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**Statistics Bulletin**

# UK Innovation Survey 2009: Northern Ireland Results

28 July 2010

Northern Ireland Statistics & Research Agency

Department of Enterprise,
Trade and Investment

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# UK INNOVATION SURVEY 2009: NORTHERN IRELAND RESULTS

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The UK Innovation Survey provides a wide range of information related to innovation activity among enterprises, and includes information on the extent of innovation activity, the impact of innovation on businesses and the barriers to innovation. Headline figures for Northern Ireland show that:

- During 2006-08, 55 per cent of NI enterprises were innovation active, compared to 57 per cent during 2004-06. The equivalent UK figure was 58 per cent, decreasing from 64 per cent during 2004-06.
- The difference between the proportions of enterprises that were product innovators in NI (17 per cent) and the UK (24 per cent) widened during 2006-08, while the proportions of process innovators (NI: 11 per cent; UK: 13 per cent) remained similar.
- A larger proportion of enterprises in the production and construction sector (63 per cent) were innovation active compared to those in the distribution and services sector (51 per cent). This gap has widened since 2004-06 (63 per cent compared to 55 per cent respectively).
- Cost factors continued to be the most common barriers to innovation among NI and UK enterprises.
- Comparisons between the 2005, 2007 and 2009 surveys are limited by differences in methodology and the type of business sectors covered. However, when similar sectors are compared, the proportions of firms in NI engaged in innovation activity during 2006-08, (62 per cent), 2004-06 (64 per cent) and 2002-04 (63 per cent) were very similar.
- Results from NI enterprises responding to the 2005, 2007 and 2009 surveys show that during 2006-08, 53 per cent of this like-for-like panel were innovation active, representing a 12 percentage points decrease compared to 2004-06. The equivalent UK decrease was 11 percentage points (to 57 per cent during 2006-08).

Northern Ireland Statistics & Research Agency

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# Executive Summary

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## INTRODUCTION

This report presents results from the Northern Ireland element of the UK Innovation Survey 2009, covering the three-year period from 2006 to 2008. The UK-level results can be found on the Department for Business, Innovation and Skills (BIS) website[1]. This is part of a wider European Community Innovation Survey (CIS) and is the sixth such survey, with the previous survey being undertaken in 2007[2]. EU-wide results will be published once national results are available.

Business innovation is a vital ingredient in raising the productivity, competitiveness and growth potential of modern economies. It is a key objective for the Department of Enterprise, Trade and Investment (DETI) to encourage NI businesses to become more innovative and to engage with potential partners in Higher and Further Education and the wider public sector.

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

The 2007 survey sampled enterprises with 10 or more employees in sections C to K plus SIC 92.11 of the Standard Industrial Classification (SIC) 2003[3]. With 1,018 of the 2,110 enterprises selected responding, the survey had a response rate of over 48 per cent. In order to be representative, the responses have been weighted back to the population and this is reflected in the results shown throughout the publication.

## INNOVATION ACTIVITY

Innovation takes place through a wide variety of business practices. The majority of the survey is concerned with innovation through new and improved products and processes and with the investments that develop and implement them. Table 1 shows the proportion of enterprises that actively innovate, broken down by the components that feed into the definition of innovation activity for this publication.

Fifty-five per cent of NI businesses were innovation active during 2006-08, compared to 58 per cent in the UK. NI's innovation rate has therefore remained relatively unchanged compared to the 2007 survey (57 per cent). However the gap between NI and the UK (2007 survey: 64 per cent) has narrowed. This may also reflect changes in the structures of the respective business populations of interest.

The difference between the proportions of enterprises that were product innovators in NI (17 per cent) and the UK (24 per cent) widened during 2006-08, while the proportions of process innovators (NI: 11 per cent; UK: 13 per cent) remained similar. Also, the proportion of UK enterprises that had some innovation-related expenditure (55 per cent) was similar to that of NI (53 per cent).

Large enterprises with 250 or more employees were more likely to engage in some sort of innovation activity, with 64 per cent innovation active, as opposed to 55 per cent of SMEs[4]. This was also true at a UK level (61 per cent among large enterprises compared to 58 per cent among SMEs).

[1] Please note that due to differences in reporting of item non-response, some UK results that are quoted in this bulletin will differ from those contained in the BIS article.

[2] The 2007 survey covers 2004-06, and the 2005 survey covers 2002-04.

[3] See section 8 for more details.

[4] SMEs are defined here as having 10-249 employees. They may be part of an enterprise group.

**Innovation by industry type**

The proportion of firms reported to be innovation active also varied considerably across industrial and commercial sectors, with 63 per cent of respondents in the production and construction sector (SIC 2003 sections C-F) being innovation active compared with 51 per cent of enterprises in the distribution and services sector (SIC 2003 sections G-K plus SIC 92.11). This represented a widening of the innovation gap between these sectors since 2004-06 (63 per cent compared to 55 per cent).

**Table 1: Innovation active enterprises: by type of activity, 2006 to 2008** Percentage of all enterprises

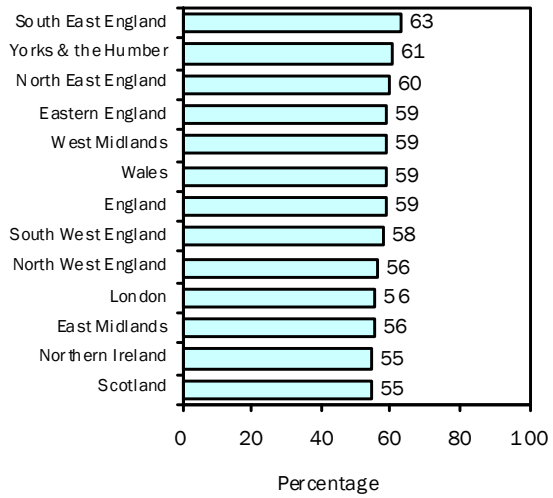
| | SIZE OF ENTERPRISE | | | | | |
|---|---|---|---|---|---|---|
| | SMEs | | Large | | All | |
| | NI % | UK % | NI % | UK % | NI % | UK % |
| **Innovation active** | **55** | **58** | **64** | **61** | **55** | **58** |
| Product innovator | 17 | 24 | 25 | 32 | 17 | 24 |
| *of which (share with new-to-market products)* | 52 | 49 | 55 | 52 | 52 | 49 |
| Process innovator | 10 | 12 | 18 | 19 | 11 | 13 |
| *of which (share with new-to-industry processes)* | 28 | 30 | 60 | 33 | 29 | 30 |
| Abandoned activities | 3 | 4 | 6 | 9 | 3 | 4 |
| Ongoing activities | 4 | 6 | 10 | 12 | 4 | 6 |
| Innovation-related expenditure | 53 | 55 | 59 | 56 | 53 | 55 |
| Both product and process innovator | 7 | 9 | 12 | 14 | 7 | 9 |
| Either product or process innovator | 20 | 27 | 31 | 36 | 21 | 27 |

**Innovation by region**

Figure 1 shows the rate of innovation activity for businesses across the countries and regions of the UK. Results for 2006-08 displayed a lower level of regional variation than did the 2007 Survey, ranging from 63 per cent in South East England to 55 per cent in Northern Ireland and Scotland.

