CBR SME Benchmarking Survey for Northern Ireland

By

Andy Cosh
Anna Bullock
Alan Hughes
Isobel Milner

(with support from Luke Cosh)

Centre for Business Research
University of Cambridge

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Centre for Business Research University of Cambridge
The Judge Institute of Management Studies Trumpington Street Cambridge CB2 1AG
Tel: 01223 765327 Fax: 01223 765338 Email: surveys@cbr.cam.ac.uk
Website: www.cbr.cam.ac.uk

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CONTENTS

0 Executive Summary

1. Overview

1.1 This report is based on a survey of SMEs in Northern Ireland carried out by the Centre for Business Research at Cambridge University on behalf of Invest NI. The sampling frame totalled 4,751 firms. A response rate of one-fifth was achieved, yielding an achieved sample of 853 firms. In this report we compare the characteristics of this sample with a sample of SMEs who responded to the CBR 2002 survey. These are referred as the GB sample firms throughout this report. The Northern Ireland sample is referred to throughout as the NI sample.

1.2 In both surveys a size stratified sample design was followed. Where comparisons are provided they use the size classifications adopted in both these studies, where micro denotes an independent firm employing between 0 and 9 employees, small denotes a firm employing between 10-99 employees, and medium denotes a firm employing between 100 and 499 employees. Full details of the sample design and survey process are contained in Appendix 1 of the report.

2. The Sample and its Size, Sector and Age Characteristics

2.1 The NI sample consists of 853 independent business employing less than 500 employees in 2004. Of these businesses 57% are in manufacturing and 43% in business services. Of the manufacturing businesses 47% employ less than 10 people, and around 4% employ between 100 and 499 staff, with the remainder falling into the 10-99 category. In services 72% employ less than 10 people, 26% employ between 10 and 99 staff and only 2% employ more than 100. Over 50% of the sample businesses were formed in or after 1990.

3. Business Growth

3.1 In the period 2001-2004 around 49% of the sample experienced no employee growth or decline, whilst 8% grew by over 50% in these terms. This growth distribution is very similar to that in GB except that the percentage of fastest growers is somewhat higher in the NI sample.

4. Exports

4.1 In 2004 57% of the NI sample firms exported, compared to 51% in 2001, whilst the exports to sales ratio of those firms was 22% in both years. Firms, which were formed after 1990, were in manufacturing, or were innovators, or had fast to medium growth were more likely to export and have higher export to sales ratios.

4.2 In comparison with GB sample firms the NI sample of micro firms is more likely to export, and the export to sales ratio is higher across all size classes.

5. Business Foundation and Leadership

5.1 Over 70% of the NI sample of manufacturing firms and 66% of the business service firms are new start-ups. Spin-offs from an existing business are the next most frequent form of foundation at 17% and 19% respectively. Spin-offs are more common amongst the firms founded since 1990. This pattern is similar to that in GB.

5.2 The dominant motive in founding a firm in the sample is the desire to run your own business, which was cited by 70% of respondents. This is the same as in GB. Business formation as a response to the threat of unemployment, at 15%, was somewhat lower than the GB figure of 21%.

5.3 The average business leader in NI firms is in his or her later forties, has spent 13 years with the business and 10 as CEO. Each of these is somewhat less than in GB.

5.4 Around 9% of business leaders are female and they are more frequently to be found in services, slower growing, and newer firms.

6. Planning and e-business Involvement

6.1 Over forty per cent of the NI sample does not have monthly management accounts. Moreover only 13% have a human resources plan and less than 50% have a business plan. These tendencies are all more marked for services, stable and declining and non-innovating firms. Around 56% of all firms have a web information site and about 18% have a web site for trading.

6.2.1 After allowing for size, the NI sample firms are found to be more likely to engage in business and human resources planning than the rest of the UK, but less likely to have monthly management accounts. The use of the web for information and trading appears to be lower than for GB. Invest NI client firms are more engaged with planning.

7. Growth Targets and Constraints on Meeting Business Objectives

7.1 Around one fifth of the NI sample is not seeking to grow, and about 20% expect to grow substantially. These are broadly similar, but slightly more ambitious, than those found for the GB sample.

7.2 Fast growth firms and innovators are more likely to have higher growth ambitions in both NI and GB.

7.3 Larger SMEs are more ambitious in their growth plans. NI sample firms are found to be more ambitious than their GB counterparts in each size group.

7.4 Access to finance is the most commonly reported very significant, or crucial, constraint facing NI sample firms. Newer firms and innovators are more concerned about access to finance, availability of premises and marketing skills than their older, or non-innovating counterparts. Innovators are also more concerned about access to overseas markets, whilst newer firms have greater problems with increasing competition. Access to skilled labour, marketing and management skill shortages, and access to finance appear as more significant constraints for faster growing than for slower growing firms. Fast growing firms also identify access to overseas markets, availability of premises and the acquisition of technology as more significant constraints than do other firms.

7.5 Finance constraints and access to overseas markets are higher for NI sample firms than for GB sample firms, but marketing skills, market demand growth and increasing competition are higher for micro and small GB firms.

8. Competition and Collaboration

8.1 Approximately a third of the firms in the NI sample relied on one customer for 10% or less of their sales, about the same as found in the rest of the UK. Newer firms have greater dependence on fewer customers.

8.2 In the NI sample 39% of micro firms depend on their top customer to provide at least a quarter of their business; and this compares with 36% for small firms and 32% for medium-sized firms.

8.3 In NI 40.7% of the firms consider that local markets are their most important area of business compared to 32.2% for the rest of Northern Ireland, 12.6% for the rest of the UK, 9.5% for the Republic of Ireland and 5.0% for other international markets. Manufacturing and fast growth firms have less dependence on local markets and do more trade with the rest of the UK and the Irish Republic. Newer and innovative firms also have less dependence on local markets.

8.4 In the NI sample 91 % of firms had fewer than 10 serious competitors compared with 76% for the GB sample, and 9% of the NI sample firms believe that they have no serious competitors, compared with 15% for the rest of the UK.

8.5 The lack of apparent competition is greater, and statistically significant, for smaller firms; 82% of micro firms had less than 10 serious competitors compared to 81% of small firms and 68% of medium-sized firms. Furthermore, 14% of micro firms believed that they had no serious competition compared to 4% of small firms and 0% of medium-sized firms. This pattern is similar to that observed in the GB sample.

9. The Sources of Competitive Advantage

9.1 Personal attention and responsiveness to client needs, product quality and established reputation are the highest rated sources of competitive advantage in NI

sample firms. Those factors that had a low overall low rating include cost advantage, price and marketing – which is consistent with the evidence presented above that lack of marketing skills has been a significant factor that has constrained the growth of many firms in the survey.

9.2 Manufacturing firms in the NI sample give higher scores to all factors, particularly for product design, quality, cost, price and speed of service. Micro firms particularly give low scores for price and for marketing skills as sources of competitive advantage. They also give lower scores for established reputation and, surprisingly, speed of service – a finding not evident in the GB survey.

9.3 Older firms in the NI sample stress reputation, whilst newer firms identify design, flair and specialisms as their competitive edge. The better the growth performance of the firm, the more likely it will stress the importance of quality and design, specialisms and expertise, and marketing. Innovating firms score product design, quality, flair and creativity, and specialised expertise more highly than non-innovating firms. Overall, innovating firms in the NI sample stress the importance of higher-order qualitative factors which require investment in skills and technical capabilities.

10. Collaboration and Cooperation

10.1 In the NI sample 35% of firms had entered into collaborative or partnership arrangements with other organisations. Collaborative arrangements were more widely used in the service sector (46%) than in manufacturing (29%), reflecting the importance of networking in the business services sector. These figures are almost identical to those found in the GB survey sample.

10.2 In the NI sample 34% of micro firms enter collaborative agreements compared with 39% of small firms and 62% of larger firms. These figures are also similar to those found in previous CBR surveys for GB. Faster growing firms were more likely to enter into collaborative agreements - 43% of fast growth firms had entered into such agreements compared to 35% for the other growth groups to improve business performance and growth. One of the greatest contrasts is between innovating and non-innovating firms - 43% of the former entered into partnership arrangements compared with only 29% of the latter. This is consistent with previous CBR surveys for GB which have shown that collaboration is associated with greater innovation and higher rates of firm growth.

10.3 In the NI sample in general, the larger the firm the more likely it will have collaborated with their suppliers, their customers and higher educational institutes.

10.4 The five most important reasons for collaborative arrangements in the NI sample were to help expand the range of expertise and products (73%), to assist in the development of specialist services and products required by customers (62%), to improve financial market credibility (49%), to help keep current customers (44%) and to provide access to UK markets (39%). These are very similar to the reasons given by firms in the GB survey sample.

11. The Labour Force

11.1 For all NI sample firms, 32% of workers were semi-skilled and unskilled and 25% skilled manual, 14% clerical and administrative staff, 9% lower and 10% higher qualified technical and professional staff and 11% managers. This is similar to the rest of the UK.

11.2 Service firms have a higher concentration of white-collar workers, proportionately more managers and fewer manual workers than manufacturing firms. Newer firms have higher proportions of technologists and higher professionals than do older firms.

11.3 Micro firms have larger proportions of the higher and lower levels of technical and professional staff, but smaller proportions of manual workers and higher proportions of clerical and administrative and managerial staff than small and medium sized-firms. These differences are very similar to the findings for the GB sample.

11.4 More than half of all the firms reported difficulties in recruiting for one or other of the skill categories they employed – a remarkably similar figure to the GB sample. Overall, the highest rates of recruitment difficulties are for skilled manual workers (53%), followed by technologists and higher professionals (44%) and technicians and lower professionals (36%). A surprisingly high proportion (35%) found it difficult to recruit semi-skilled and unskilled manual workers.

11.5 Recruitment difficulties increased with the firm size - 70% of the medium sized firms had recruitment difficulties compared to 43% of the micro firms. Micro and small NI sample firms had somewhat higher recruiting difficulties than their GB counterparts, particularly in the case of semi-skilled and unskilled manual workers and for technologists and higher professionals.

11.6 Almost 53% of the NI sample firms provide formal training. The number of firms providing training rises with firm size, from 31% of micro firms to 91% of medium sized firms, and these are identical to the percentages found for the rest of the UK. A higher proportion of innovators and newer firms also train and more medium growth than fast growth firms train.

11.7 Overall, 32% of the businesses use job rotation and multi-skilling, 30% use quality management (ie either quality circles or TQM) and 28% have performance related pay. Their use is more prevalent in manufacturing than services. Innovators also took a lead over non-innovators in developing human resource management practices that give them functional flexibility.

11.8 There is a marked rise in the use of each of these HRM practices with firm size in both the NI and the GB samples.

12. Innovation Activity

12.1 Over half of the sample report having introduced a product, or process innovation in the past three years. This is somewhat lower than the proportion in the GB sample – 54% compared with 62%. The proportion of innovating firms is higher amongst manufacturing, newer and fast growing firms.

12.2 Groups with relatively high innovation outputs in the past have relatively high proportions of firms intending to innovate in the future. NI micro and small firms are more optimistic relative to the past than their GB counterparts.

12.3 There is a significantly positive association between product innovation and size in both the NI sample and the GB sample.

12.4 In the NI sample around 10% of sales are new products or services; and this figure rises to over 19% if we include both new and significantly improved products and services. Fast growth is positively associated with the innovation content of the products. Medium-sized firms and newer firms both have a markedly higher proportion of their sales due to new, or improved products.

12.5 In the NI sample only 28% of the sample reports some R&D activity in the previous year compared with 40% for the GB sample and the NI proportions are lower in each size class: 21% compared with 22% for micro; 36% compared with 48% for small; and 58% compared with 63% for medium-sized firms.

12.6 In both the NI and GB samples the proportions with R&D activity are significantly higher in manufacturing, newer, fast growth and innovative firms.

12.7 A similar pattern emerges for the proportion of firms with staff engaged in R&D and the proportions of both full-time and any R&D staff are significantly higher in manufacturing, newer, fast growth and innovative firms.

12.8 NI sample firms score all sources of external information for their innovative activity as more important than do the GB firms.

12.9 Information from within the firm is the most important (58%), but in the NI sample, it is followed closely by clients, or customers (50%) and by suppliers (39%). The equivalent proportions for the GB sample are 65%, 36%, and 29%.

12.10 In general in the NI sample as in the samples for the rest of the UK micro firms are least likely to use external sources.

12.11 Lack of appropriate sources of finance, innovation costs being too high, and pay-off period being too long are the most frequently cited barriers to innovation in the NI sample. Amongst factors internal to the firm lack of innovation capacity and skilled personnel are most significant. This pattern is common across the EU. The most notable difference between GB and NI is the higher proportion of firms citing finance and costs as the source of their difficulties amongst NI firms. For example 43% of the NI sample give lack of finance as a constraint on innovation is much higher than the 27% given by the GB sample.

12.12 Innovators in the NI sample consistently identify more frequently than do non-innovators the 'economic' group of factors (particularly innovation costs and finance) as barriers. Non-innovators are more likely to be concerned about the firm's lack of innovation potential, the lack of need to innovate due to past innovations (i.e. more than three years earlier) and organisational rigidities as barriers to innovation.

