

Regional Breakdown of the UK Innovation Survey 2001

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Introduction

This article is intended to accompany the “UK Innovation Survey 2001” report (on the UK element of the EU-wide Community Innovation Survey) published by DTI, providing greater depth in the form of regional analyses.

Business innovation is a vital ingredient in raising the productivity, competitiveness and growth potential of modern economies. Providing the right economic conditions for, and using appropriate policy instruments to encourage innovation in the UK is a central objective for the Department of Trade and Industry (DTI). Measuring the level of innovation activity in the UK and identifying where policy might be best targeted contributes to the pursuit of that objective.

The Community Innovation Survey complements other indicators of innovativeness by providing a regular snapshot of innovation inputs and outputs and the constraints faced by UK businesses in their innovation efforts, across the range of UK industries and business enterprises. It has the additional benefit of providing the basis for some comparisons with other EU countries.

Innovation Activity by Region

Innovation takes place through a wide variety of business practices and a range of indicators can be used to measure its level within the enterprise or in the economy as a whole. These include the levels of effort employed (measured through resources allocated to innovation) and of achievement (the introduction of new or improved products and processes). This section reports on the types and levels of innovation activity over the three-year (1998-2000) sample period.

We define innovation activity here as whether enterprises:

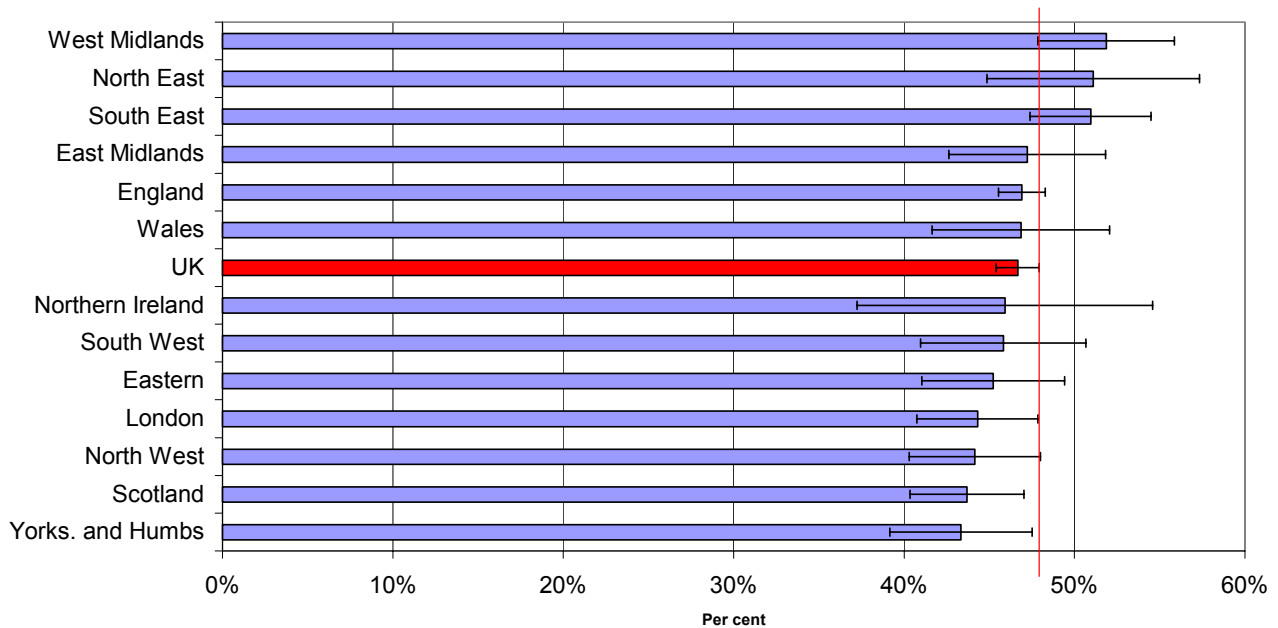
- have introduced a new or significantly improved good, service or process;
- were engaged in innovation projects not yet complete or abandoned;
- engaged in longer-term innovation activity such as basic R&D or technology watch;

- had expenditure in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities;
- formally co-operated on innovation activities with other enterprises or institutions.

Innovation Activity by Region

	Per cent of all enterprises			
	Size of enterprises			90% confidence interval
	SME	Large	All	
England	46	66	47	±1
East Midlands	47	66	47	±5
Eastern	44	71	45	±4
London	44	49	44	±4
North East	49	89	51	±6
North West	43	62	44	±4
South East	50	67	51	±4
South West	45	68	46	±5
West Midlands	51	78	52	±4
Yorkshire and the Humber	42	70	43	±4
Northern Ireland	45	76	46	±9
Wales	45	82	47	±5
Scotland	42	73	44	±3
UK	46	67	47	±1

Innovation Activity by Region with 95% Confidence Interval



Enterprises in the West Midlands had the most innovation activity, followed closely by those in the North East and South East. Enterprises in Yorkshire and the Humber,

along with London, the North West and Scotland had the lowest levels of innovation activity.