**Figure 1: Regional innovation patterns**

Mean percentages




**COMPARISONS WITH THE 2005 AND 2007 INNOVATION SURVEYS**

Comparisons between the 2005, 2007 and 2009 surveys are limited by differences in methodology and the type of business sectors covered[5]. However, when similar sectors are compared, the proportions of firms in NI engaged in innovation activity during 2006-08 (62 per cent) 2004-06 (64 per cent) and 2002-04 (63 per cent) were very similar.

Analysis of the panel of enterprises responding to the 2005, 2007 and 2009 UK Innovation Surveys shows that (when examining a like-for-like group) the proportion of NI enterprises that were innovation active during 2006-08 has decreased by approximately 12 percentage points compared to 2004-06, to 53 per cent. The equivalent UK decrease was 11 percentage points (to 57 per cent during 2006-08).

**FACTORS IMPACTING ON INNOVATION**

Cost factors were the most common barriers to innovation among NI and UK enterprises. Indeed, 19 per cent of responding NI and UK enterprises cited 'Cost of finance' as being a highly important constraint on innovation.

NI enterprises not engaged in innovation activity were more likely to perceive a lack of knowledge and market-related factors as highly important barriers to innovation relative to innovation active enterprises. These results suggest that (similar to the 2007 survey) more businesses may be choosing not to attempt to innovate due to specific market- and knowledge-related barriers. Indeed, a larger proportion of NI enterprises with no innovation activity cited constraining factors as the reason for no activity during 2006-08 (28 per cent) compared to 2004-06 (24 per cent).

[5] See section 7 for more details.

# Innovation activity

# 2

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 achievement (the introduction of new or improved products and/or processes). This section reports on the types and levels of innovation activity over the three-year period, 2006-2008.

We define innovation activity here as whether enterprises were engaged in any of the following:

- introduction of new or significantly improved products (goods and/or services) or processes;
- innovation projects not yet complete or abandoned; or
- expenditure in areas such as internal research and development, training, acquisition of external knowledge or machinery and equipment linked to innovation activities.

**Table 2: Innovation active enterprises by type of activity, 2006 to 2008** Percentage of all enterprises

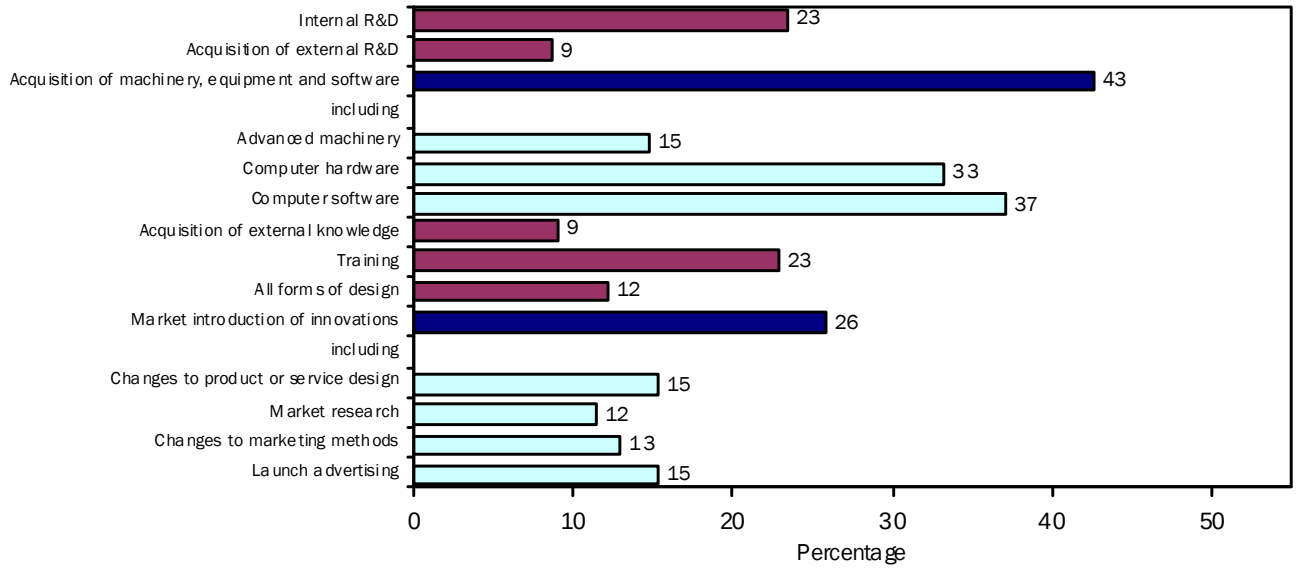
| | SIZE OF ENTERPRISE | | | | | |
|---|---|---|---|---|---|---|
| | SMEs | | Large | | All | |
| | NI % | UK % | NI % | UK % | NI % | UK % |
| **Innovation active** | **55** | **58** | **64** | **61** | **55** | **58** |
| Product innovator | 17 | 24 | 25 | 32 | 17 | 24 |
| *of which (share with new-to-market products)* | 52 | 49 | 55 | 52 | 52 | 49 |
| Process innovator | 10 | 12 | 18 | 19 | 11 | 13 |
| *of which (share with new-to-industry processes)* | 28 | 30 | 60 | 33 | 29 | 30 |
| Abandoned activities | 3 | 4 | 6 | 9 | 3 | 4 |
| Ongoing activities | 4 | 6 | 10 | 12 | 4 | 6 |
| Innovation-related expenditure | 53 | 55 | 59 | 56 | 53 | 55 |
| Both product and process innovator | 7 | 9 | 12 | 14 | 7 | 9 |
| Either product or process innovator | 20 | 27 | 31 | 36 | 21 | 27 |

Table 2 above shows that overall, 55 per cent of NI enterprises were classed as being innovation active during this period compared to 58 per cent in the UK. NI's innovation rate has therefore remained relatively unchanged compared to the 2007 survey (57 per cent), however the gap between NI and the UK (2007 survey: 64 per cent) has narrowed. Large enterprises with 250 or more employees continued to be more likely to engage in some sort of innovation activity, with 64 (2007: 73) per cent innovation active, as opposed to 55 (2007: 57) per cent of SMEs. This was also true at a UK level, with 61 (2007: 74) per cent innovation active compared to 58 (2007: 63) per cent of SMEs.