12.13 Taken as a whole the results suggest a lack of appropriate finance as a particular barrier in high-tech services in NI. They also point to difficulties in the NI sample in the level of costs and their management, and the timing of innovation and its payback period as problems for high-tech manufacturing.

13. Government Business Support

13.1 The use of the various business support schemes from Invest NI ranges from: 24.2% for development/growth; 15.7% for training; 14.9% for technology and E-business; 13.7% for trade development; 11.6% for start-up; to 11.4% for R&D support. The next most common schemes are ENI support at 5.2% and EU funding schemes at 4.1% of NI sample firms.

13.2 Manufacturing firms in the NI sample are significantly more likely to have received all forms of Invest NI support, whilst business service firms are more likely to have taken up the DTI Small Firms Loan Guarantee Scheme (SFLGS). Newer firms are also more likely to have used Invest NI, particularly in relation to start-up, development/growth, training and trade development support. Newer firms are also significantly more likely to have used ENI support and the DTI's SFLGS. Innovators have used all forms of advice and support more than non-innovators, generally the difference is large and statistically significant.

13.3 Growing businesses, and particularly fast growth firms, are more likely to have used support from the various schemes and agencies.

13.4 Satisfaction levels with government schemes are generally very high with 77% to 94% saying that they are satisfied, or very satisfied. The satisfied proportions are higher than the CBR has found for similar GB surveys.

14. Profitability and Finance

14.1 Median profit margins on sales in the NI sample in 2004 were 8.6% for manufacturing and 25% for business services, and 12.5% for the sample as a whole. This is higher than the figures for GB of 10.5% in 1999 and 9.4% in 2002.

14.2 Profit margins are significantly higher for micro and service sector firms; and these findings match those of our GB surveys. Innovators in the NI sample are significantly less profitable than non-innovators and this has been found in all the previous CBR surveys for GB samples.

14.3 The greater profitability of NI sample firms overall is due to both the higher profitability of the small NI sample firms and the greater preponderance of service sector firms in the NI sample.

14.4 About 39% of the NI sample sought external finance in the period 2002-04, virtually the same as that found for the sample in both the 1999 and 2002 GB surveys. The figure shows that manufacturing firms are more likely to seek external finance. The proportion seeking external finance is significantly greater for innovators, for less profitable firms, for older firms and for larger firms. The need for external finance is also significantly related to growth, with the zero or negative growth firms seeking new external finance much less often. Each of these findings was also found to be the case for the previous GB surveys.

14.5 A greater proportion of less profitable NI sample firms need to seek external finance.

14.6 The dominant reason for not seeking finance in the NI sample is that internal cash flows were sufficient. This was given as a reason by 72% of the micro firms rising to 100% of the medium-sized firms. The borrowing risk being too great influenced 51% of micro firms, but only 20% of medium-sized firms, not to seek external finance. The fear of equity dilution also falls with firm size.

14.7 The average percentage of finance obtained was 81% in the NI sample which is somewhat below the 90% success obtained by firms in our 1999 and 2002 GB surveys. Older firms, bigger firms, more profitable firms and non-innovators (compared to innovators) are more successful in obtaining the funds they seek in the NI sample.

14.8 In the NI sample 83% of those seeking finance approached their bank. The only other source approached by about half the sample was HP/leasing businesses (46%). Working shareholders or partners were also approached fairly frequently in 2002-04, by 16% of those who sought external finance. Each other source was approached by less than 10% of these firms. These figures are very close to those found for the GB sample in 2002.

14.9 The failure rate in obtaining finance is greatest for approaches to venture capitalists in both NI and GB samples.

14.10 The lowest failure rate is seeking finance is found for applications to HP and leasing firms (3%) and this is also the case in the GB sample. The failure rates for banks (13%) and factoring (15%) are similar in the NI survey to that found for the rest of the UK. Unlike what was found in the GB survey, partners and existing shareholders (7%) and other private individuals (10%) are less likely to refuse a loan request compared with an equity participation. The failure rates for these types of finance are lower in the NI sample than rest of UK.

14.11 In the NI sample as in GB samples micro firms are more likely to use the banks and continue to have the highest failure rate in seeking bank finance. In general in the NI sample the micro firms suffer a higher failure rate with most sources, with

venture capitalists most likely to turn them down. This is consistent both with a higher risk profile for such firms and with a lower level of cost effectively obtainable information about them.

14.12 In terms of the amount of finance sought which was actually raised we found that NI sample manufacturing firms are more likely to obtain support from banks, HP/leasing and factoring businesses, but significantly less likely to draw upon partners/working shareholders. Older firms are significantly more likely to draw upon factoring and HP/leasing finance, whilst newer firms gain support from trade customers, shareholders and private individuals significantly more frequently. Innovators also draw more from partners, shareholders and private individuals. Less profitable firms are more likely to use factoring and HP/leasing finance.

14.13 In terms of the breakdown of finance obtained by source in the NI sample we find that manufacturing firms continue to use a higher proportion of HP/leasing finance and a lower proportion of bank finance than service firms; and they draw less on all equity sources. Less profitable firms draw much less on banks and, as a consequence, draw upon a wider range of other sources of finance in comparison with profitable firms. In particular less profitable sample firms use significantly more of HP/leasing and factoring. This is also the case for older firms. Non-innovators have a very heavy reliance on the banks and draw significantly less from HP/leasing and invoice finance. Innovators get more of their finance from venture capital and from individuals.

14.14 Bank finance is the most frequently used source of finance in both the NI and GB survey samples. It is used by over two thirds of firms in all size categories in both NI and GB. HP/leasing and factoring are used as sources of finance significantly more frequently by the larger firms. New equity finance is used more frequently by medium-sized firms.

14.15 NI small and medium-sized sample firms received higher proportions of their finance from banks than their GB counterparts. In both the GB and NI samples both micro and medium-sized firms have higher proportions of bank finance than small firms. The opposite pattern is observed for HP/leasing finance where the percentage contribution to the total financial package is highest for small firms in both samples.

1 The Northern Ireland SME Survey – Business Characteristics

This report is based on a survey of SMEs in Northern Ireland carried out by the Centre for Business Research at Cambridge University on behalf of Invest NI. The survey sample totalled 4,751 firms, with 2,906 residing only on the D&B database, 1,176 on the Invest N.I. list only and the remaining 669 firms on both databases. A response rate of one-fifth was achieved, yielding an analysis sample of 853 firms.

1a Industrial Activity, Age, Size, Growth and Exporting

The sample of 853 firms consists of 57% drawn from manufacturing and around 43% from business services. The size and industrial distribution of the sample is shown in Table 1.1. There are few firms in the medium-sized category (100-499 employees) and this is due to the low number of these firms in the sampling frame described above. For this reason we present the findings of the survey in comparison with the GB sample both for all firms and split into the three size categories.

Table 1.1
The distribution by employment size and industrial activity in 2004

	Micro		Small		Medium		All	
Name	No.	%	No.	%	No.	%	No.	%
Chemicals, man-made fibres, rubber & plastic	17	3.5	20	6.0	3	11.5	40	4.7
Metal manufacture & metal goods	33	6.7	34	10.1	5	19.2	72	8.4
Electrical & electronic engineering	15	3.0	24	7.2	0	0.0	39	4.6
Food & beverages	25	5.1	42	12.5	3	11.5	70	8.2
Textiles, leather, footwear & clothing	12	2.4	17	5.1	2	7.7	31	3.6
Timber, furniture, paper & printing	62	12.6	51	15.2	6	23.1	119	14.0
Mechanical engineering	31	6.3	26	7.8	0	0.0	57	6.7
Other manufacturing	31	6.3	23	6.9	2	7.7	56	6.6
Manufacturing	226	45.9	237	70.8	21	80.7	484	56.8
Advertising & management consultancy services	13	2.6	1	0.3	0	0.0	14	1.6
R&D and technical consultancy services	10	2.0	5	1.5	0	0.0	15	1.8
Computing hardware & software consultancy	31	6.3	17	5.1	2	7.7	50	5.9
Other business services	211	42.9	74	22.1	3	11.5	288	33.8
Business Services	265	53.8	97	29.0	5	19.2	367	43.1
Total Responses	492	100.0	335	100.0	26	100.0	853	100.0

The split of the sample by size and broad industrial sector is displayed further in Figure 1.1 which shows the distribution of the survey firms between manufacturing and business services for our three standard size categories of firm, micro (less than 10 employees), small (10<100 employees) and medium (100<500 employees). The highest proportion of business service firms (54%) is in the micro category and the highest for manufacturing (81%) is in the medium category.

Figure 1.1
The distribution of businesses by size and business activity

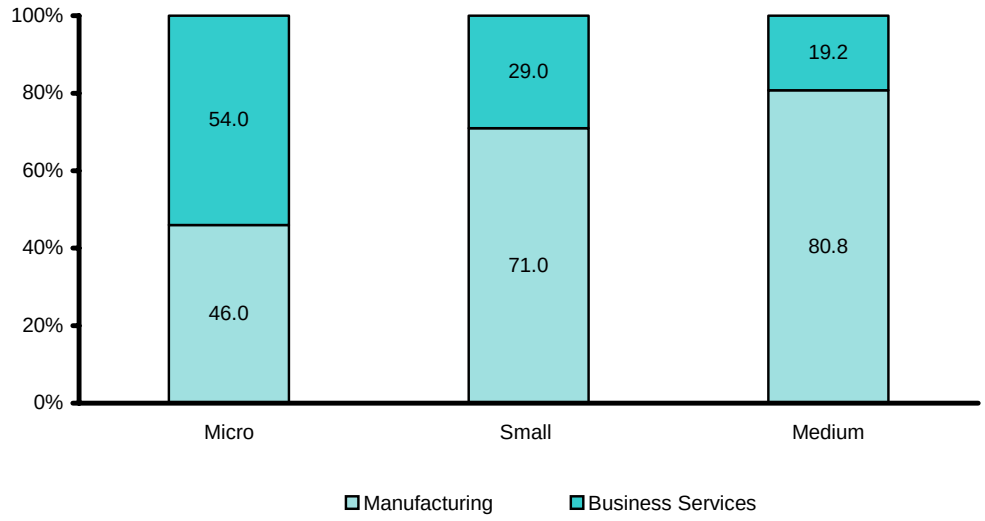


Figure 1.2 shows the distribution of our sample by date of formation of the business. Over three-quarters of the sample was formed after 1980 compared with only half of the GB sample, partly reflecting the smaller average size of the NI sample, but also due to the survey being carried out two years later. A much lower proportion, 3% compared with around 14% for the GB, date from the pre-war period (a group of firms that represents the long lived mature section of the UK SME population).

Figure 1.2
Distribution of businesses by date of formation

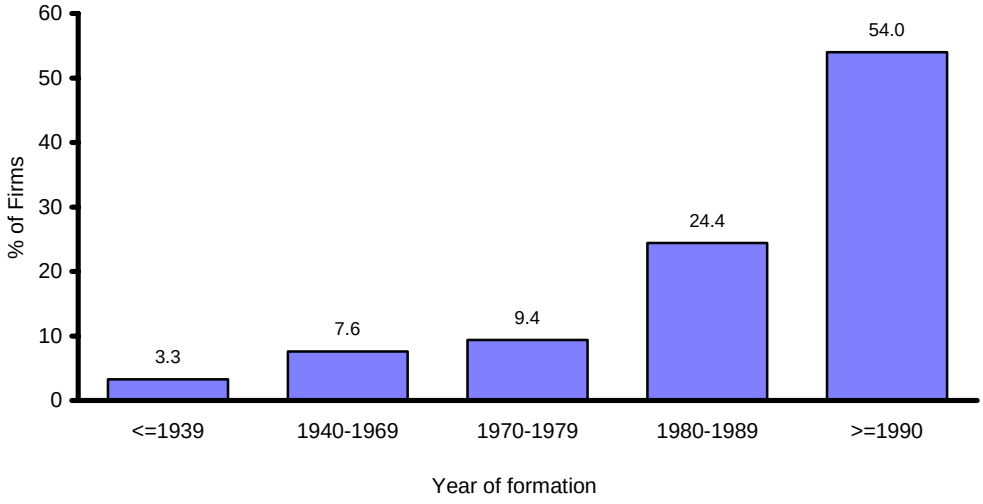


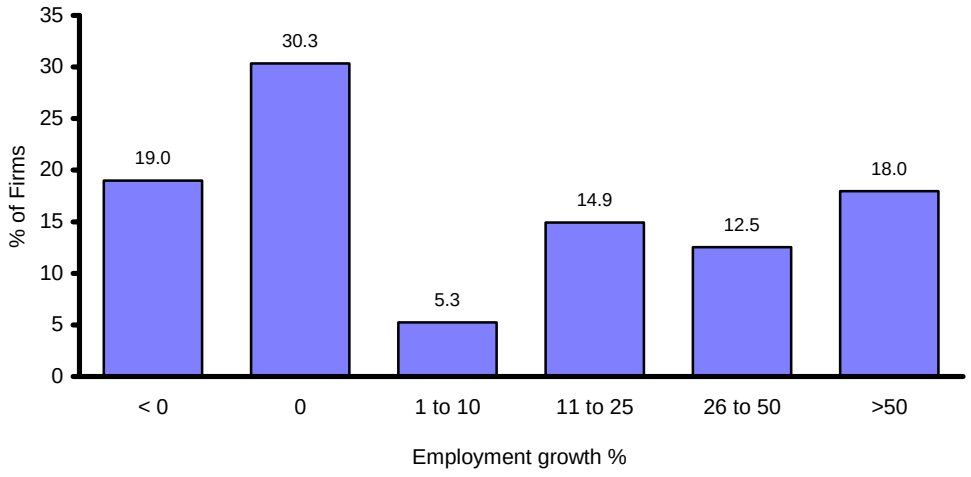
Table 1.2 provides a breakdown by employment size and age, where newer means firms formed since 1995. As might be expected the micro firms are disproportionately represented in the newer age group. Even so it is worth noting that 29% of small firms and 19% of the medium-sized firms fall into the newer category.

