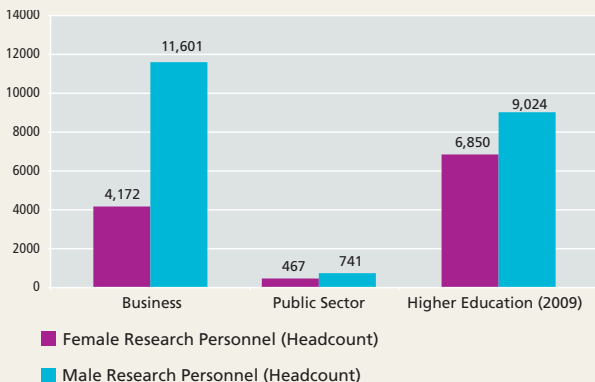
Sources: CSO/Forfás, *Derived from Business Expenditure on R&D 2009/2010*; Forfás, *The Higher Education R&D Survey 2008*; Forfás, *R&D Funding and Performance in the State Sector 2009/2010*.

7.4 (iii) FTE²⁴ Research Personnel (Researchers plus Support Staff) by Sector and Category of Employment - 2009



Sources: CSO/Forfás, *Derived from Business Expenditure on R&D 2009/2010*; Forfás, *The Higher Education R&D Survey 2008*; Forfás, *R&D Funding and Performance in the State Sector 2009/2010*.

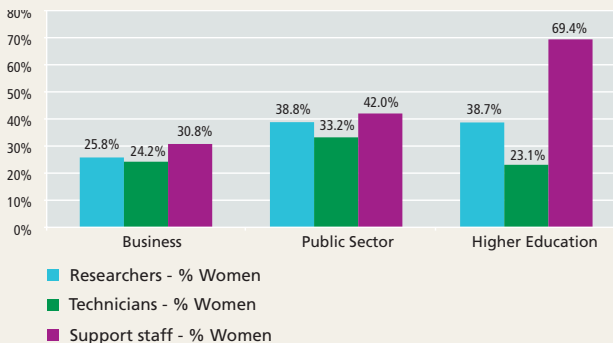
7.5 (i) Total Headcount Research Personnel (Researchers plus Support Staff) by Sector and Gender - 2009



	Female Headcount	Male Headcount	Total
Business	4,172	11,601	15,773
Public Sector	467	741	1,208
Higher Education	6,850	9,024	15,874

Sources: CSO/Forfás, *Derived from the Survey of R&D in the Business Sector, 2009/10*; Forfás, *Survey of R&D in the Higher Education Sector, 2008*; Forfás, *R&D Funding and Performance in the State Sector 2009/2010*.

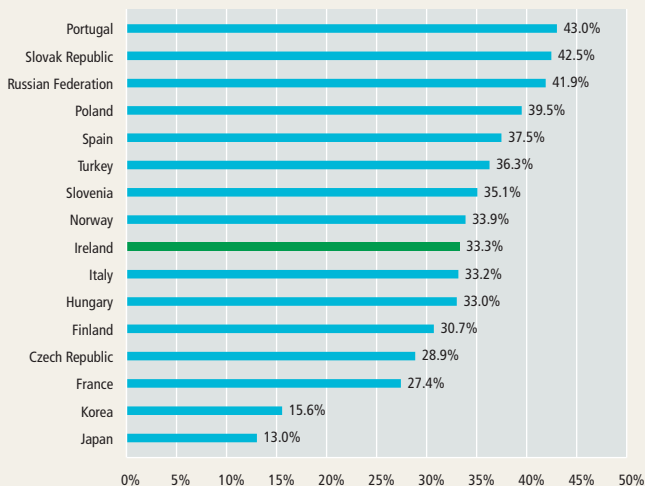
7.5 (ii) Percentage of Total Female Headcount Research Personnel (Researchers plus Support Staff) by Sector of Performance and Occupation, 2009*



*Estimate

Sources: CSO/Forfás, *Derived from Business Expenditure on R&D 2009/2010*; Forfás, *The Higher Education R&D Survey 2008*; Forfás, *R&D Funding and Performance in the State Sector, 2009/2010*.

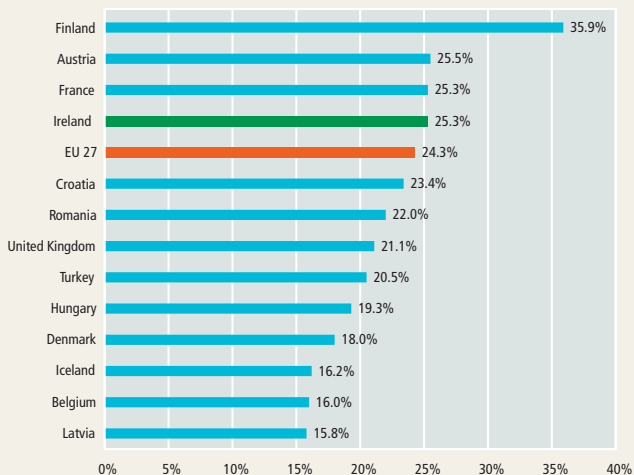
7.5 (iii) International Comparison of Women Researchers as a Percentage of Total Researchers (Headcount)*



* 2008 Figures (except for Czech Republic, Turkey, Russian Federation, Slovak Republic and Ireland – 2009 figures).