Across the whole of the UK large firms were more likely to engage in some form of innovation activity than their small and medium counterparts. This difference was by far the least in London, which had one of the lowest innovation activity rates, with large firms only 5 per cent more likely to be innovation active than SME's. The greatest difference was seen in the North East which displayed strong innovation activity.

Note however, that since this is a sample survey the results are subject to sampling errors. The table and chart above show a 95% confidence interval for innovation activity by region. Only where the confidence intervals do not overlap can we say that the results are statistically significantly different. There are then, few substantial differences between regions on this broad measure of innovation.

Innovation active is a composite measure taking into account five different factors which we shall now look at individually (these results are tabulated in Annexe A.)

- The South East leads product innovation in the UK with 22 per cent of its firms introducing a new product compared to a national average of 18 per cent and Northern Ireland trailing with 13 per cent.
- Eighteen per cent of enterprises in Wales introduced a new process compared to the national average of 15 per cent and Yorkshire and Humberside at 12 per cent.
- Firms in the South East and South West were the most likely to have co-operation agreements regarding innovation at 10 per cent compared to the UK at 8 per cent and London, the least likely area for co-operation at only 6 per cent.
- Nineteen per cent of enterprises in Northern Ireland reported innovation activities not yet completed or abandoned compared to 16 per cent per the UK and 14 per cent for the North West and Yorkshire and Humberside.
- Forty-three per of enterprises in the North East reported innovation related expenditure with the UK at 36 per cent and Northern Ireland at 32 per cent.

Innovation Activity by size, type and region of firm

Per cent of all enterprises

	Size and sector of firm								
	SME			Large			All		
	Prod. & Cons.	Dist. & Serv.	All	Prod. & Cons.	Dist. & Serv.	All	Prod. & Cons.	Dist. & Serv.	All
England	47	45	46	74	55	66	49	45	47
East Midlands	49	43	47	70	55	66	50	43	47
Eastern	42	46	44	79	58	71	44	47	45
London	47	43	44	67	44	49	47	43	44
North East	53	43	49	94	67	89	56	44	51
North West	44	43	43	65	55	62	45	43	44
South East	52	49	50	71	63	67	53	50	51
South West	47	43	45	70	63	68	48	43	46
West Midlands	50	52	51	85	60	78	52	52	52
Yorks and Humbs	46	38	42	74	59	70	47	38	43

Northern Ireland	52	37	45	77	73	76	52	37	46
Wales	45	45	45	85	57	81	48	45	47
Scotland	42	42	42	76	62	73	45	43	44
UK	47	44	46	75	55	67	48	45	47

Enterprises in production and construction sectors are more likely to be innovation active than distribution and service sector firms in all regions of the UK except the Eastern and West Midland regions.

Novel Innovation

The most potentially lucrative types of innovation are those which are not only new to the firm in question, but also new to the firms market thus giving the enterprise an advantage over its competitors.

The South East leads the way in novel product innovation along with the East Midlands, both at 10 per cent. Wales and the West Midlands build on their strong process innovation with 6 per cent of their firms introducing novel processes. Northern Ireland has the least novel innovation with only 4 per cent of firms introducing a novel product and 3 per cent introducing a novel process.

Novel product innovation by region	Size of enterprises		
	SME	Large	All
England	7	18	8
East Midlands	10	14	10
Eastern	7	25	8
London	7	11	7
North East	6	12	6
North West	5	13	6
South East	9	20	10
South West	7	17	8
West Midlands	7	28	8
Yorks and Humbs	5	21	6
Northern Ireland	3	10	4
Wales	8	24	8
Scotland	8	24	9
UK	7	18	8

Novel process innovation by region	Size of enterprises		
	SME	Large	All
England	4	12	5
East Midlands	5	7	5
Eastern	4	11	4
London	4	12	5
North East	3	8	4
North West	4	10	4
South East	4	13	5
South West	4	15	4
West Midlands	5	14	6
Yorks and Humbs	4	16	4
Northern Ireland	3	27	3
Wales	6	9	6
Scotland	5	12	5
UK	4	12	5

ANNEX A – Breakdown of innovation activity

Product Innovation by Region				Process Innovation by region			
	Size of enterprises				Size of enterprises		
	SME	Large	All		SME	Large	All
England	18	37	18	England	14	33	15
East Midlands	18	32	19	East Midlands	16	27	16
Eastern	17	42	18	Eastern	13	34	13
London	17	28	18	London	13	24	14
North East	16	37	17	North East	13	36	14
North West	15	36	16	North West	14	26	15
South East	22	39	22	South East	15	35	16
South West	19	37	20	South West	14	41	15
West Midlands	16	48	17	West Midlands	15	47	16
Yorks and Humbs	15	41	16	Yorks and Humbs	11	37	12
Northern Ireland	12	39	13	Northern Ireland	13	49	14
Wales	18	45	19	Wales	17	44	18
Scotland	16	38	17	Scotland	15	43	16
UK	17	38	18	UK	14	35	15