Table 1.2
The distribution by employment size and age

		Micro		Small		Medium		All	
		No.	%	No.	%	No.	%	No.	%
Newer	No.	232	47.9	96	28.9	5	19.2	0	39.5
	%	69.7		28.8		1.5		100.0	
Older	No.	252	52.1	236	71.1	21	80.8	509	60.5
	%	49.5		46.4		4.1		100.0	
All	No.	484	100.0	332	100.0	26	100.0	842	100.0
	%	57.5		39.4		3.1		100.0	

Growth experience in the three years up to the survey date is shown in Figure 1.3 which reveals that around 49% of all businesses stood still, or declined, in employment terms in that period. This compares with 43% - 45% of businesses in the previous GB surveys carried out by the CBR. On the other hand, the finding of 18% of firms with employment growth of over 50% over the previous three years compares favourably with previous CBR surveys of GB SMEs.

Figure 1.3
Distribution of businesses by employment growth 2001-2004



Export activity is explored in Table 1.3, which shows the proportion of firms exporting and the ratio of exports to sales ratio (for exporters only). These are shown for the sample cut by the size sector and age categories described earlier plus two other categories; growth (stable or declining, medium < 25%, fast >25%) and innovative activity (whether or not the firm made a process or product innovation in the three years prior to the innovation). These standard cuts are used throughout the rest of this report.

The analysis of export activity shows that the proportion exporting is generally higher in 2004 than in 2001 and across groups is significantly higher in manufacturers, growing firms and innovators compared to their counterpart groups. Amongst exporters themselves, export intensity is roughly the same in both years. Newness affects export intensity, with older firms showing significantly less intensity than those more recently established which echoes the results of our previous surveys. Innovators also exhibit a higher export intensity than non-innovators.

Table 1.3
Exports and Export Intensity

	% of Firms Exporting		Ratio of Exports to Sales (exporters only)	
	2001	2004	2001	2004
GB 2002 - All (1999 and 2002)	53.9	59.3	0.12	0.11
NI 2004 - All	53.0	57.3	0.22	0.22
Manufacturing	65.9**	67.9**	0.23	0.25*
Services	35.3	43.4	0.18	0.17
Older	52.1	55.9	0.21	0.20
Newer	55.9	60.4	0.25**	0.30**
Stable/ Declining	47.9*	51.6**	0.21	0.2
Medium Growth	63.8	67.3	0.25	0.22
Fast Growth	56.9	62.7	0.21	0.25
Non-Innovators	37.4	41.6	0.22	0.20
Innovators	65.2**	69.5**	0.22	0.25**

Asterisks in the first row of a group indicate statistically significant differences between the types of business grouped by age, industry, growth or innovation experience (* = significant at the 10% level, ** = significant at the 5% level or better).

The comparison of the NI 2004 results with the equivalent figures for the GB 2002 survey is shown in the first row of Table 1.3. This reveals little difference in the proportion of firms that export, but the export intensity of those that do export is twice as high in the NI sample. This is explored further in Table 1.4 by splitting the sample into the three size groups. Both samples show that larger firms are more likely to be exporters, but the NI micro firms are more likely to be exporters than their GB counterparts. In addition, the export intensity of NI firms is higher than those in the GB sample in each of the size categories.

Table 1.4
Exports and Export Intensity

	% of Firms Exporting		Ratio of Exports to Sales (exporters only)	
NI 2004	(2001)	(2004)	(2001)	(2004)
Micro	41.6**	45.5**	0.23	0.23
Small	64.3	69.9	0.21	0.22
Medium	76.5	81.8	0.15	0.21
GB 2002	(1999)	(2002)	(1999)	(2002)
Micro	28.4	36.3	0.13	0.12
Small	61.2	65.1	0.12	0.11
Medium	76.1	78.9	0.11	0.12

Asterisks in the first row of a group indicate statistically significant differences between the types of business grouped by size (* = significant at the 10% level, ** = significant at the 5% level or better).

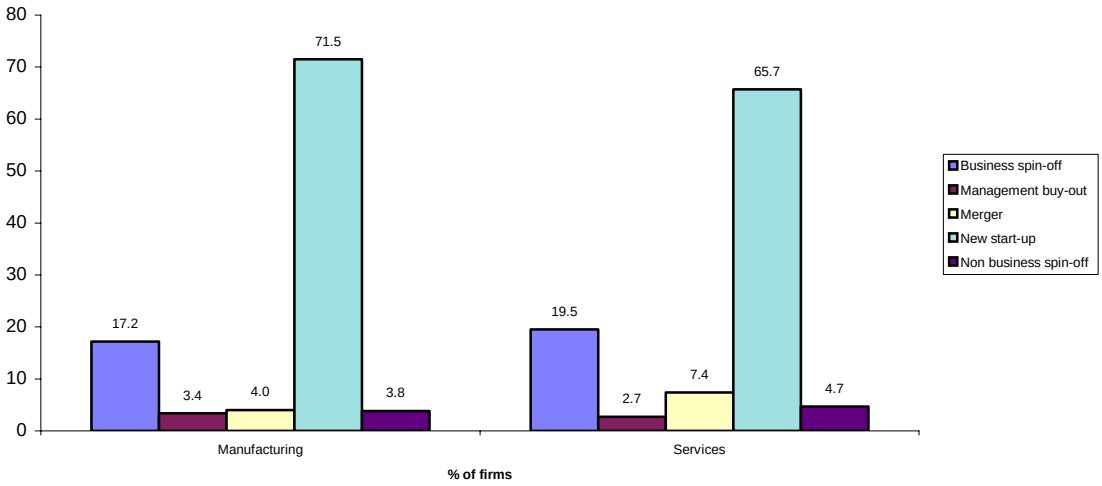
1b Business Foundation and Business Leadership

Perennial concerns of business support policy in the UK have included the relative emphasis to place upon business formation and the implications for policy of the existence of so-called 'life-style businesses'. More recently attention has focussed on spin-offs as a form of business formation, especially in the knowledge based sectors of the economy and the relative patterns of constraints preventing different sorts of firms from attaining their business objectives.

This has been accompanied by an interest in the characteristics of women entrepreneurs, the role of shared ownership in enhancing workforce and business motivation, the monitoring and advisory impact of venture capital associated appointments to small company boards and the overall level of management competence in the SME sector. The NI survey results shed some light on each of these areas in comparison with the rest of the UK.

Figure 1.4 analyses the method of business foundation in the NI sample. It breaks business formation into five categories; spin-off from an existing business; management buy-out; merger; entirely new start-up; and spin-off from a non-business organization. Patterns of start-up are shown for manufacturing and services. The figure shows that new start-ups are the dominant mode of foundation, followed some way behind by business spin-outs. Although spin-offs are relatively small in number they have been increasing over time and imply a more experienced management team at start-up which may have beneficial implications for failure rates in the business population as a whole. The proportions of each type of start-up are similar to those found for the rest of the UK.

Figure 1.4 Distribution of businesses by method of formation



The motivations for starting a business are shown in Figures 1.5 to 1.8. We asked respondents to select their main motivations including unemployment, desire to run your own business, desire to implement a new idea, and wealth ambitions. The importance of each of these motivations is shown for different classes of firm and type of start-up. The first point to make is that looking at the first column across each figure we find that a desire to run your own business is the dominant motive cited by 70% of respondents in both the NI and GB surveys. Wealth ambitions and the desire to exploit an idea are cited by between 20% and 30% in both NI and the rest of the UK. Unemployment, or the threat of it, is somewhat less significant as a motive for business formation in NI than in the GB survey, 15.7% compared with 21.1%.

Figure 1.5
Desire to run own business as a factor in formation

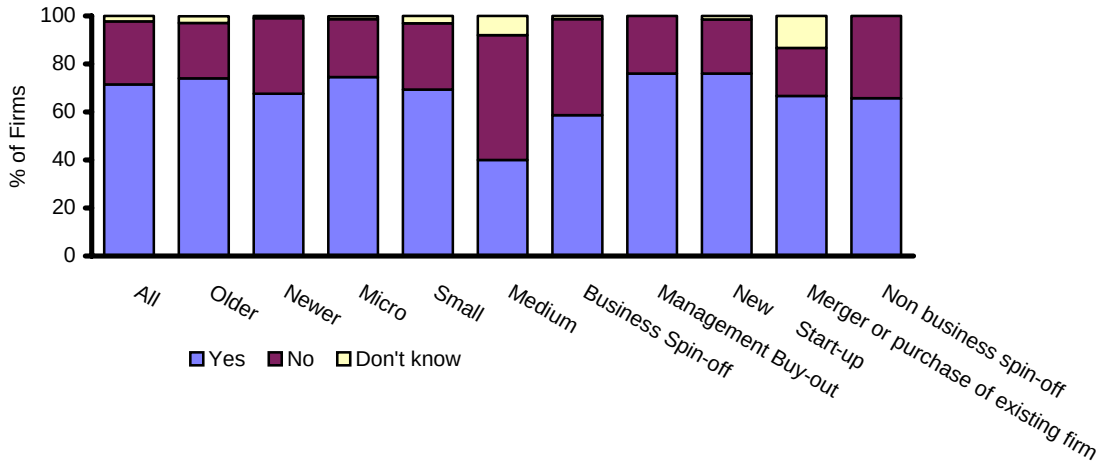
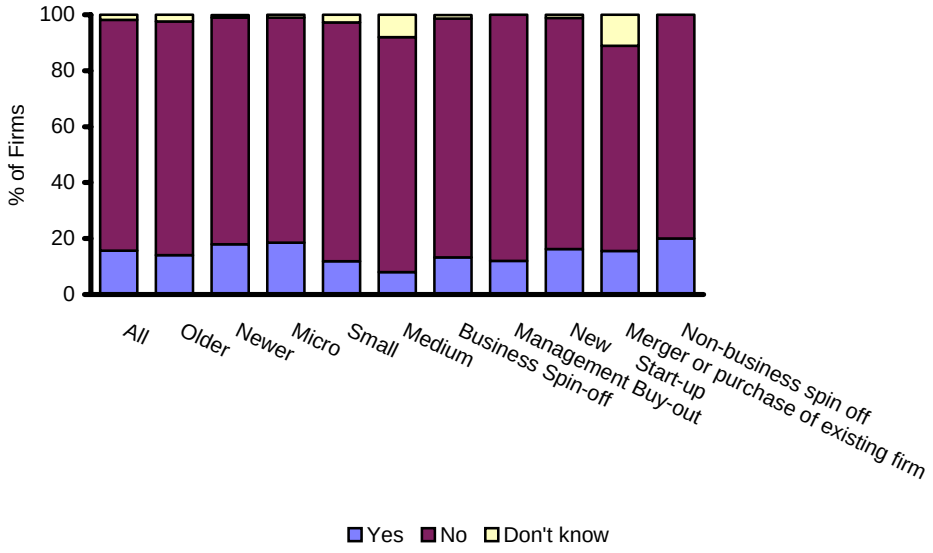


Figure 1.6
Unemployment as a factor in formation



The desire to be your own boss is a significantly more frequent motive in new start-up and micro firms. New ideas feature more strongly in business spin-offs and newer firms, and wealth ambitions in the medium sized and newer firms, whilst the threat of unemployment is a more prevalent motive in newer and micro firms and amongst management buy-outs. No other differences are statistically significant. These findings for NI firms are very similar to those found for GB firms using the same questions.