Source: OECD, Main Science and Technology Indicators Database, Volume 2010/2, February 2011.

7.6 Science and Engineering* Tertiary Students as a Percentage of all Tertiary Students, EU-27 and Selected Countries, 2008



* Science & Engineering = Science, Mathematics, Computing, Engineering, Manufacturing and Construction.

Source: Eurostat; Science, Technology and Innovation in Europe, 2011.

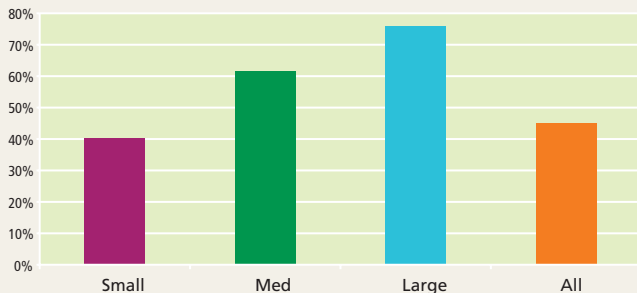
Section 8

Innovation Statistics

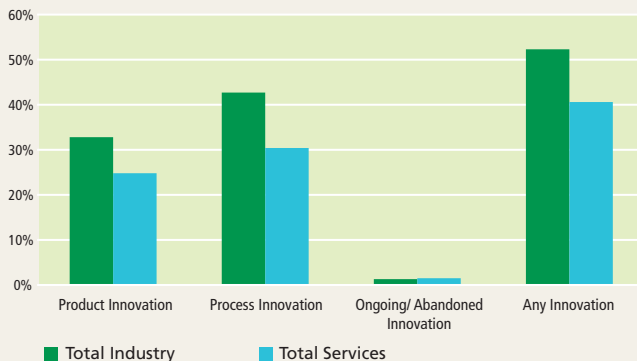
- 8.1 (i) Innovation Activity Rate by Size of Enterprise, 2006-2008
- (ii) Innovation Types by Sector and Size, 2006-2008
- 8.2 Sectoral Innovation Activity Rates, 2006-2008
- 8.3 (i) Percentage of Total Turnover Attributed to Product Innovation Activities, 2006-2008
- (ii) Innovation Hampering Factors as a Percentage of Total, 2006-2008

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8.1 (i) Innovation²⁵ Activity Rate by Size of Enterprise, 2006-2008

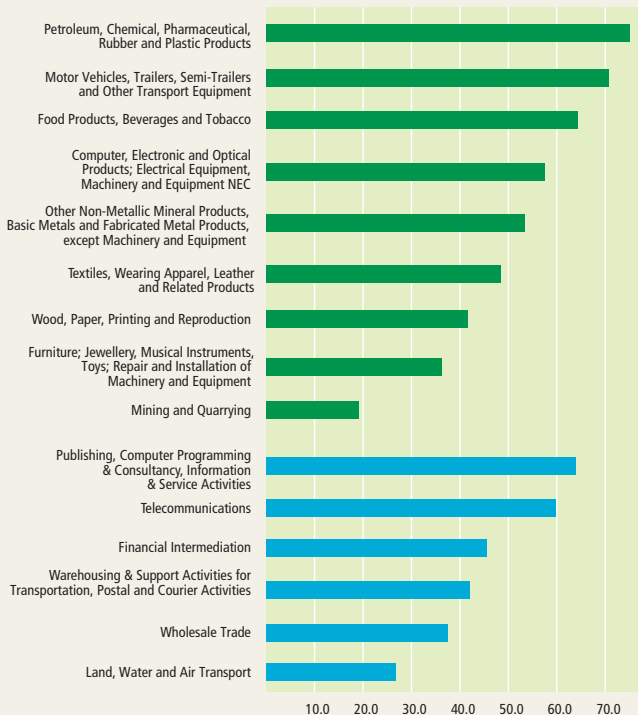


8.1 (ii) Innovation²⁵ Types by Sector and Size, 2006-2008



Source: CSO/Forfás, Community Innovation Survey 2006-2008.