The difference between the proportions of enterprises that were product innovators in NI (17 per cent) and the UK (24 per cent) has widened since 2004-06, while the proportions of process innovators (NI: 11 per cent; UK: 13 per cent) remained similar.

Three per cent of NI enterprises (4 per cent at a UK level) had projects during the period to develop product or process innovations that had to be abandoned before the end of 2008, while 4 per cent of NI enterprises (UK: 6 per cent) had innovation projects that were ongoing at the end of 2008. Fifty-three per cent of NI and 55 per cent of UK enterprises had some innovation-related expenditure during 2006-08, showing that businesses recognise the need to allocate resources to innovation. As shown in Figure 2, the most commonly reported activities were in acquisition of computer software and hardware, followed by investment in training and internal research & development.

**Figure 2: Breakdown of activities (all enterprises)**




**INNOVATION BY INDUSTRY TYPE**

As shown in Table 3, the percentage of firms reported to be innovation active varied considerably across industrial and commercial sectors.

Sixty-three per cent of respondents in the production and construction sector were innovation active, compared with 51 per cent of enterprises in the distribution and services sector. This represented a widening of the innovation gap between these sectors since 2004-06, when the equivalent proportions were 63 and 55 per cent respectively.

Similar to NI findings, across the entire UK a larger proportion of production and construction enterprises were innovation active during 2006-08 (63 per cent) compared to distribution and services (56 per cent).

In the NI production and construction sector, 80 per cent of transport equipment enterprises were innovation active, against 51 per cent of enterprises in construction.

In the distribution and services sector, financial intermediation had the highest proportion of innovation active enterprises (75 per cent), against only 41 per cent for hotels and restaurants. This latter group was also the least innovative sector in the UK as a whole (47 per cent).

It is interesting to note that the proportion of mining and quarrying enterprises in NI that were innovation active increased by approximately 17 percentage points compared to 2004-06, from 40 per cent to 57 per cent in 2006-08.

**Table 3: Innovation activity by industry** Percentage of all enterprises

| INDUSTRY | SIZE OF ENTERPRISE | | | | | |
|---|---|---|---|---|---|---|
| | SMEs | | Large | | All | |
| | NI % | UK % | NI % | UK % | NI % | UK % |
| **Production and Construction Sector** | **62** | **63** | **77** | **71** | **63** | **63** |
| Electrical and optical equipment | D | 77 | D | 80 | 77 | 77 |
| Fuels, chemicals, plastic, metals and minerals | 74 | 70 | 91 | 71 | 74 | 70 |
| Manufacturing not elsewhere classified | D | 73 | D | 60 | 61 | 73 |
| Transport equipment | D | 61 | D | 79 | 80 | 63 |
| Food, clothing, wood, paper, publishing and printing | 75 | 67 | 63 | 76 | 75 | 68 |
| Electricity, gas and water supply | D | 50 | - | 53 | D | 51 |
| Construction | D | 51 | D | 58 | 51 | 51 |
| Mining and Quarrying | 57 | 48 | - | 60 | 57 | 50 |
| **Distribution and Services Sector** | **51** | **56** | **58** | **56** | **51** | **56** |
| Real estate, renting and business activities | 71 | 61 | 59 | 56 | 70 | 61 |
| Financial intermediation | D | 58 | D | 61 | 75 | 59 |
| Transport, storage and communication | D | 54 | D | 55 | 53 | 54 |
| Wholesale trade (including cars and bikes) | D | 56 | D | 60 | 46 | 56 |
| Retail trade (excluding cars and bikes) | 45 | 54 | 50 | 50 | 45 | 54 |
| Hotels and restaurants | 41 | 47 | 33 | 52 | 41 | 47 |
| Motion Picture and Video Production | D | D | - | D | D | 49 |
| **ALL INDUSTRIES** | **55** | **58** | **64** | **61** | **55** | **58** |

**Key**
D = disclosive figures
- = no enterprises responded in this sector/size group

# Constraints on innovation

3

Successful and evidence-based policy interventions require an understanding of the barriers to business innovation. These barriers can be internal obstacles that the enterprise encounters while carrying out innovation activities as well as external factors preventing innovation.

The survey asked about a range of constraining factors and their effect on the ability to innovate. Table 4 shows the proportion of respondents who gave a 'high' rating to each category of constraint.

Similar to results from the 2007 survey, cost factors were most commonly regarded as significant barriers to innovation among NI and UK enterprises. This was particularly true with regards to the cost of finance (NI & UK: 19 per cent) and the direct costs of innovation being too high (NI & UK: 18 per cent).

The proportions of businesses reporting each cost barrier as highly significant increased compared to the 2007 survey. This was also the case throughout the knowledge and market factors.