Figure 1.7
Wealth ambitions as a factor in formation

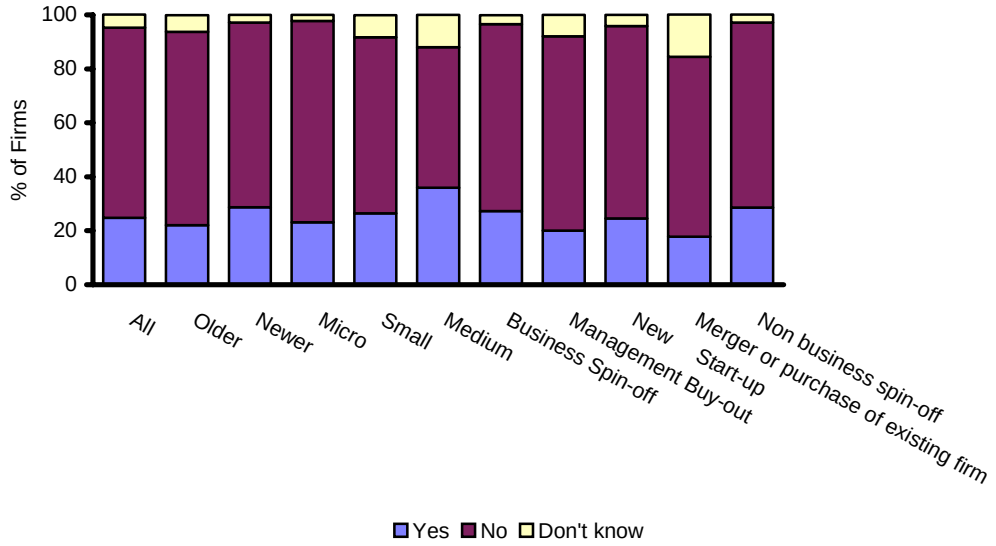
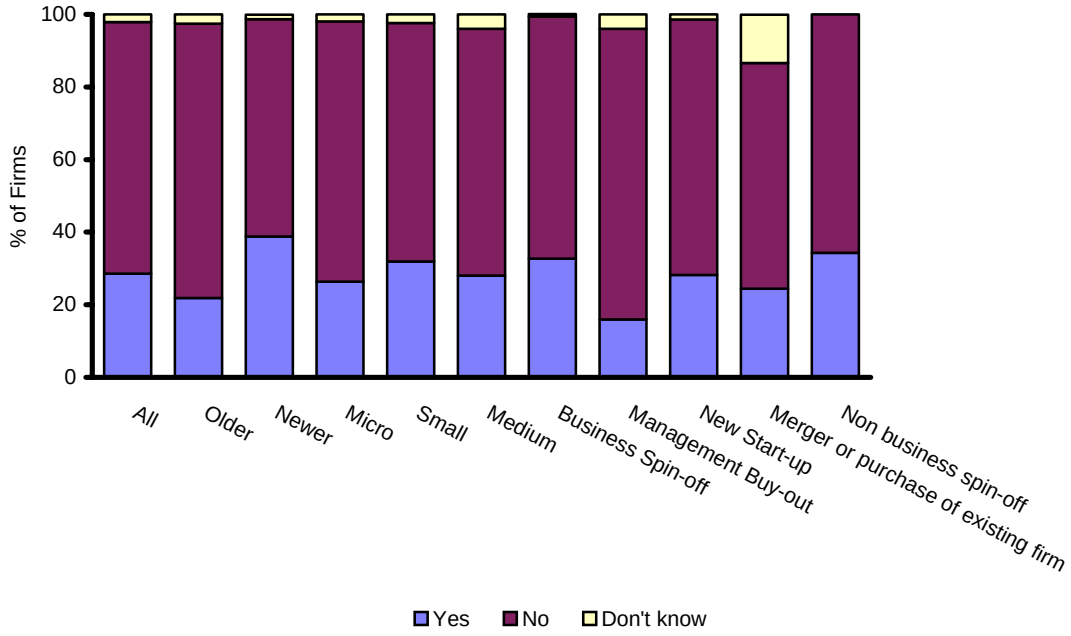


Figure 1.8
Desire to implement a new idea as a factor in formation



Whatever the wealth ambitions of business founders they end up with substantial shares of the capital invested in their business, and spend long periods with them.
Thus Table 1.5 shows that on average the business leader is in his or her late forties (compared with the mid-fifties in the GB survey) and has spent 13 years with the business and 10 as chief executive, with these periods statistically significantly longer in older, manufacturing, and slower growing firms. This pattern is the same for the GB sample in which the average age and experience is 3-4 years greater. The table also shows that 9% of leaders are female and that they are more frequently found in services, slower growing and newer firms.

Table 1.5
Characteristics of the chief executive, senior partner or proprietor

	GB 2002 - All	NI 2004 - All	Manufacturing	Services	Older	Newer	Stable/ Declining	Medium Growth	Fast Growth
Years with the business	17	13	14**	12	18**	5	13**	19	9
Years as chief executive	13	10	11**	10	16**	5	10**	16	8
Age	53	49	49**	48	52**	43	49**	53	44
% female	10.6	9.0	7.7*	11.7	8.4	11.3	10.3*	3.5	10.8

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by age, industry or growth (* = significant at the 10% level, ** = significant at the 5% level or better).

These characteristics can be examined across the firm size classes in the NI and GB samples in Table 1.6. In both samples the years with the business of the boss is greatest in the medium-sized firms. The experience of the boss is greater in the GB sample for the micros and small size classes. The age of the business leader does not vary in any

consistent fashion across the size groupings in either sample. The likelihood of the business leader being a female diminishes with firm size in the GB sample, but this is not the case for NI firms. Although there is a lower proportion of female business leaders in the micro and small firms in NI when compared with GB firms, the proportion amongst medium-sized firms is much higher in NI (but the sample size is small in this group).

Table 1.6

Characteristics of the chief executive, senior partner or proprietor

	NI 2004			GB 2002		
	Micro	Small	Medium	Micro	Small	Medium
Years with the business	11**	15	20	14**	20	20
Years as chief executive	10**	12	14	12	14	12
Age	48*	50	47	53	52	54
% female	12.4**	4.7	16.0	20.0**	6.4	3.3

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by size (* = significant at the 10% level, ** = significant at the 5% level or better).

Table 1.7 reports on the extent of planning and e-business involvement in our sample. It shows a mixed comparison with the rest of the UK. NI firms have higher proportions with a business plan, but lower proportions in the other attributes. We will examine this in relation to firm size shortly. Over forty per cent of the NI sample does not have monthly management accounts. Moreover only 13% have a human resources plan and less than 50% have a business plan. These tendencies are all more marked for services, stable and declining and non-innovating firms. Thus 70% of non-innovators don't have a business plan and over 90% don't have a human resources plan. 56% of all firms have a web information site and about 18% have a web site for trading.

Table 1.7 Business plans, management accounts and the web

	GB 2002 - All		NI 2004 - All		Older	Newer	Manu-facturing	Services	Stable/ Declining	Medium Growth	Fast Growth	Innovators	Non-innovators
	No.	%	No.	%									
Business plan	2,105	45.0	809	47.6	39.8**	66.1	53.4**	45.7	34.8**	50.0	65.0	64.1**	32.1
Human resources plan	2,105	19.6	755	12.8	15.5	13.2	15.3	13.1	12.4**	17.3	21.8	20.0**	7.2
Monthly management accounts	2,104	78.5	798	58.5	64.2	60.8	67.6**	55.7	58.0	69.6	68.6	70.5**	53.0
Web site for information	2,107	71.6	801	55.7	55.9**	64.3	62.3**	55.4	51.1**	73.7	68.6	71.8**	43.9
Web site for trading	2,107	26.9	771	18.1	18.0	21.9	22.1*	17.3	16.0**	16.5	30.4	25.5**	12.9

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by age, industry, growth or innovation experience (* = significant at the 10% level, ** = significant at the 5% level or better).

Since these measures of management sophistication have been found to be firm size related, Table 1.8 compares the findings for NI and GB firms within the size groups. This table confirms previous findings about the effect of size and also reveals the importance of examining differences within size groups. After allowing for size, the NI firms are found to be more likely to engage in business and human resources planning than the rest of the UK, but less likely to have monthly management accounts. The use of the web for

information and trading does appear to be lower than for GB firms even within these size groupings. This is not the case for Invest NI client firms, which are generally far more likely to engage in these activities compared with other NI firms.

Table 1.8
Business plans, management accounts and the web

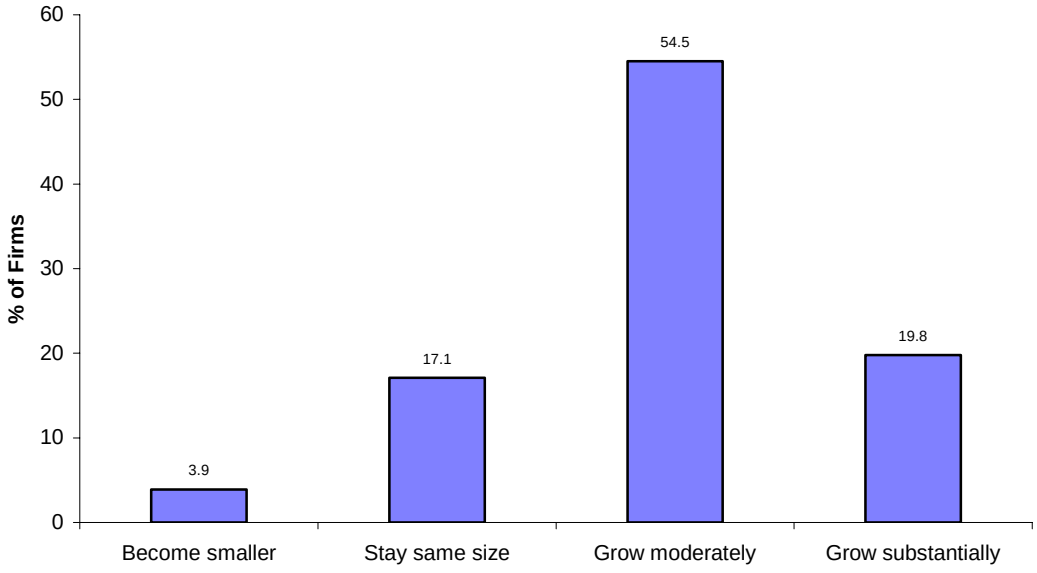
	NI 2004			GB 2002		
	Micro	Small	Medium	Micro	Small	Medium
Business plan	41.7**	60.6	73.0	23.7**	51.2	73.0
Human resources plan	7.3**	21.6	56.0	5.9**	21.9	42.7
Monthly management accounts	50.3**	78.0	92.0	56.0**	88.6	97.0
Web site for information	48.4**	72.6	92.3	47.5**	81.8	93.0
Web site for trading	15.4**	26.7	19.2	22.3**	28.1	33.6

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by size (** = significant at the 5% level or better).

1c Growth Targets and Constraints on Meeting Business Objectives

Figure 1.3 above provided a detailed breakdown of the recent growth performance of our sample. How does this experience relate to future growth objectives? These are shown in Figure 1.9. Around one fifth of the sample are not seeking to grow, a much lower proportion than the non-growers over the past three years. On the other hand, about 20% expect to grow substantially which is consistent with the kind of numbers experiencing rapid growth in our sample. These are broadly similar, but slightly more ambitious, than those found for the GB sample as may be seen in Table1.9.

Figure 1.9 Growth objectives over the next three years



The finding that fast growth firms and innovators are more likely to have higher growth ambitions is found also to be the case for the NI sample.

Table 1.9
Growth objectives over the next three years by growth and innovativeness (%)

Growth objectives	GB 2002 - All	NI 2004 - All	Stable/ Declining	Medium Growth	Fast Growth	Innovators	Non-innovators
Become smaller	4.6	4.1	8.3**	1.7	0.6	2.2**	6.5
Stay same size	20.7	18.0	32.2	5.1	9.1	12.1	25.6
Grow moderately	57.3	57.2	49.6	67.5	59.1	55.9	58.6
Grow substantially	17.5	20.8	9.8	25.6	31.3	29.8	9.3
Total responses (no.)	2,081	813	276	117	175	456	355

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by growth or innovation experience (* = significant at the 10% level, ** = significant at the 5% level or better).

When the size groupings are considered we find that larger SMEs are more ambitious in their growth plans. When this is taken into account, NI firms are found to be more ambitious than their GB counterparts in each of the size groups and this can be seen in Table 1.10 below.

Table 1.10
Growth objectives over the next three years by size (%)

	NI 2004			GB 2002		
Growth objectives	Micro	Small	Medium	Micro	Small	Medium
Become smaller	5.9**	1.8	0.0	6.5**	4.0	2.2
Stay same size	21.9	13.2	7.7	35.0	14.8	7.1
Grow moderately	56.6	58.3	53.8	50.0	61.7	59.6
Grow substantially	15.6	26.7	38.5	8.5	19.6	31.1
Total responses (no.)	461	326	26	726	1,033	322

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by size (* = significant at the 10% level, ** = significant at the 5% level or better).

We now turn to the constraints that firms identify as constraining the attainment of their business objectives. The proportions rating a constraint as very significant, or crucial are shown in Table 1.11 for highest for the age, growth and innovation groups. In general, we find that access to finance is the most commonly reported very significant, or crucial, constraint by NI firms. Newer firms and innovators are more concerned about access to finance, availability of premises and marketing skills than their older, or non-innovating counterparts. Innovators are also more concerned about access to overseas markets, whilst newer firms have greater problems with increasing competition. Some interesting differences in constraints are also apparent if we look at faster growing firms. Here we find that access to skilled labour, marketing and management skill shortages, and access to finance appear as more significant constraints than for slower growing firms. Fast growing firms also identify access to overseas markets, availability of premises and the acquisition of technology as more significant constraints than do other firms.