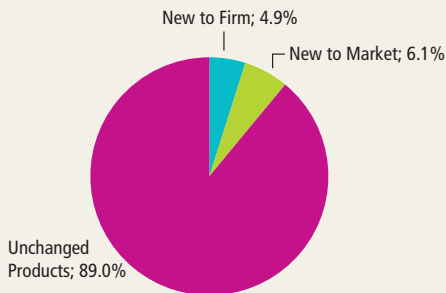
8.2 Sectoral Innovation²⁵ Activity Rates 2006-2008



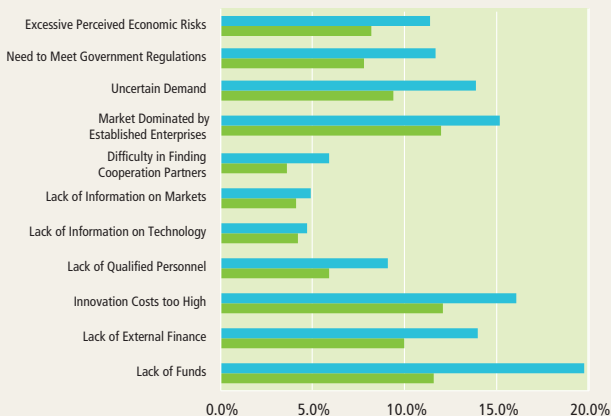
Source: CSO/Forfás, Community Innovation Survey 2006-2008.

SECTION 8

8.3 (i) Percentage of Total Turnover Attributed to Product Innovation²⁵ Activities, 2006-2008



8.3 (ii) Innovation²⁵ Hampering Factors as a Percentage of Total, 2006-2008



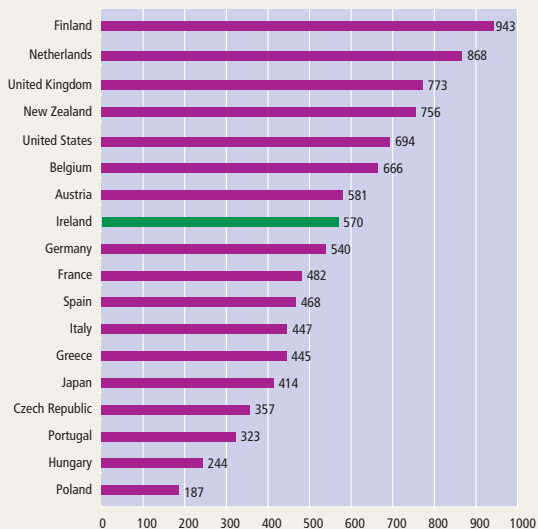
Source: CSO/Forfás, Community Innovation Survey 2006-2008.

Section 9

Other Science and Technology Indicators

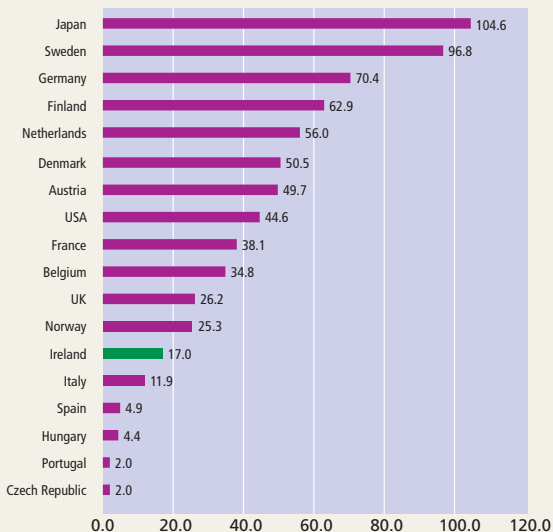
- 9.1 Science and Engineering Scientific Articles per Million Population, 2007
- 9.2 (i) Triadic Patent Families Per Million Population, 2009
 - (ii) European Patent Applications per Million Population, Filed with EPO, 2010

9.1 Science and Engineering Scientific Articles per Million Population, 2007



Sources: US National Science Board, *Science and Engineering Indicators 2010*.

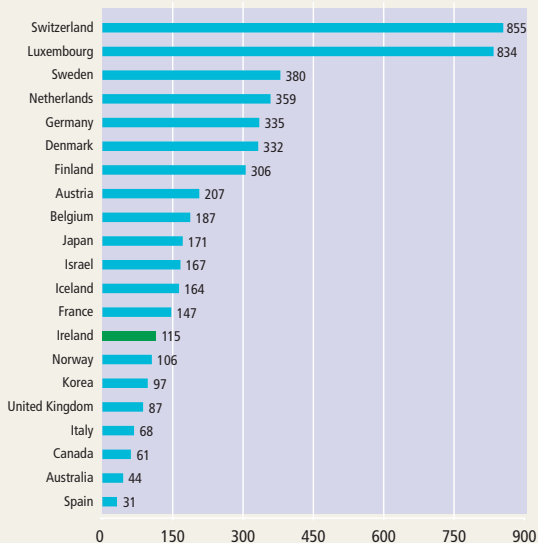
9.2 (i) Triadic Patent Families²⁶ Per Million Population, 2009*



* 2009 Estimate Based on National Sources.