Co-operation agreements by region				Innovation abandoned or not yet complete by region			
	Size of enterprises				Size of enterprises		
	SME	Large	All		SME	Large	All
England	9	25	9	England	15	30	16
East Midlands	7	27	8	East Midlands	15	30	16
Eastern	8	26	9	Eastern	15	35	16
London	6	20	6	London	14	20	15
North East	6	23	7	North East	16	45	18
North West	7	19	7	North West	14	25	14
South East	9	26	10	South East	18	32	18
South West	9	28	10	South West	14	37	15
West Midlands	9	29	9	West Midlands	17	36	18
Yorks and Humbs	6	21	7	Yorks and Humbs	14	27	14
Northern Ireland	8	31	9	Northern Ireland	18	43	19
Wales	7	34	8	Wales	15	27	15
Scotland	7	23	7	Scotland	14	38	16
UK	8	24	8	UK	15	31	16

Innovation related expenditure by region			
	Size of enterprises		
	SME	Large	All
England	36	51	37
East Midlands	35	54	36
Eastern	34	52	34
London	34	36	34
North East	41	71	43
North West	35	52	35
South East	39	53	39
South West	37	53	38
West Midlands	11	54	41
Yorks and Humbs	34	54	35

Northern Ireland	32	56	32
Wales	35	70	37
Scotland	33	49	34
UK	36	51	36

ANNEX B – Methodology

The UK Innovation Survey is funded by the Department of Trade and Industry (DTI). The survey was conducted on behalf of the DTI by the Office for National Statistics (ONS), with assistance from the Northern Ireland Department of Enterprise, Trade and Investment (DETI).

The UK Innovation Survey is part of a wider Community Innovation Survey (CIS) covering the EU. The survey is based on a core questionnaire developed by the European Commission (Eurostat) and Member States. This is the third iteration of the survey – CIS 2 was carried out in 1997 and the results form part of various EU benchmarking exercises (see www.cordis.lu/innovation-smes/scoreboard/home.htm).

The UK Innovation Survey 2001 was carried out in two parts. The first sampled 13,340 enterprises and covered the whole of the UK whilst the second was an England-only top up (of 6,287 enterprises) to allow the construction of regional indicators.

The survey was voluntary and conducted by means of a postal questionnaire. A copy of the questionnaire used can be found on www.dti.gov.uk/tese/science.htm.

Coverage

The survey covered enterprises with 10 or more employees in sections C-K of the Standard Industrial Classification (SIC) 1992. All SIC production and construction divisions are included i.e. sections C (mining and quarrying), D (manufacturing), E (electricity, gas and water supply) and F (construction). In distribution and services only SIC 51 (wholesale trade except of motor vehicles) is included from section G (wholesale and retail trade; repair of motor vehicles and personal and household goods) with section H (hotels and restaurants) excluded completely. Sections I (transport, storage and communication), J (financial intermediation) and K (real estate, renting and business activities) are included in their entirety.

Sampling

The first sample was drawn from the ONS Inter-Departmental Business Register (IDBR) on 16 March 2001 with the top up following on 30 October. The unit of analysis was the enterprise – for larger firms this is usually a business unit (which must be a legal entity and have a certain degree of autonomy), for smaller firms it is often the whole company.

The survey was stratified by Government Office Region in England, and by Scotland, Wales and Northern Ireland. Each of these regions contained 12 industry SIC groupings and 5 employment sizebands. The sample was drawn using optimal allocation (based on the proportion of innovators from CIS 2) with a minimum cell

size (which varied by the population in each region). Almost 16 per cent of the targeted 126,775 enterprises in the population were sampled.

Response and weighting

The questionnaires from the initial survey were distributed on 2 April 2001. Enterprises not responding received written reminders in mid-May and mid-June with the second reminder also including a copy of the questionnaire. Finally, around 1,000 non-responding enterprises were contacted by telephone in an effort to further boost response rates.

The top up survey was distributed on 9 November with only one reminder sent. The data collection was closed at the end of February.

Of the 19,602 enterprises selected, 8,172 valid responses were received (along with a small number of returned questionnaires from enterprises which had ceased trading) to give a response rate of 42 per cent. The population and achieved sample are summarised below.

Summary of Sample Frame

	Population			Achieved sample		
	SME or larger firm SME	Large	Group Total All	SME or larger firm SME	Large	Group Total All
England	106050	4258	110308	5624	1202	6826
East Midlands	9,587	365	9,952	579	120	699
Eastern	12,044	400	12,444	632	118	750
London	18,044	760	18,804	778	196	974
North East	3,657	189	3,846	386	58	444
North West	13,263	550	13,813	691	150	841
South East	17,512	702	18,214	805	207	1,012
South West	9,307	352	9,659	509	112	621
West Midlands	12,363	502	12,865	636	96	732
Yorks and Humbs	10,272	438	10,710	608	145	753
Northern Ireland	3,787	103	3,890	137	25	162
Wales	3,990	205	4,195	322	57	379
Scotland	7,985	397	8,382	701	104	805
UK	121,812	4,963	126,775	6,784	1,388	8,172

The results in this article are based on weighted data in order to be representative of the population of firms. The responses were weighted back to the population using the inverse sampling proportion in each stratum i.e. the weight attributed to each enterprises was the number of enterprises in the population divided by the number of responses in that stratum. On average each respondent represents 23 enterprises in the population.