Table 1.11
Constraints on ability on meeting business objectives by age, growth and innovativeness (%)

Constraints	Older	Newer	Stable/ Declining	Medium growth	Fast growth	Non-innovators	Innovators
Availability and cost of finance for expansion	29.4**	45.9	29.5**	29.7	45.2	29.6**	41.7
Availability and cost of overdraft finance	23.5**	40.0	24.6**	21.2	39.5	23.1**	36.2
Increasing competition	26.8**	21.3	24.2	33.1	23.7	25.4	23.8
Skilled labour	21.6	26.6	19.7*	30.5	24.3	22.8	23.8
Marketing and sales skills	17.5**	24.4	16.7*	22.0	25.4	16.3**	23.4
Overall growth of market demand	19.9	17.5	19.3	17.8	21.5	17.5	20.1
Availability of appropriate premises or site	13.4**	22.5	9.1**	16.9	25.4	13.9**	19.9
Management skills	16.6	16.3	10.6**	21.2	21.5	14.8	17.4
Access to overseas markets	12.3	15.3	8.0**	14.4	20.3	10.7**	15.9
Acquisition of technology	11.0	12.8	9.5**	8.5	17.0	10.4	13.1
Difficulties in implementing new technology	10.4	10.3	9.5	9.3	11.3	10.1	10.4
Total responses (no.)	463	320	264	118	177	338	453

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by age, growth or innovation experience (* = significant at the 10% level, ** = significant at the 5% level or better).

The constraints found for NI firms are compared with those of GB firms in Table 1.12. We can see that finance constraints and access to overseas markets are higher for NI firms, but marketing skills, market demand growth and increasing competition are higher for micro and small GB firms. The findings for the medium-sized groups in the NI survey must be treated with caution owing to the small sample size.

Table 1.12
Constraints on ability on meeting business objectives by size (%)

	NI 2004			GB 2002		
Constraints	Micro	Small	Medium	Micro	Small	Medium
Availability and cost of finance for expansion	38.3	33.4	42.3	24.4**	24.3	17.1
Availability and cost of overdraft finance	32.4	27.6	34.6	22.1**	18.6	14.1
Increasing competition	18.1**	32.5	30.8	23.3**	34.7	36.4
Skilled labour	22.9	24.2	23.1	14.5**	23.3	22.3
Marketing and sales skills	17.7	23.6	23.1	20.5**	28.7	25.7
Overall growth of market demand	16.8**	20.2	38.5	19.6**	30.0	29.7
Availability of appropriate premises or site	15.6	19.9	11.5	10.3	12.4	11.9
Management skills	13.4**	20.2	19.2	10.7**	20.5	29.4
Access to overseas markets	12.0	15.6	15.4	4.4**	8.1	8.3
Acquisition of technology	10.7	13.5	11.5	8.6	8.8	6.1
Difficulties in implementing new technology	9.5	11.7	7.7	8.2	9.4	9.2
Total responses (no.)	441	326	26	709	1,028	327

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by size (* = significant at the 10% level, ** = significant at the 5% level or better).

2 Competition and Collaboration

2a Customers

The firms in the survey operate under a variety of competitive conditions. As shown in Table 2.1, approximately a third of the firms in the sample relied on one customer for 10% or less of their sales, about the same as found in the rest of the UK. In the NI survey a higher proportion, 19% compared with 12% elsewhere, have more than half their sales going to their largest customer. This may be a size effect and this is examined further below. As in previous CBR surveys we find that newer firms have greater dependence on fewer customers. No statistically significant differences are found between the other groups.

Table 2.1
Concentration of sales with largest single customers (%distribution of firms)

% sales to largest customer	Less than 10%	10%-24%	25%-49%	50%-100%	No. of firms
GB 2002 - All	33.3	33.9	21.0	11.8	2,009
NI 2004 - All	32.1	30.3	18.8	18.8	755
Manufacturing	30.7	29.1	20.9	19.3	430
Services	33.7	31.9	16.1	18.3	323
Stable/Declining	33.1	32.3	19.8	14.8	257
Medium growth	31.6	38.6	15.8	14.0	114
Fast growth	35.4	28.0	18.9	17.7	175
Newer**	28.6	27.2	19.3	24.8	290
Older	34.4	32.6	18.4	14.7	457
Innovators	28.7	33.4	20.9	17.0	425
Non-innovators	36.4	26.0	16.2	21.4	327

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

Table 2.2 shows that the most apparent, and most significant, contrast for GB firms is by firm size. Micro firms are most likely to depend on fewer customers for the bulk of their business. Amongst GB firms, 38 % of micro firms depend on one customer to provide at least a quarter of their business compared to 33% for small firms and 25% of medium-sized firms. The picture is quite different for the NI sample. For example, we can see in Table 2.2 that 39% of micro firms depend on their top customer to provide at least a quarter of their business; and this compares with 36% for small firms and 32% for medium-sized firms.

Overall, the findings in Table 2.2 shows that the contrast between the different size groups is muted and statistically insignificant for the NI sample. This is particularly attributable to

the medium-sized group, but the number of observations here requires caution in the interpretation of this finding.

Table 2.2

Concentration of sales with largest single customers (%distribution of firms)

% sales to largest customer	Less than 10%	10%-24%	25%-49%	50%-100%	No. of firms
NI 2004					
Micro	32.9	28.1	18.3	20.8	420
Small	30.6	33.2	20.0	16.2	310
Medium	36.0	32.0	12.0	20.0	25
GB 2002					
Micro**	32.7	29.3	22.1	15.9	683
Small	30.9	37.4	21.5	10.2	1,006
Medium	41.9	33.1	17.2	7.8	320

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

Table 2.3 sheds light on the location of markets for the sample of firms in the survey. Each of the firms was asked to identify its largest market. 40.7% of the firms consider that local markets are their most important compared to 32.2% for the rest of Northern Ireland, 12.6% for the rest of the UK, 9.5% for the Republic of Ireland and 5.0% for other international markets. There were significant variations between categories of firms. Manufacturing and fast growth firms have less dependence on local markets and do more trade with the rest of the UK and the Irish Republic (but not other international markets). Newer and innovative firms also have less dependence on local markets, but they have additional dependence on international markets, as well as the rest of the UK and the Irish Republic.

Table 2.3

Geographical scope of markets (% distribution of firms)

Type of firm	Local	Other Northern Ireland	Other UK	Republic of Ireland	Other International
All firms	40.7	32.2	12.6	9.5	5.0
Manufacturing**	36.0	32.9	14.3	12.5	4.3
Services	46.7	31.3	10.5	5.7	5.7
Stable/Declining	45.1	34.3	10.1	6.5	4.0
Medium growth	35.3	34.5	12.9	12.1	5.2
Fast growth	34.5	35.1	14.0	11.1	5.3
Newer**	36.1	29.7	13.6	11.1	9.5
Older	43.2	34.3	12.2	8.2	2.1
Innovators**	29.5	33.8	16.7	11.9	8.2
Non-innovators	54.0	30.4	7.8	6.7	1.1

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

Table 2.4 shows the relationship between firm size and the geographical scope of markets for NI firms in comparison with the GB sample. It can be seen that the questions asked in the two surveys were slightly different, but both exhibit the expected result that larger firms are more likely to be operating further away from the home base. Thus, the proportion of firms that have either the rest of the UK, the Republic of Ireland, or other international markets as their largest market is 22% for micro firms, 32% for small firms and 54% for medium-sized businesses. In this respect, the medium-sized NI firms are showing the expected characteristic and this is in contrast to our findings about their rather narrower customer base than their GB counterparts.

Table 2.4
Geographical scope of markets (% distribution of firms)

Type of firm	Local	Other Northern Ireland	Other UK	Republic of Ireland	Other International	No. of firms
NI 2004						
All firms	40.7	32.2	12.6	9.5	5.0	799
Micro**	46.4	31.4	9.2	8.1	4.8	455
Small	34.0	34.0	15.7	11.3	5.0	318
Medium	23.1	23.1	34.6	11.5	7.7	26

Type of firm	Local	Regional	National	International	No. of firms
GB 2002					
All firms	23.2	32.8	31.4	12.6	2,118
Micro**	41.0	29.1	22.5	7.4	742
Small	15.6	35.9	34.1	14.4	1,047
Medium	7.3	31.0	43.2	18.5	329

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

2b Competitors

The number of serious competitors faced by the firms in the survey is shown in Table 2.5. There is a lack of extensive competition facing most firms in the sample: 91 % of firms had fewer than 10 serious competitors compared with 76% for the GB sample. 9% of the NI firms believe that they have no serious competitors, compared with 15% for the rest of the UK. There are variations in the pattern of competition by firm category, but none are statistically significant. 75% of service sector firms have fewer than 10 serious competitors compared to 85% for manufacturing firms. However service sector firms are more likely to face no serious competition (13%) or very extensive competition (3% face 100 or more serious competitors) – these findings are consistent with those found for the GB sample.

The different growth categories show no particular pattern. Newer and older firms have only marginal differences in the pattern of competition they face.

Non-innovating firms and innovating firms both have 55% with fewer than 10 serious competitors, but only 6% of innovating firms face no serious competition compared with 14% of non-innovating firms.

Table 2.5
Number of competitors (% distribution of firms)

Type of firm	0	1-4	5-9	10-19	20-98	>98
GB 2002 - All	14.8	38.0	23.1	13.0	8.9	2.3
NI 2004 - All	9.3	45.5	26.0	12.4	5.5	1.2
Manufacturing	6.9	48.6	29.2	12.7	2.4	0.2
Services	12.5	41.4	21.4	12.2	9.9	2.6
Stable/Declining	12.8	41.2	25.1	12.8	7.0	1.2
Medium growth	4.5	36.6	34.8	17.0	6.3	0.9
Fast growth	7.3	48.2	24.4	14.6	4.9	0.6
Newer	9.5	48.4	24.6	10.5	5.6	1.4
Older	9.1	43.5	27.2	13.7	5.3	1.2
Innovators	5.8	49.2	26.1	12.9	5.8	0.2
Non-innovators	14.1	40.5	25.7	11.8	5.3	2.6

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

The lack of apparent competition is greater, and statistically significant, for smaller firms; 82% of micro firms had less than 10 serious competitors compared to 81% of small firms and 68% of medium-sized firms. Furthermore, 14% of micro firms believed that they had no serious competition compared to 4% of small firms and 0% of medium-sized firms. This pattern is similar to that observed in the GB sample.

Table 2.6
Number of competitors (% distribution of firms)

Type of firm	0	1-4	5-9	10-19	20-98	>98	No. of firms
NI 2004							
Micro**	13.7	47.5	20.3	10.2	6.3	2.0	394
Small	4.3	43.8	32.9	15.1	3.6	0.3	304
Medium	0.0	36.0	32.0	16.0	16.0	0.0	25
GB 2002							
Micro**	28.4	41.8	15.4	7.0	4.9	2.6	617
Small	9.3	37.5	26.2	14.5	10.3	2.2	945
Medium	4.3	31.7	28.7	20.8	12.9	1.7	303

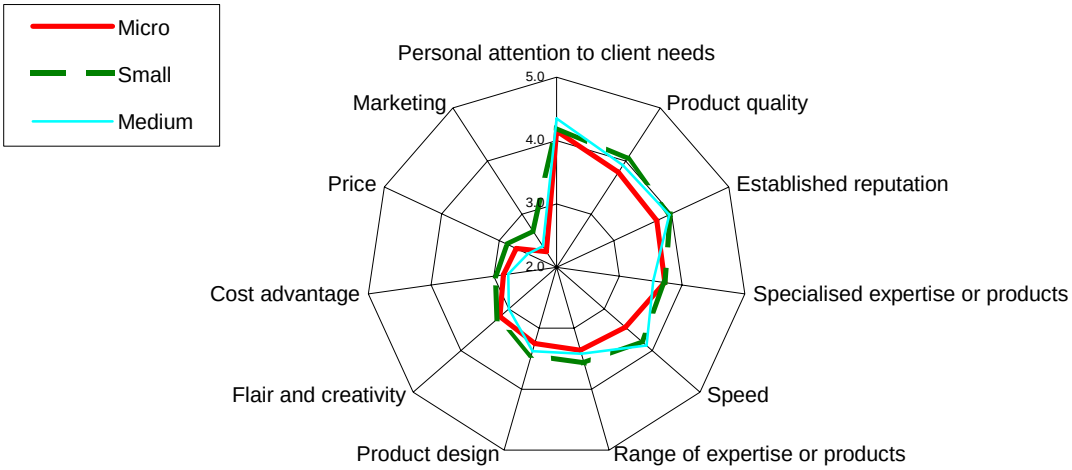
Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

2c The Sources of Competitive Advantage

To assess the sources of competitive advantage, each firm was asked to evaluate the contribution of a number of factors: on a scale with 1 meaning the factor was completely insignificant and 5 indicating a crucial factor.

Figure 2.1, which provides a graphical summary of the data by size category, shows that personal attention and responsiveness to client needs, product quality and established reputation. Those factors that had a low overall low rating include cost advantage, price and marketing – the latter is consistent with the evidence presented above that lack of marketing skills has been a significant factor that has constrained the growth of many firms in the survey.