**Table 4: Enterprises regarding potential barriers to innovation as 'high'** Percentage of respondents

| BARRIER | | SIZE OF ENTERPRISE | | | | | |
|---|---|---|---|---|---|---|---|
| | | SMEs | | Large | | All | |
| | | NI % | UK % | NI % | UK % | NI % | UK % |
| **Cost Factors** | Cost of finance | 19 | 19 | 18 | 12 | 19 | 19 |
| | Direct innovation costs too high | 18 | 18 | 15 | 15 | 18 | 18 |
| | Excessive perceived economic risks | 18 | 17 | 10 | 13 | 18 | 17 |
| | Availability of finance | 16 | 17 | 15 | 10 | 16 | 17 |
| **Knowledge Factors** | Lack of qualified personnel | 8 | 7 | 1 | 4 | 8 | 7 |
| | Lack of information on markets | 5 | 3 | 2 | 2 | 5 | 3 |
| | Lack of information on technology | 5 | 3 | 1 | 2 | 5 | 3 |
| **Market Factors** | Market dominated by established businesses | 13 | 10 | 10 | 7 | 13 | 9 |
| | Uncertain demand for innovative goods or services | 10 | 8 | 9 | 8 | 10 | 8 |
| **Other Factors** | Need to meet UK Government regulations | 9 | 9 | 6 | 6 | 9 | 9 |
| | Need to meet EU regulations | 7 | 7 | 2 | 4 | 7 | 7 |

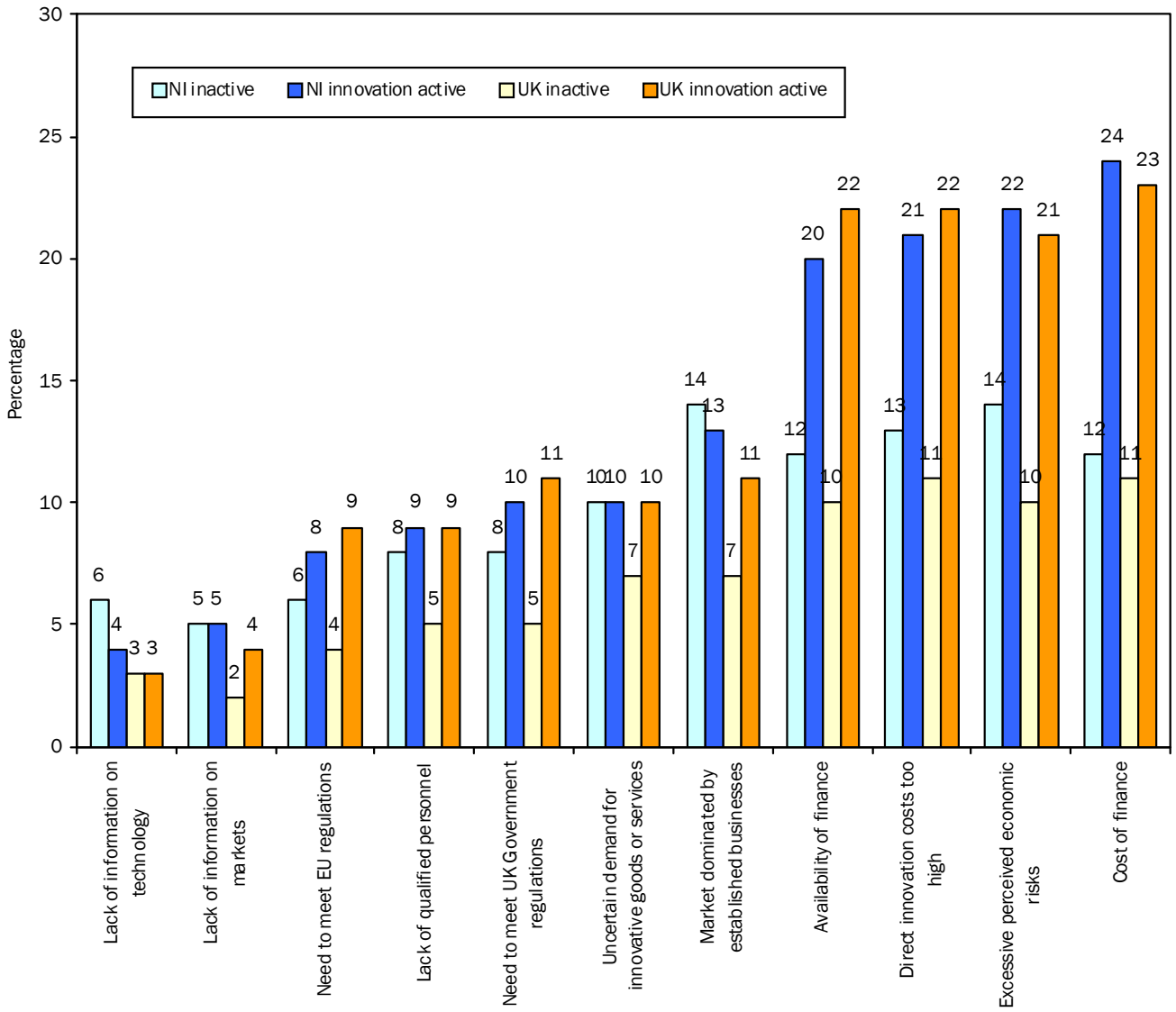
As shown in Figure 3, and similar to results from the previous two surveys, UK enterprises engaged in innovation activity were more likely to perceive barriers as being highly important compared to those who did not attempt to innovate. Similar to the 2007 survey findings, this was not always the case among NI enterprises.

Here, knowledge and market factors such as lack of information on technology and market dominated by established businesses were more likely to be perceived as highly important barriers to innovation among those who did not attempt to innovate.

While UK results again suggest that, in general, businesses 'learn' about the severity of barriers to innovation as a result of their attempts to innovate, NI results suggest that businesses may be choosing not to attempt to innovate due to specific market- and knowledge-related barriers.

**Figure 3: Perception of barriers – comparison of innovators and non-innovators rating 'high'**

Percentage of respondents




**REASONS FOR NO INNOVATION**

For the 2006-08 survey, a filter question was added to determine which further questions respondents should answer.

Businesses were asked whether they engaged in any of the following:

- introduction of new or significantly improved products (goods and/or services) or processes;
- innovation projects not yet complete or abandoned; or
- major changes to their business structure and practices (wider innovation).

If respondents answered 'yes' to any of these questions, they were included in the 'study group' analysed in Tables 5, 6 and 7. Conversely, those not answering 'yes' were analysed in Figure 4, showing reasons for no innovation activity.