Source: OECD, Main Science and Technology Indicators Database, Volume 2010/2, February 2011.

9.2 (ii) European Patent Applications per Million Population, Filed with the EPO, 2010



Source: European Patent Office; OECD, Main Science and Technology Indicators Database, Volume 2010/2, February 2011.

END NOTES

- 1 Constant prices use price indices to adjust for inflation.
- 2 The 'modern' sector includes: chemicals and chemical products; basic pharmaceutical products and preparations; computers, electronic and optical products; electrical equipment; reproduction of recorded media and medical and dental instruments and supplies.
- 3 CSO defines 'gross value added' as follows: *Gross Value Added* is the production value (i.e. total turnover adjusted for changes in stocks and own-account capital assets) less *intermediate consumption* (i.e. total purchases adjusted for changes in stocks of materials and fuels).
- 4 Results are for industrial enterprises with 3 or more persons engaged (number of full-time and part-time employees, proprietors and family workers as well as outside piece-workers).
- 5 Value added is defined as total sales minus all purchases of raw materials and services
- 6 Economy expenditure is defined as expenditure in the Irish economy on payroll costs, Irish-produced raw materials and Irish services.
- 7 Agency-assisted companies are companies within the client base of Enterprise Ireland, IDA Ireland, Shannon Development and Údarás na Gaeltachta.
- 8 Compound Annual Growth Rate (CAGR) is the year-on-year growth rate of a variable over a period of time. It is calculated using the following formula: $GAGR = (V_1/V_0) * (1/(T_1 - T_0)) - 1$, where V_1 = value at time 1 (T_1), V_0 = value at time 0 (T_0).

- 9 From the start of 2000 new international financial service projects are no longer subject to the earlier certification and licensing procedures in operation for location in the IFSC and such projects can, therefore, locate anywhere in Ireland. Additions to existing IFSC projects, however, are still subject to the formal procedures (CSO Balance of Payments). The activities of all international financial service enterprises are covered under the IFSC heading. The IFSC includes a range of internationally traded financial services, including banking, asset financing, fund management, corporate treasury management, investment management, custody and administration and specialised insurance operations.
- 10 Please note that exports of goods are measured differently to exports of services. This figure gives an indication of approximate shares of each sector to total exports.
- 11 This figure contains data on the countries with the highest shares of total exports. While 'other countries' contribute 20 per cent, when broken down further, the level of exports to the individual countries is lower than the other countries highlighted in the table.
- 12 Using export price index, 1990 prices.
- 13 Using export price index, 1990 prices.
- 14 SITC is the Standard International Trade Classification. It is used to classify the exports and imports of goods of a country and it enables the direct comparison between countries and years.
- 15 NES indicates that data is not elsewhere specified.
- 16 Using import price index, 1990 prices.

- 17 ODI is defined as investment by an Irish-owned company abroad. An investment is considered 'direct investment' when a company has a lasting interest in another company. The CSO indicates that at least a 10 per cent equity ownership reflects a lasting interest of a company in another company in a different country and thus qualified as direct investment. Direct investment is calculated using equity capital, reinvested earnings and other capital. The internationally agreed definition of ODI and FDI are used by the CSO and UNCTAD and include data on both merger and acquisition investments and Greenfield investment. Other non-equity forms of investment are included in the data, for example, real estate investment.
- 18 Direct investment stock represents the balance sheet position of direct investment into and out of Ireland.
- 19 Direct investment flow represents the sum of total direct investment transactions that are recorded in one year.
- 20 Direct investment in Ireland covers the net investment by foreign companies in their affiliates located in Ireland.
- 21 Gross Expenditure on Research and Development (GERD), includes expenditure on research and development by business enterprises, higher education institutions and the government sector.
- 22 Government Budget Appropriations or Outlays on Research and Development (GBAORD) means all appropriations by central government allocated to R&D in central government budgets. Data on government R&D appropriations therefore refer to budget provisions, not to actual expenditure, i.e. GBAORD measures government support for R&D using data collected from budgets.

- 23 Government Expenditure on Research and Development (GovERD) measures research and development performed by relevant government departments and their agencies. Funding for GovERD comes from public, private and other sources but does not include R&D performed in the higher education sector.
- 24 Full Time Equivalent (FTE) seeks to ascertain the amount of time spent by staff on R&D activities. A researcher spending 70% of their time on research activities equals one researcher in headcount terms and 0.7 researchers in full-time equivalent terms.
- 25 An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organisational method in business practices, workplace organisation or external relations.
- 26 A member of the triadic patent family is established when the patent is filed at the European Patent Office and the Japanese Patent Office and is granted by the United States Patent Office (USPTO)

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