Figure 2.1 Assessment of key factors which contribute to competitve advantage



As shown in Table 2.7, the rankings of competitive factors for manufacturing and service sector firms are broadly similar - although there are statistically differences in 5 of the 11 factors. In general, manufacturing firms give higher scores to the factors, particularly for product design, quality, cost, price and speed of service. Micro firms particularly give low scores for price and for marketing skills as sources of competitive advantage. They also give lower scores for established reputation and, surprisingly, speed of service – a finding not evident in the GB surveys.

Table 2.7

Areas of competitive advantage (% of firms rating area as very significant or crucial)

Competitive advantage	All firms	Manu-facturing	Services	Micro	Small	Medium
Personal attention to client needs	81.1	81.7	80.3	80.3	81.8	88.5
Product or service quality	75.0	79.0**	69.7	71.2**	80.3	76.9
Established reputation	71.5	72.2	70.6	67.2**	77.6	73.1
Specialised expertise/product/service	67.3	66.7	68.1	68.1	66.7	61.5
Speed of service	59.7	64.5**	53.3	53.4**	67.3	80.8
Range of expertise/products/services	55.4	57.5	52.5	54.2	57.3	53.8
Product or service design	55.3	60.9**	47.8	52.7	58.8	57.7
Flair and creativity	44.1	44.6	43.6	45.2	43.6	30.8
Cost advantages	32.8	36.9**	27.5	31.9	34.5	26.9
Price	28.6	33.5**	22.2	26.5**	32.7	15.4
Marketing and promotion skills	20.9	21.9	19.4	17.4**	26.4	15.4
Total responses (no.)	853	471	360	476	330	26

Asterisks in the first column of a group indicate statistically significant differences between the types of business (* = significant at the 10% level, ** = significant at the 5% level or better).

The sources of competitive advantage do vary by growth category. Older firms stress reputation, whilst newer firms identify design, flair and specialisms as their competitive edge. The newer firms also give greater emphasis to cost and price advantages. The better the growth performance of the firm, the more likely it will stress the importance of quality and design, specialisms and expertise, and marketing. The other categorisation that produces large and significant differences in competitive advantage is between innovating and non-innovating firms. There are statistically significant differences between the two types of firms for eight out of the eleven competitiveness factors. The largest differences - in terms of scores - were for product design, quality, flair and creativity, and specialised expertise or products - innovating firms scored all these factors more highly than non-innovating firms. Overall, innovating firms stress the importance of higher-order qualitative factors which require investment in skills and technical capabilities.

Table 2.8

Areas of competitive advantage (% of firms rating area as very significant or crucial)

Competitive advantage	Older	Newer	Stable/ Declining	Medium growth	Fast growth	Non-innovators	Innovators
Personal attention to client needs	79.7	83.3	80.7	84.0	87.2	77.2**	84.5
Product or service quality	74.0	76.5	70.9**	81.5	80.0	68.1**	80.5
Established reputation	75.7**	64.8	71.6*	79.0	80.0	71.6	71.3
Specialised expertise/product/service	62.6**	74.7	61.4**	72.3	76.1	59.0**	74.2
Speed of service	60.2	59.0	56.1**	66.4	66.1	55.2**	63.2
Range of expertise/products/services	53.7	58.3	49.5**	59.7	61.7	50.1**	59.5
Product or service design	51.7**	60.5	49.5*	56.3	60.6	42.6**	65.4
Flair and creativity	41.0**	49.1	43.2	42.0	47.2	35.7**	51.0
Cost advantages	29.4**	37.3	28.8	33.6	36.7	30.3	34.8
Price	26.4*	31.8	23.2*	31.1	31.1	28.2	29.1
Marketing and promotion skills	19.1	23.5	15.1**	26.9	31.1	16.1**	24.7
Total responses (no.)	497	324	533	119	179	373	457

Asterisks in the first column of a group indicate statistically significant differences between the types of business (* = significant at the 10% level, ** = significant at the 5% level or better).

2d Collaboration and Cooperation

Effective collaboration has been identified as an important means of improving competitiveness and the firms in the survey were asked to provide details of formal or informal collaborative or partnership agreements into which they had entered during the last three years. As shown in Figure 2.2, 35% of firms had entered into such agreements with other organisations – about the same level as the proportion entering into such agreements in the 1999 survey. Collaborative arrangements were more widely used in the service sector (46%) than in manufacturing (29%), reflecting the importance of networking in the business services sector. These figures are almost identical to those found in the GB survey.

The likelihood of entering into a collaborative arrangement increases with firm size - 34% of micro firms enter collaborative agreements compared with 39% of small firms and 62% of larger firms. These figures are also similar to those found in previous CBR surveys. The growth performance category provides important contrasts as faster growing firms were more likely to enter into collaborative agreements - 43% of fast growth firms had entered into such agreements compared to 35% for the other growth groups improve business performance and growth. Additionally, newer firms are more likely to enter into collaborative arrangements than older firms - an important contrast as newer firms tend to be smaller and as noted above there is a positive relationship between firm size and collaboration. One of the greatest contrasts is between innovating and non-innovating firms - 43% of the former entered into partnership arrangements compared with only 29% of the latter. This is consistent with previous CBR surveys which have shown that collaboration is associated with greater innovation and higher rates of firm growth.

Figure 2.2 Percentage of firms entering into formal or informal collaborative partnership arrangements

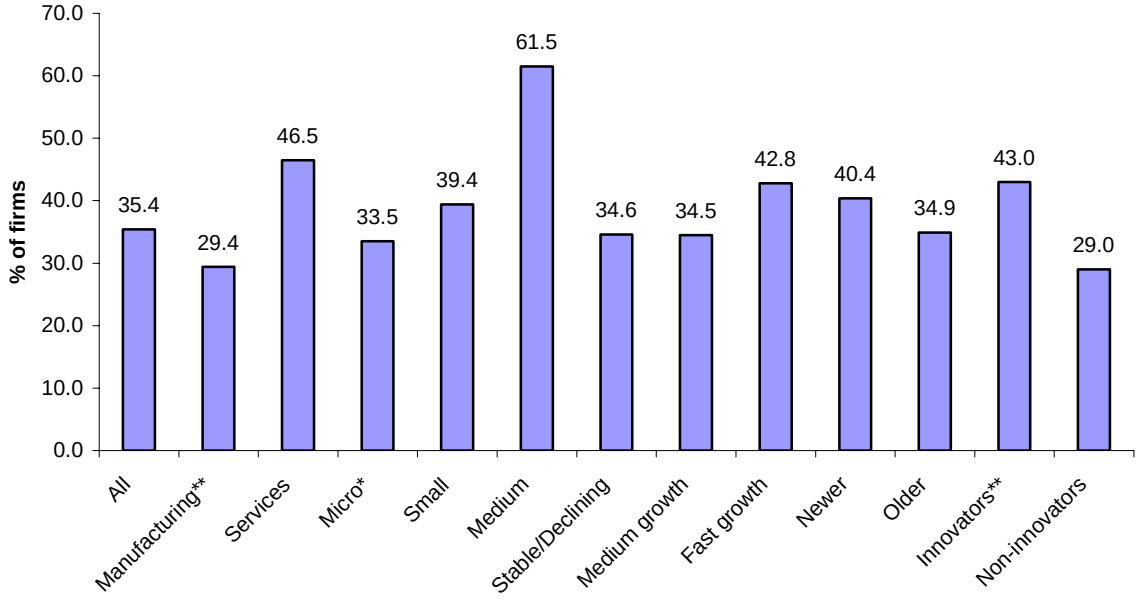


Figure 2.3 shows, for those firms that did collaborate, with whom the collaboration occurred. There are significant variations in collaborative activity by firm size: in general, the larger the firm the more likely it will have collaborated with their suppliers, their customers and higher educational institutes. This suggests that larger firms have the logistical and administrative capability to access inputs and build relationships with others. The most common partner is a firm in the same line of business and this does not differ across the size groups.

Figure 2.3 Collaborative partners

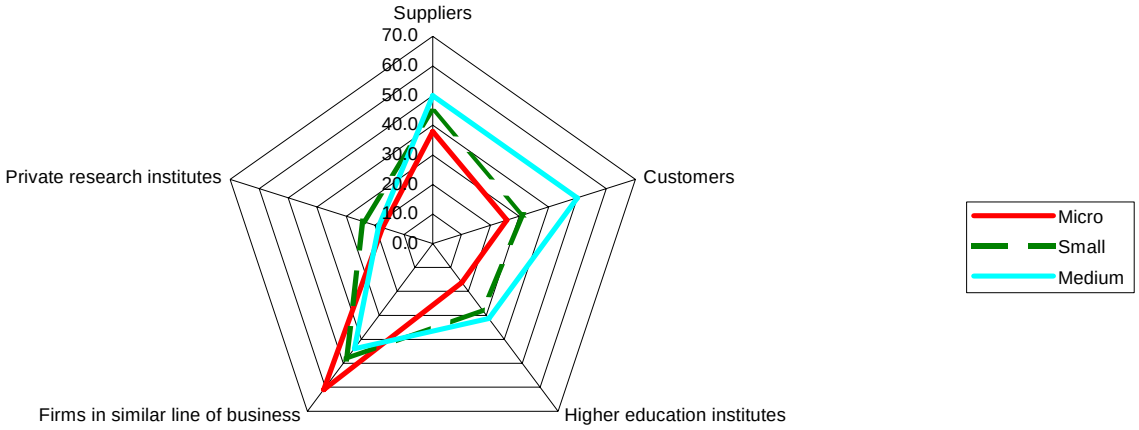
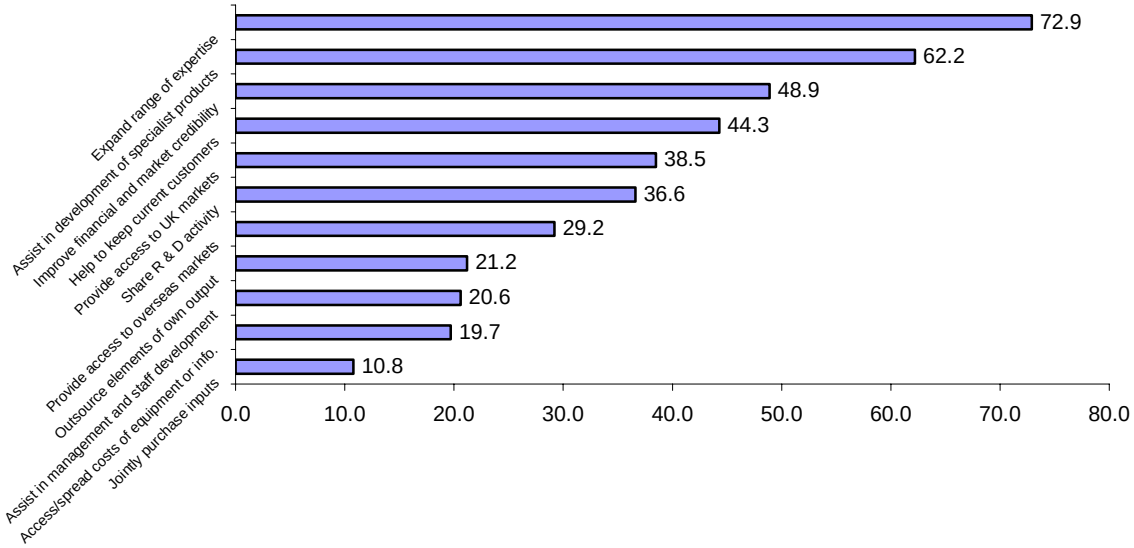


Figure 2.4 explores the reasons given for collaboration.

Figure 2.4 Reasons for collaboration - (% of collaborating firms giving these reasons)



The five most important were to help expand the range of expertise and products (73%), to assist in the development of specialist services and products required by customers (62%), to improve financial market credibility (49%), to help keep current customers (44%) and to provide access to UK markets (39%). These are very similar to the reasons given by firms in the GB survey.

3 The Labour Force

3a Employment structure

The first two columns of Table 3.1 give the skill structure of the total employment of the firms surveyed for the GB and NI samples. For all firms, 32% (29% GB) of workers were semi-skilled and unskilled and 25% (22% GB) skilled manual, 14% (17% GB) clerical and administrative staff, 9% (11% GB) lower and 10% (11% GB) higher qualified technical and professional staff and 11% (10% GB) managers. This broad similarity is examined further below in the various size groups.

The other columns of Table 3.1 show that this employment structure varies considerably between the different types of NI firms. Service firms have a higher concentration of white-collar workers, proportionately more managers and fewer manual workers than manufacturing firms. Newer firms have higher proportions of technologists and higher professionals than do older firms.

Table 3.1 Employment structure: % of workers in each skill category

Skill category	GB 2002 - All	NI 2004 - All	Manu-facturing	Services	Older	Newer
Semi-skilled and unskilled	29.4	32.0	39.2	12.5	34.5	24.6
Skilled manual	21.9	24.6	30.4	9.3	24.6	24.2
Clerical and administrative	17.0	13.5	11.7	18.1	13.1	14.5
Technicians and lower professionals	10.7	9.0	5.2	19.4	9.3	8.5
Technologists and higher professionals	10.9	9.5	2.5	28.0	7.4	15.9
Managers	10.1	11.4	10.9	12.8	11.1	12.4
Total employment	90,787	11,185	8,120	3,035	8,343	2,765
No. of firms	1,968	759	424	333	454	296

Table 3.2 shows the employment structure across the NI size groupings in comparison with those in the GB sample. Micro firms have larger proportions of the higher and lower levels of technical and professional staff, but smaller proportions of manual workers and higher proportions of clerical and administrative and managerial staff than small and medium sized-firms. These differences no doubt reflect the higher levels of specialisation in the activities of very small firms and are very similar to the findings for the GB sample. In fact the contrast between micro firms and the other two groups in terms of manual workers and in terms of clerical staff is far greater in the NI samples.