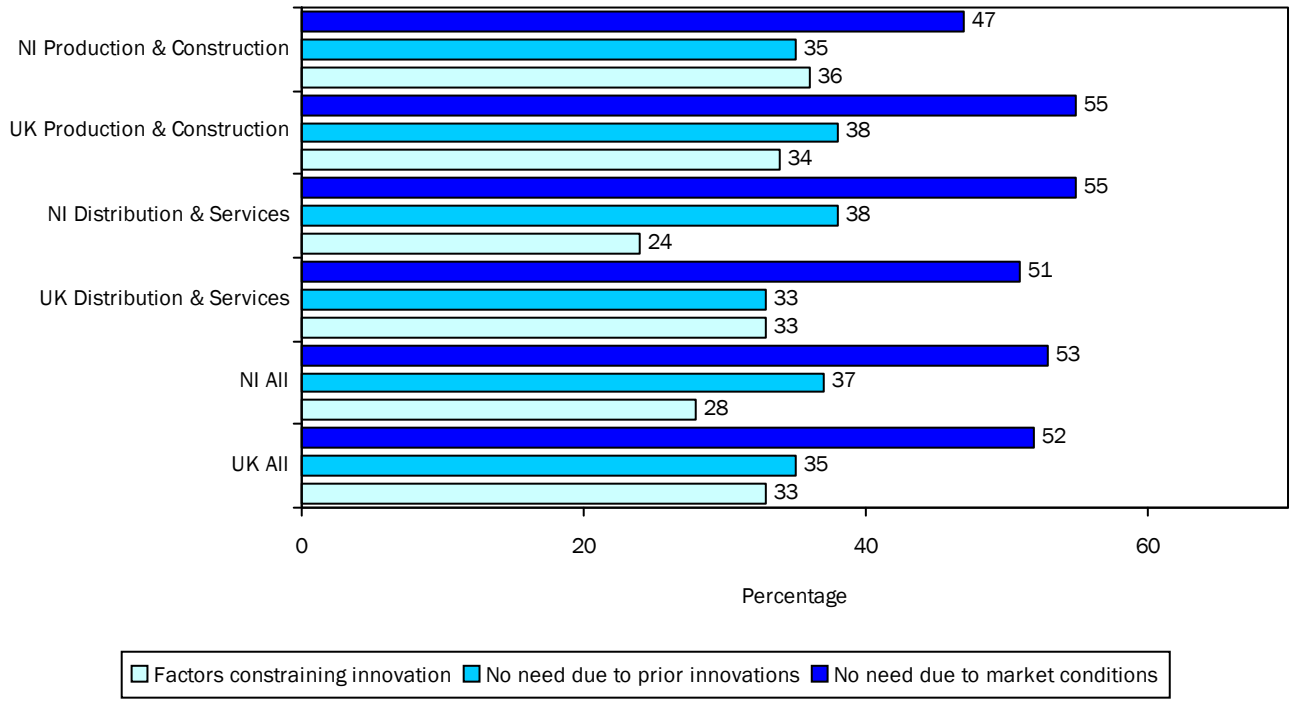
For this reason results presented in these figures and tables, and the accompanying text, are not directly comparable to results from earlier surveys. However, where applicable, results from previous surveys have been recalculated to allow for comparisons in this report.[6] Please note that in 2004-06, 37% of businesses were included in the study group, compared to 29% in 2006-08.

During 2004-06, 51 per cent of responding NI enterprises not in the study group felt they did not need to innovate due to market conditions, 29 per cent felt they did not need to innovate due to prior innovations and 24 per cent did not innovate due to constraining factors.

[6] See section 8 for more details.

As shown in Figure 4, the proportion of NI enterprises not in the study group citing constraining factors as a reason for no innovation activity (28 per cent) has increased compared to 2004-06 findings. This is also true for those choosing not to innovate due to a lack of need. Indeed, the number of NI respondents citing a lack of need for innovation due to prior innovations increased by 8 percentage points, to 37 per cent.

**Figure 4: Reason for no innovation activity (enterprises not in study group)** Percentage of respondents



# Factors driving innovation

4

Similar to CIS 5, this survey sought information about motivational factors for innovation (surveys previous to this asked about the effects of innovation). Respondents were asked to rank a number of drivers for innovating on a scale from 'no impact', through 'low' and 'medium' to 'high' impact. The proportion of innovation active respondents who answered 'high' in each category is shown in Table 5.

It is worth noting that the range of drivers included has been expanded for this survey. The 'reducing environmental impacts or improving health and safety' driver has been split in two, as has the 'entering new markets or increasing market share' option. Another driver has also been added for this survey (replacing outdated products or processes).

Similar to findings from the 2007 survey, product-related factors were more often cited than process factors at both NI and UK level. Over two thirds (70 per cent) of NI and over three fifths (63 per cent) of UK respondents rated improving the quality of goods or services as highly important, confirming a strongly customer-focused approach to innovation. Increasing the range of goods or services, entering new markets and increasing market share were also widely reported product-related drivers.

For large enterprises in NI and the UK, product related factors were again seen as the most important drivers for innovation activities. The most commonly reported driver for SMEs in NI and the UK, by some margin, was the improvement in quality of goods or services that innovation would bring.

The least cited factor in NI was replacing outdated products or processes, while in the UK reducing environmental impacts was cited least often.

**Table 5*: Enterprises rating factors driving innovation as 'high'** Percentage of study group respondents

| FACTOR | | SIZE OF ENTERPRISE | | | | | |
|---|---|---|---|---|---|---|---|
| | | SMEs | | Large | | All | |
| | | NI % | UK % | NI % | UK % | NI % | UK % |
| Product-related | Improving quality of goods or services | 70 | 62 | 71 | 63 | 70 | 63 |
| | Increasing range of goods or services | 48 | 45 | 71 | 42 | 49 | 45 |
| | Entering new markets | 38 | 35 | 51 | 32 | 38 | 35 |
| | Increasing market share | 36 | 40 | 71 | 47 | 37 | 40 |
| Process-related | Improving flexibility of production or service provision | 29 | 32 | 43 | 33 | 30 | 32 |
| | Increasing capacity for production or service provision | 31 | 29 | 53 | 27 | 32 | 29 |
| | Reducing costs per unit produced or service provided | 40 | 35 | 55 | 47 | 41 | 36 |
| Product and Process related | Replacing outdated products or processes | 26 | 26 | 43 | 29 | 27 | 27 |
| Other | Increasing value added | 42 | 44 | 59 | 49 | 42 | 44 |
| | Meeting regulatory requirements | 43 | 38 | 45 | 43 | 43 | 38 |
| | Reducing environmental impacts | 31 | 22 | 27 | 28 | 31 | 22 |
| | Improving health and safety | 35 | 28 | 39 | 35 | 35 | 28 |

* Please note, Table 5 results are not comparable with previous surveys. Please refer to section 3 for details.

# Sources of information and co-operation for innovation

5

Introducing innovation is an increasingly complex process, requiring the co-ordination of multiple inputs. It is therefore important to know how far enterprises engage with external sources of technology and other innovation-related knowledge and information. Businesses can gain guidance, advice or even inspiration for their prospective innovation projects from a variety of both public and private sources.

Respondents were asked to rank a number of potential information sources on a scale from 'no relationship' to 'high importance'. The proportion which answered 'high' in each category is shown in Table 6. These sources are:

- **Internal**: from within the enterprise itself or from other enterprises within the enterprise group;
- **Market**: from suppliers, customers, clients, consultants, competitors, other businesses, commercial laboratories or private research and development institutes;
- **Institutional**: from the public sector such as government research organisations and universities; or
- **Other**: from conferences, trade fairs, exhibitions, scientific journals, trade/technical publications, professional or industry associations or technical, industry or service standards.

SMEs and large enterprises in NI and the UK reported internal and market sources as most important for information on innovation. This suggests that enterprises tend to rely on their own experience and knowledge coupled with information from suppliers, customers and clients.

In fact, the importance of most of the market sources of information, plus the internal sources of information, increased compared with the 2007 survey for both NI and the UK. In NI, 61 per cent of respondents felt that clients or customers were a highly important source of information during 2006-08, compared to 47 per cent during 2004-06. The equivalent UK figure was 56 per cent, compared to 47 per cent during 2004-06.

The institutional sources were considered to be of lowest importance among NI and UK enterprises.

**Table 6*: Enterprises rating information sources as of 'high' importance** Percentage of study group respondents

| INFORMATION SOURCE | | SIZE OF ENTERPRISE | | | | | |
|---|---|---|---|---|---|---|---|
| | | SMEs | | Large | | All | |
| | | NI % | UK % | NI % | UK % | NI % | UK % |
| **Internal** | Within the business or within the enterprise group | 58 | 51 | 61 | 62 | 58 | 51 |
| **Market** | Clients or customers | 61 | 56 | 57 | 63 | 61 | 56 |
| | Suppliers of equipment, materials, services or software | 37 | 29 | 43 | 28 | 37 | 29 |
| | Competitors or other businesses in the industry | 28 | 23 | 27 | 25 | 28 | 23 |
| | Consultants, commercial laboratories or private research & development institutes | 9 | 6 | 4 | 8 | 9 | 6 |
| **Institutional** | Universities or other higher education institutions | 3 | 4 | 10 | 3 | 3 | 4 |
| | Government or public research institutes | 2 | 4 | 18 | 5 | 2 | 4 |
| **Other** | Technical, industry or service standards | 10 | 14 | 29 | 17 | 11 | 14 |
| | Conferences, trade fairs or exhibitions | 9 | 9 | 14 | 6 | 10 | 9 |
| | Professional and industry associations | 4 | 12 | 16 | 11 | 4 | 12 |
| | Scientific journals and trade/technical publications | 2 | 5 | 6 | 5 | 3 | 5 |

* Please note, Table 6 results are not comparable with previous surveys. Please refer to section 3 for details.

## INNOVATION CO-OPERATION

Fifty one per cent of the study group reported co-operation arrangements compared to 15% in 2004-06.

Among collaborators in the study group, 69 per cent had agreements that operated at a local/regional level, which was 15 percentage points higher than in the UK. UK enterprises were more likely to co-operate on a UK level (64 per cent compared to 48 per cent among NI enterprises with co-operation arrangements).

As shown in Table 7, the most frequent partners for co-operation among NI (and UK) study group enterprises were clients or customers (74 per cent of NI and 76 per cent of UK enterprises) followed by suppliers (65 per cent of NI and 66 per cent of UK enterprises). The least likely co-operation arrangement in NI and the UK was with government or public research institutes.

The percentage of study group enterprises in NI which reported co-operation activity remained relatively unchanged for each geographical area. The exception to this was co-operation arrangements in Europe, which declined by 15 percentage points, from 43 per cent during 2004-06. This trend was repeated for the UK as a whole, where the decline was 11 percentage points, from 34 per cent in 2004-06.

**Table 7*: Co-operation partners** Percentage of collaborative study group enterprises

| TYPE OF PARTNER | GEOGRAPHY OF CO-OPERATION | | | | |
|---|---|---|---|---|---|
| | Local/Regional within the UK[7] % | UK % | Other Europe % | All other countries % | Any % |
| Clients or customers | 49 | 19 | 14 | 13 | 74 |
| Suppliers of equipment, materials, services or software | 33 | 27 | 14 | 12 | 65 |
| Other businesses within the enterprise group | 22 | 17 | 11 | 13 | 49 |
| Consultants, commercial labs or private R&D institutes | 16 | 11 | 3 | 7 | 33 |
| Competitors or other businesses within the industry | 16 | 7 | 5 | 5 | 28 |
| Universities or other higher education institutions | 14 | 3 | 2 | 7 | 23 |
| Government or public research institutes | 13 | 3 | 1 | 6 | 22 |
| Any | 69 | 48 | 28 | 21 | 100 |

* Please note, Table 7 results are not comparable with previous surveys. Please refer to section 3 for details.

[7] Within approximately 100 miles of the enterprise.

# Wider forms of innovation

6

Innovation is not wholly about the development or use of technology or other forms of product or process change. Enterprises can also change their behaviour or business strategies to make themselves more competitive, often in conjunction with product or process innovation, but also as an independent means of improving competitiveness. Please note that wider innovation does not contribute to the overall NI innovation active rate.

Enterprises were asked whether they had made major changes to their business structure and practices in the three-year period 2006 to 2008. Headline results are summarised in Table 8.

As might be expected, a noticeably greater proportion of large firms engaged in one or more of these changes (NI: 30 per cent of large enterprises compared to 20 percent of SMEs; UK: 50 per cent of large enterprises compared to 30 per cent of SMEs).

The 2007 survey showed that 29 per cent of NI SMEs engaged in one or more forms of wider innovation during 2004-06, compared to 20 per cent during 2006-08. A similar decrease was reported among all enterprises.