Table 3.2 Employment structure: proportion of workers in each skill category

	NI 2004			GB 2002		
Skill category	Micro	Small	Medium	Micro	Small	Medium
Semi-skilled and unskilled	18.5	31.0	47.3	15.5	27.8	31.6
Skilled manual	20.0	25.1	27.0	21.9	23.9	20.3
Clerical and administrative	20.3	13.6	7.0	22.4	15.3	18.0
Technicians and lower professionals	13.2	9.5	4.0	10.5	10.4	11.0
Technologists and higher professionals	12.9	9.5	6.5	12.0	11.5	10.3
Managers	15.2	11.4	8.1	17.7	11.1	8.8
Total employment	1,839	7,227	2,119	3,020	39,438	48,328
No. of firms	440	303	16	696	999	289

3b Recruitment difficulties

Our surveys have shown that SMEs regard skilled labour shortages as a key constraint. The proportion of firms with recruitment difficulties in any grade is shown in the bottom row in Table 3.3. More than half of all the firms reported difficulties in recruiting for one or other of the skill categories they employed – a remarkably similar figure to the rest of the UK. There are wide variations in recruitment difficulties between categories of skills so that inter-firm differences in overall recruiting difficulties are explained, at least in part, by differences in skill structure of their workforce. Overall, the highest rates of recruitment difficulties are for skilled manual workers (53%), followed by technologists and higher professionals (44%) and technicians and lower professionals (36%). Fewer firms had recruitment difficulties with clerical and administrative staff (16%) and managers, but perhaps a surprisingly high proportion (35%) found it difficult to recruit semi-skilled and unskilled manual workers.

Table 3.3 Recruiting difficulties in firms employing specific skill categories

Skill category	GB 2002 - All	NI 2004 - All	Manu-facturing	Services
Semi-skilled and unskilled	28.4	34.9	35.7	31.4
Skilled manual	51.1	52.9	52.1	57.1
Clerical and administrative	12.8	15.5	15.3	15.8
Technicians and lower professionals	33.0	35.5	39.1	32.8
Technologists and higher professionals	39.0	43.8	28.6**	52.5
Managers	18.6	19.7	18.3	22.7
All Grades	55.1	53.4	55.2	51.2

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

The differences in recruiting difficulties across firm size are shown in Table 3.4. The bottom row also shows that recruitment difficulties increased with the firm size - 70% of the medium sized firms had recruitment difficulties compared to 43% of the micro firms. Micro and small NI firms had somewhat higher recruiting difficulties than their GB counterparts, particularly in the case of semi-skilled and unskilled manual workers and for technologists and higher professionals.

Table 3.4 Recruiting difficulties in firms employing specific skill categories

	NI 2004			GB 2002		
Skill category	Micro	Small	Medium	Micro	Small	Medium
Semi-skilled and unskilled	32.7	36.2	35.7	23.4	28.7	31.9
Skilled manual	47.2	56.1	61.5	47.3	50.4	57.2
Clerical and administrative	16.4	15.5	5.6	10.5	13.5	13.5
Technicians and lower professionals	34.9	33.3	57.1	32.2	31.2	38.0
Technologists and higher professionals	50.0*	41.4	11.1	22.3**	40.5	47.7
Managers	16.2	21.5	26.3	7.7**	19.5	27.5
All Grades	42.7**	65.9	70.0	36.5**	61.0	72.1

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

3c Labour turnover

Table 3.5 shows that NI firms reported similar levels of labour turnover to the GB sample. Micro firms have highly stable workforces with 62% of firms with rates of labour turnover of 5% of less. But this stability declines with the size of firms and only about 46% of small and medium-sized firms have such low rates of labour turnover. Micro firms have a lower proportion of firms with less than 1% labour turnover than found in the GB sample, but small firms have greater stability than their GB counterparts.

3d Training provision

Faced with difficulties in recruiting, the overcoming of skill shortages requires firms to train.

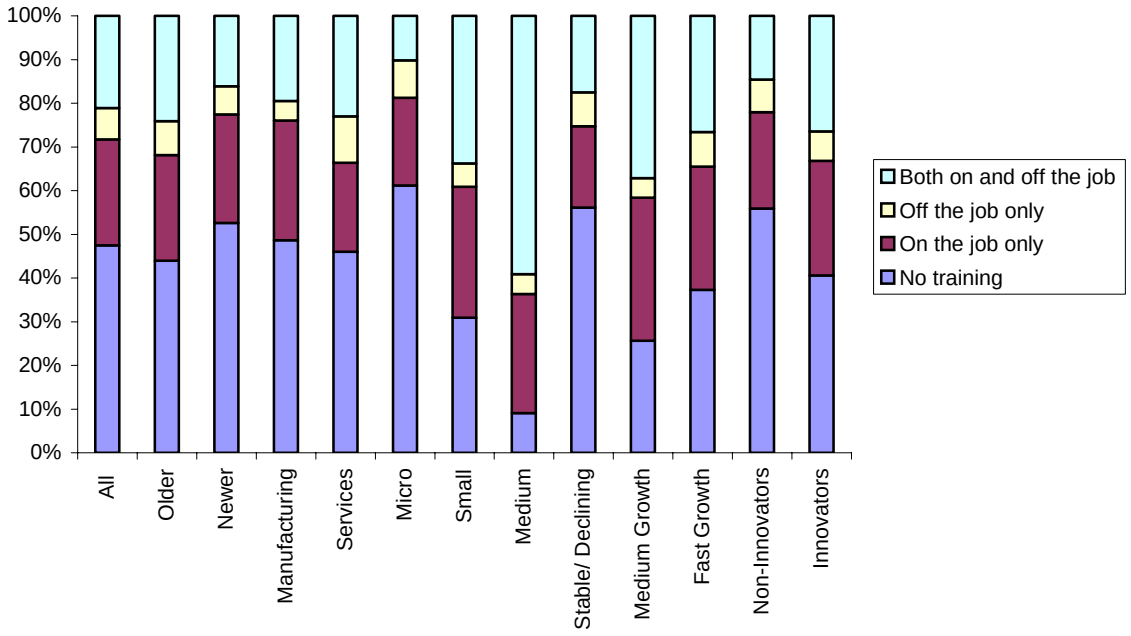
Table 3.5 Rates of labour turnover

	NI 2004			GB 2002		
% rate of labour turnover	Micro	Small	Medium	Micro	Small	Medium
Less than 1%	59.9**	21.6	4.2	70.3**	22.3	5.1
1 to 5	2.1	23.8	41.7	6.6	37.0	35.8
6 to 10	5.2	26.0	29.2	4.5	24.4	31.2
11 to 20	12.2	16.8	16.7	7.5	9.4	16.6
More than 20%	20.7	11.7	8.3	11.2	7.0	11.2
No of firms	329	273	24	671	1,012	313

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

Figure 3.1 shows that almost 53% of the firms provide formal training. It also shows how the number of firms providing training rises with firm size, from 31% of micro firms to 91% of medium sized firms, and these are identical to the percentages found for the rest of the UK. A higher proportion of innovators and newer firms also train. Although fewer stable and declining firms carry out formal training, more medium growth than fast growth firms train.

Figure 3.1 The Provision of Formal Training



3e Human Resource Management

To explore their increased functional flexibility we asked the firms whether they used total quality management, quality circles, job rotation/multi-skilling and performance related pay. Quality circles are intended to bring together workers and managers to discuss production problems for the purpose of securing employee commitment and to draw upon workers accumulated skill and knowledge to improve performance and save costs. Total quality management (TQM) may include quality circles and other measures for securing employee participation, but it has a broader engineering base and is strongly oriented towards meeting consumer requirements by greater production flexibility and continuous improvement. Job rotation and multi-skilling are key concepts in HRM and form the basis for flexible working, inter-changeability and team working. Performance related pay is a means of more closely integrating the interests of the business and its employees.

Examination of the data shows that relatively few firms used quality circles and the large majority that did, used them together with TQM. It was therefore decided to construct a measure, labelled *quality management*, which includes the use of quality circles alone, TQM alone, and both together.

The uses of these HRM practices are summarised in Table 3.6. Overall, 32% (39% GB) of the businesses use job rotation and multi-skilling, 30% (32% GB) use quality management and 28% (33% GB) have performance related pay. Their use is more prevalent in manufacturing than services, especially job rotation and multi-skilling, adopted by 41% of the manufacturing firms. Innovators also took a lead over non-innovators in developing human resource management practices that give them functional flexibility.

Table 3.6 Use of quality management, job rotation/multi-skilling and performance related pay

% using:	GB 2002 - All	NI 2004 - All	Manu-facturing	Services	Non-innovators	Innovators
Quality management	32.3	29.9	31.9	27.5	21.4**	36.7
Job rotation/multi-skilling	38.9	32.0	40.5**	21.1	23.7**	38.7
Performance related pay	32.8	27.7	27.3	27.8	20.3**	33.3
No. of firms	2,036	749	417	331	327	420

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

The deployment of the HRM methods is also directly related to size and this is explored in Table 3.7 below. There is a marked rise in the use of each of these HRM practices with firm size in both the NI and the GB samples. In general their use is somewhat higher amongst NI firms than amongst their GB counterparts.

Table 3.7 Use of quality management, job rotation/multi-skilling and performance related pay

	NI 2004			GB 2002		
% using:	Micro	Small	Medium	Micro	Small	Medium
Quality management	19.5**	42.2	53.8	15.7**	38.1	48.6
Job rotation/multi-skilling	20.7**	45.8	50.0	20.0**	45.0	59.4
Performance related pay	18.0**	38.3	58.3	15.8**	38.0	52.0
No. of firms	420	303	26	686	1,026	325

Asterisks in first row of a group indicates statistically significant differences between the types of businesses (* significant at the 10% level, ** significant at the 5% level)

The firms were also asked whether their use of HRM practices had changed since 2001 and the responses to this question are reported in Figure 3.3. Figure 3.4 shows that for the large majority of the firms there has been no change in HRM practices. The main finding revealed by Figure 3.2 is the net increase in the use of these practices. The net increase is 16% for performance related pay, 17% for quality management and 20% for job rotation and multi-skilling. These also reflect the changes observed in the rest of the UK.

Figure 3.2 Changes in human resource management practices

4 Innovation Activity

4a Innovation Outputs

Table 4.1 summarises our basic data on innovation outcomes and intentions. The first column shows that over half of the sample report having introduced a product, or process innovation in the past three years. This is somewhat lower than the proportion in the GB sample – 54% compared with 62%. As for the GB sample, the proportion of innovating firms is higher amongst manufacturing, newer and fast growing firms.

We can also look at innovation intentions. Table 4.1 analyses these and reveals some persistence in the pattern of innovation activity. Thus, a comparison of columns one and two shows that groups with relatively high innovation outputs in the past have relatively high proportions of firms intending to innovate in the future. Moreover, this persistence is largely the result of firms which innovated in the past intending to continue in the future. This is revealed in the third column, which shows that, for the sample as whole, over 80% of firms innovating in the past intend to do so in the future. These proportions varied little across our broad sectors and age groups.

Table 4.1 Product and process innovation activity and intentions

% of firms	introduced product or process innovation in last 3 years	intending to introduce an innovation in next 3 years	innovated in last three years and intend to introduce an innovation in next 3 years
GB 2002 - All	62.2	63.6	83.1
NI 2004 - All	54.4	58.8	81.0
Manufacturing	60.1**	65.6**	81.1
Services	46.6	49.0	80.6
Older	52.3*	53.2**	78.6
Newer	58.4	66.5	84.0
Stable/Declining	47.4*	48.3**	73.5*
Medium growth	59.7	67.5	89.7
Fast growth	67.8	67.2	82.4

The asterisks in the first row of a group indicate a statistically significant difference between members of that group (** = significant at the 5% level or better).

There is a significantly positive association between product innovation and size in both the NI sample and the rest of the UK. In terms of the proportion of firms that report an achieved innovation over the past three years, we find that 48% (47% GB) for the micro firms, 62% (67% GB) for the small firms and 77% (80% GB) for the medium-sized firms. Bigger means better in both samples and NI small firms lag somewhat behind their GB equivalents.

The intentions to introduce innovations in the near future follow a broadly similar pattern, but NI micro and small firms are more optimistic relative to the past than their GB counterparts.