The spread of percentages of wider innovation activities among NI enterprises has decreased from 7 per cent during 2004-06 to 3 per cent during 2006-08, meaning that similar numbers of NI enterprises are implementing each wider innovation activity.

**Table 8: Enterprises that introduced wider forms of innovation** Percentage of respondents

| | SIZE OF ENTERPRISE | | | | | |
|---|---|---|---|---|---|---|
| | SMEs | | Large | | All | |
| | NI % | UK % | NI % | UK % | NI % | UK % |
| **Wider innovator (any of changes below)** | **20** | **30** | **30** | **50** | **20** | **31** |
| Major changes to organisation structure | 11 | 19 | 16 | 35 | 11 | 19 |
| New or significantly changed corporate strategy | 9 | 14 | 17 | 25 | 9 | 14 |
| Changes to marketing concepts or strategies | 10 | 18 | 17 | 24 | 10 | 18 |
| New management techniques | 8 | 11 | 18 | 25 | 8 | 12 |

# Regional variation and historical changes

7

Figure 5 shows the rate of innovation activity for businesses across the countries and regions of the UK. Results for 2006-08 displayed less regional variation than did the 2007 Survey, ranging from 63 per cent in South East England to 55 per cent in Northern Ireland and Scotland.

**Figure 5: Regional innovation patterns**


**COMPARISONS WITH THE 2005 AND 2007 INNOVATION SURVEYS**

Figure 6 compares headline statistics from the 2005 UK Innovation Survey (referencing 2002-04), the 2007 survey (referencing 2004-06), and the 2009 survey (referencing 2006-08), and limits analysis to those industry sectors common to all three surveys[8]. **Due to these restrictions, results included in Figure 6 are not comparable with any other results in this report.**

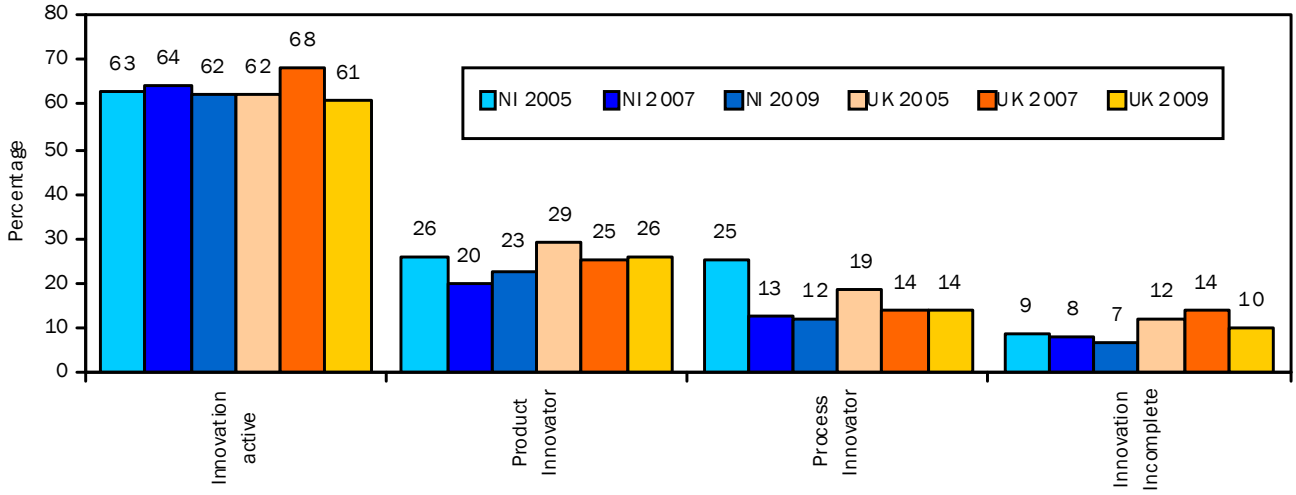
Using this more restricted but comparable sector coverage, the proportion of innovation active enterprises in the 2009 survey was around 62 per cent (61 per cent among UK enterprises).

When innovation activity is examined by its component parts, the proportion of enterprises reporting product innovations has increased in the 2009 survey (compared to the 2007 survey), while both process and incomplete innovations have decreased. As a result, the proportions of businesses engaged in at least one innovation-related activity decreased slightly in the 2009 survey to 60 per cent, compared to 62 per cent in 2004-06.

[8] Sectors covered in all three surveys were SIC 10-14, 15-37, 40-41, 45, 51, 60-64, 65-67 and 70-74. Other differences between the surveys, such as in the sample design, definitions, and weighting methodology, are not accounted for.

**Figure 6: Comparisons of 2005, 2007 and 2009 Innovation Surveys: proportions of innovating enterprises across common industry sectors**

Percentages



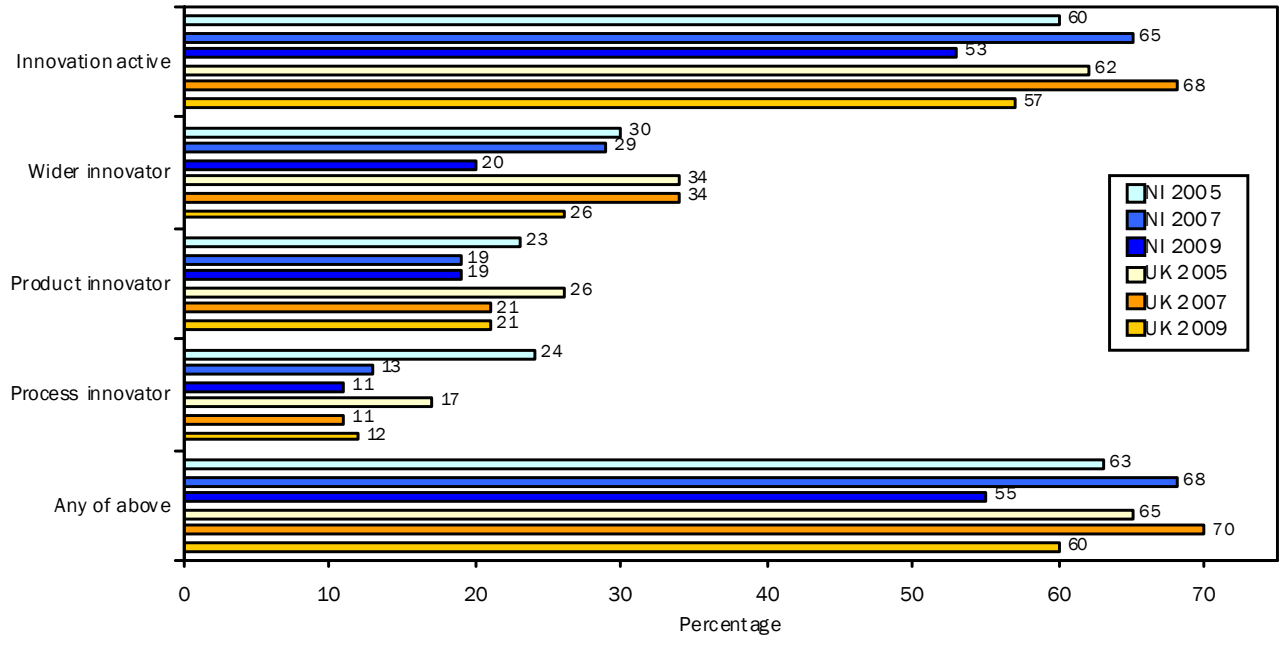

## COMPARISONS WITH THE 2005 AND 2007 UK INNOVATION SURVEY PANELS

As a substantial number of NI enterprises have responded to all three of the 2005, 2007 and 2009 surveys, it is possible to examine how innovation activity among this like-for-like group has changed over time. **As Figure 7 is based on enterprises responding to the 2005, 2007 and 2009 surveys only, results included here are not comparable with any other results in this report.**

As shown in Figure 7, the proportion of NI enterprises that were innovation active during 2006-08 has decreased by 12 percentage points compared to 2004-06 (while the UK experienced an 11 per cent decrease). When examined separately, the proportions of enterprises reporting product, process and wider innovation activity in the 2009 survey were similar or reduced compared to the 2007 survey. The proportion of NI businesses engaged in at least one innovation-related activity decreased by 13 percentage points, to 55 per cent during 2006-08.

**Figure 7: UK Innovation Survey panel**

Percentages



# Background Notes for Innovation Survey 2009

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**METHODOLOGY**

The UK Innovation Survey is part of a wider Community Innovation Survey (CIS) covering European countries. The survey is based on a core questionnaire developed by the European Commission (Eurostat) and Member States. This is the sixth iteration of the survey (CIS 6) – CIS 5, covering the period 2004 to 2006, was carried out in 2007 and the results form part of various EU benchmarking exercises (see http://ec.europa.eu/enterprise/innovation/index_en.htm#3).

The UK Innovation Survey 2009 surveyed over 2,000 enterprises in NI. The survey was voluntary and conducted by means of a postal questionnaire.

**COVERAGE AND SAMPLING**

The 2009 survey sampled enterprises with ten or more employees in sections C to K of the Standard Industrial Classification (SIC) 2003, and included group SIC 92.11 which was excluded from the 2005, and earlier, surveys. The groups included are as follows:

*Production and Construction Sector*
SIC 10-14 - Mining and Quarrying
SIC 15-22 - Food, clothing, wood, paper, publishing and printing
SIC 23-29 - Fuels, chemicals, plastic, metals and minerals
SIC 30-33 - Electrical and optical equipment
SIC 34-35 - Transport equipment
SIC 36-37 - Manufacturing not elsewhere classified
SIC 40-41 - Electricity, gas and water supply
SIC 45 - Construction

*Distribution and Services Sector*
SIC 50-51 - Wholesale trade (including cars and bikes)
SIC 52 - Retail trade (excluding cars and bikes)
SIC 55 - Hotels and restaurants
SIC 60-64 - Transport, storage and communication
SIC 65-67 - Financial intermediation
SIC 70-74 - Real estate, renting and business activities
SIC 92.11 – Motion Picture and Video Production

The sample was drawn from the ONS Inter-Departmental Business Register in January 2009.

The methodology, sample details and first UK-level findings from CIS 6 can be found on the UK Statistics Authority website at: http://www.statistics.gov.uk/elmr/03_10/downloads/ELMR_Mar10.pdf (see pages 28-35).

To be consistent with the previous NI approach to CIS analysis, DETI has, where appropriate, reported on respondents only (i.e. excluding item non-response). This has resulted in some differences in reporting between DETI and BIS where the latter included item non-response values for some variables in their analyses. Where differences do exist, UK results are presented in this publication consistent with the NI approach. However, these differences in methodology do not impact on the headline innovation activity measure.

Businesses were asked whether they engaged in any of the following:

- introduction of new or significantly improved products (goods and/or services) or processes;
- innovation projects not yet complete or abandoned; or
- major changes to their business structure and practices (wider innovation).

If a respondent answered yes to any of these questions then, for the purposes of this report, they form part of a 'study group'. Their results are then included or excluded from the analysis of further questions as appropriate.

## RESPONSE AND WEIGHTING

The questionnaires from the initial survey were distributed on 31 March 2009. 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 900 non-responding enterprises were contacted by telephone in an effort to further boost response rates.

Of the 2,110 enterprises selected, 1,018 valid responses were received, to give a response rate of over 48 per cent. The population and achieved sample are summarised in Table 9 below.

The results in this report are based on weighted data in order to be representative of the population of businesses. The responses were weighted back to the population using the inverse sampling proportion in each stratum, that is, the weight attributed to each enterprise was the number of enterprises in the population divided by the number of responses in that stratum.

Please note that as with all sample surveys, the estimates provided in this publication are subject to an associated degree of sampling error.

**Table 9: Summary of sample frame**

Number of enterprises

| ENTIRE NI POPULATION | | | RETURNED SAMPLE | | |
|---|---|---|---|---|---|
| SMEs | Large | All | SMEs | Large | All |
| 6,636 | 153 | 6,789 | 944 | 74 | 1,018 |

## FURTHER INFORMATION

Further information is available on request from:

**Department of Enterprise, Trade & Investment**
**Statistics Research Branch**
**Room 110**
**Netherleigh**
**Massey Avenue**
**Belfast BT4 2JP**

**Telephone: (028) 9052 9385 or 9052 9897**
**Fax: (028) 9052 9459**
**Textphone: (028) 9052 9304**
**E-mail: mark.mcfetridge@detini.gov.uk**
**Website: www.statistics.detini.gov.uk**