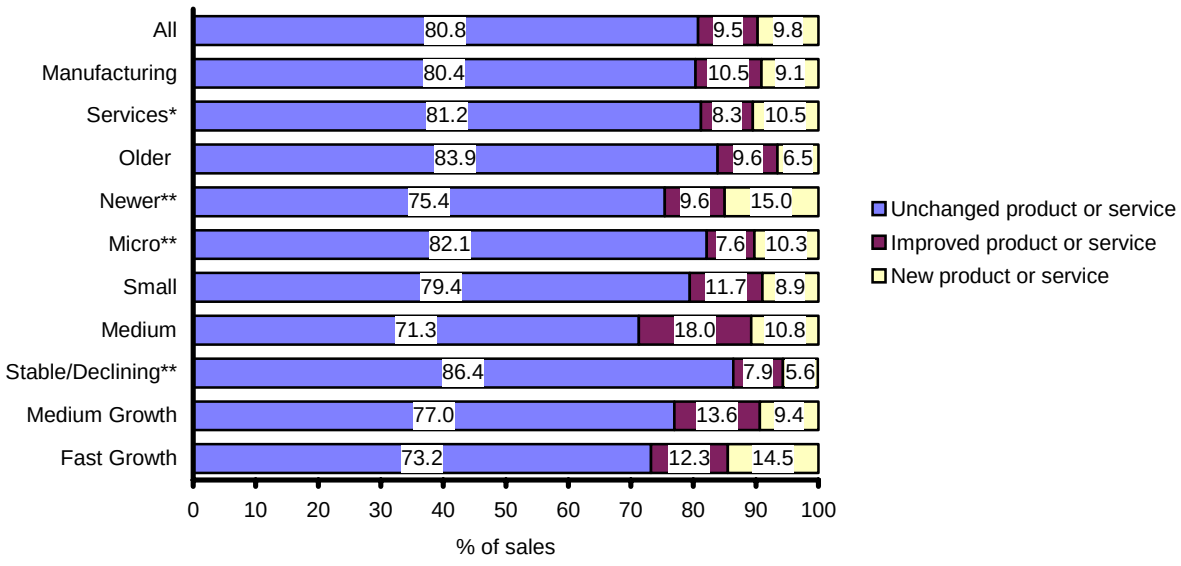
Table 4.2 Product and process innovation activity and intentions

% of firms	Introduced product or process innovation in last 3 years	Intending to introduce an innovation in next 3 years	Innovated in last three years and intend to introduce an innovation in next 3 years
NI 2004			
Micro	48.1**	50.9**	76.3**
Small	61.8	68.4	85.4
Medium	76.9	72.0	89.5
GB 2002			
Micro	47.4**	45.3**	70.9**
Small	67.0	70.6	86.4
Medium	80.2	82.3	90.5

The asterisks in the first row of a group indicate a statistically significant difference between members of that group (** = significant at the 5% level or better).

Figure 4.1 provides a breakdown of sales into that due to unchanged, improved and products or services. This is an important measure since it goes beyond the incidence of innovation to provide an innovation output measure of product innovation at firm level. For the sample as a whole around 10% of sales are new products or services; and this figure rises to over 19% if we include both new and significantly improved products and services. The most striking difference across the groups is for the growth categories where fast growth is associated with the innovation content of the products. The same can be said for medium-sized firms and for newer firms which both have a markedly higher proportion of their sales due to new, or improved products. These patterns of intensity broadly echo the findings based on incidence discussed above.

Figure 4.1 Distribution of sales by novelty of product or service

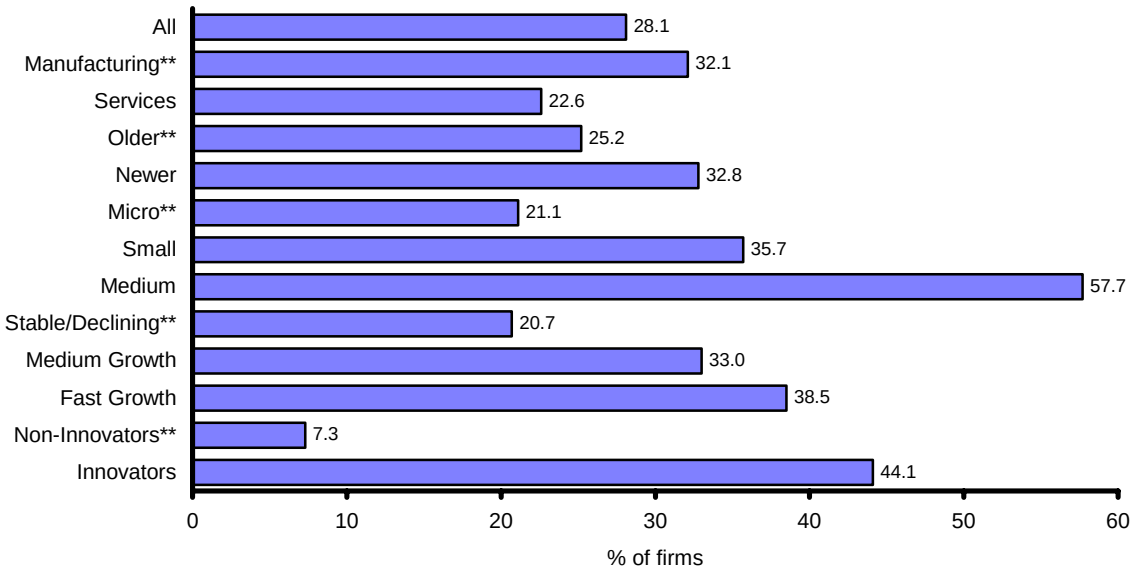


4b Innovation Inputs

In seeking to meet their innovative objectives our sample firms combine R&D expenditures with R&D employment and sources of information relevant to innovation from inside and outside the firm. Figure 4.2 shows the proportion of firms engaging in R&D in the previous year. Only 28% of the sample reports some R&D activity in the previous year compared with 40% for the GB sample. This is in part, but not entirely, a size effect since the NI proportions are lower in each size class: 21% compared with 22% for micro; 36% compared with 48% for small; and 58% compared with 63% for medium-sized firms.

In addition, as we might expect, the proportions are significantly higher in manufacturing, newer, fast growth and innovative firms.

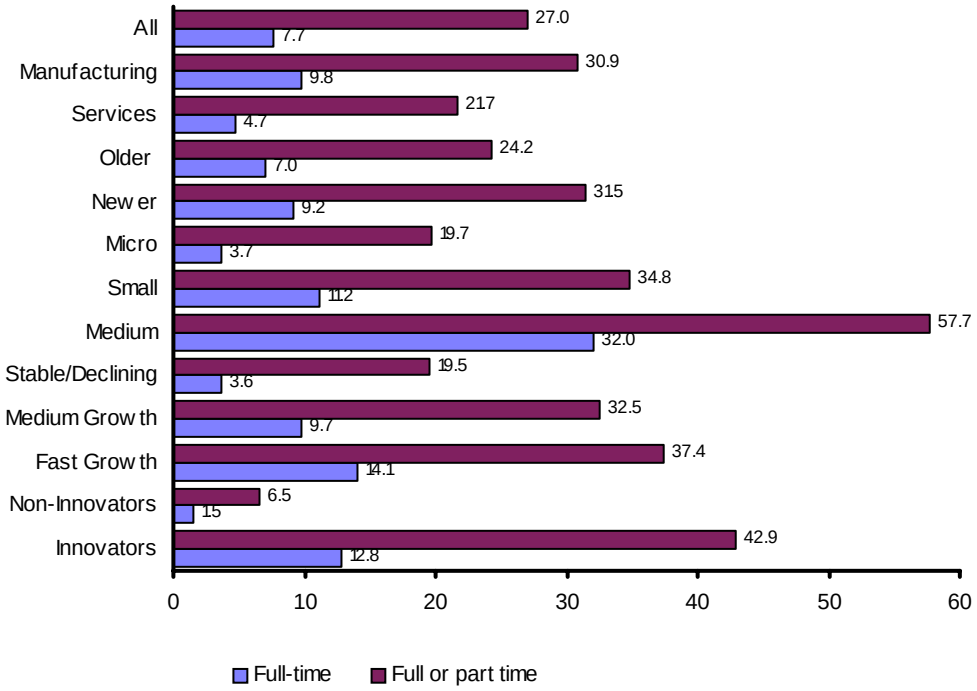
Figure 4.2 Proportion of firms engaging in R&D last year



A similar pattern emerges in Figure 4.3 that reports the proportion of firms with staff engaged in R&D. The proportions with full-time, or part-time, 27%, and the proportion with full-time, 8%, are lower than the equivalent 40% and 16% found for the GB sample. The proportions with either full or part-time staff are 20% (20% GB) for micro; 35% (47% GB) for small; and 58% (62% GB) for medium-sized firms.

Also, as we found above, the proportions of both full-time and any R&D staff are significantly higher in manufacturing, newer, fast growth and innovative firms.

Figure 4.3 Percentage of firms with staff engaged in R&D



Small and medium-sized enterprises derive ideas for information inputs into their innovative activity not only from their own investments in R&D but also from a wide range other sources. Here we can explore sources of information for innovating firms specifically. Table 4.3 reports the proportion of innovators that scored the source of information as very significant, or crucial. In each part of the table the first column shows the findings for all innovators. It is apparent that NI firms score all sources of external information as more important than do the GB firms.

Information from within the firm is the most important (58%), but in the NI sample, it is followed closely by clients, or customers (50%) and by suppliers (39%). The equivalent proportions for the GB sample are 65%, 36%, and 29%. Although the absolute proportions differ, the ranking in importance of these information sources is very much the same in NI and the rest of the UK.

Table 4.3 also provides a breakdown by size of firm. This shows that the pattern of relative importance is broadly consistent across all size groups and consistent with previous CBR surveys. However, unlike what was found for the GB sample, the smallest firms do not rate almost every source as less significant, but in general the differences are not statistically significant.

Table 4.3 Importance of sources of information for innovation by size of firm (% very significant or crucial)

		GB 2002			GB 2002			
Sources	NI - All	Micro	Small	Medium	GB - All	Micro	Small	Medium
Internal:								
Within the firm	57.5	51.5**	64.0	75.0	65.1	50.3**	69.4	76.2
Within the group	20.4	15.3**	25.0	46.7	12.5	6.3**	11.9	23.8
External:								
Suppliers of equipment, materials and components	38.6	37.2	40.1	41.7	28.7	26.5	31.1	25.6
Clients or customers	49.6	46.7	53.2	54.2	36.0	31.3*	37.8	38.5
Competitors in your line of business	22.2	18.9**	27.6	8.3	13.1	11.6	13.4	14.7
Consultancy firms	9.3	7.9	11.4	4.2	3.9	2.8	4.2	4.8
Universities/higher education institutes	9.1	7.4	10.8	16.7	3.1	2.3	2.9	4.8
Professional conferences, meetings, professional journals	12.8	15.1	10.1	8.3	4.4	5.6	4.0	3.7
Fairs/exhibitions	18.0	16.1	21.2	8.3	8.7	7.7	8.7	10.3
Trade associations, chambers of commerce	7.2	7.7	7.1	0.0	3.8	3.7	4.0	3.7
Computer-based information networks	19.9	21.4	17.5	25.0	8.2	9.5	8.2	6.2

Asterisks in the first column indicate statistically significant differences between the types of business grouped by size (** = significant at the 5% level or better).

4c Constraints on Innovation

Table 4.4 provides an analysis of the main barriers to innovation identified by all firms in the NI sample in comparison with the equivalent findings for the GB sample. For the GB sample the highest proportions of firms reporting a barrier as crucial or very significant are in the 26-29% range. These barriers are lack of appropriate sources of finance, innovation costs too high, and pay-off period too long. Amongst factors internal to the firm lack of innovation capacity and skilled personnel are most significant. A variety of regulatory factors is cited by 20% of the sample and around 16% cite lack of consumer responsiveness as a crucial or very significant barrier. This pattern is common across the EU and is also reflected in the findings for the NI sample. The most notable difference is the higher proportion of firms citing finance and costs as the source of their difficulties amongst NI firms. For example 43% of the NI sample give lack of finance as a constraint on innovation is much higher than the 27% given by the GB sample.

The split between innovators and non-innovators is very revealing. Innovators consistently identify more frequently than do non-innovators the 'economic' group of factors (particularly innovation costs and finance) as barriers. The same is also true for most of the firm level barriers for which innovators identify significantly higher barriers. Non-innovators are more likely to be concerned about the firm's lack of innovation potential, the lack of need to innovate due to past innovations (i.e. more than three years earlier) and organisational rigidities as barriers to innovation.

Manufacturing firms generally have more concerns that business service firms – innovation costs and lack of information about technologies are notable different. On the other hand, business service firms find the lack of customer responsiveness to innovation as a higher barrier than manufacturing firms.

Table 4.4 Barriers to innovation (% very significant or crucial)

Factors	All - GB 2002	All - NI 2004	Non-Innovator	Innovator	Manu-facturing	Services
Economic:						
Excessive perceived risk	22.5	22.6	20.0	24.3	24.2	20.6
Lack of appropriate sources of finance	27.1	42.5	34.1**	47.6	44.0	40.5
Innovation costs too high	28.6	37.7	31.5**	41.5	41.3**	32.9
Pay-off period of innovation too long	28.3	28.6	26.3	29.9	30.8	25.6
Firm level:						
Firm's innovation potential (e.g. R&D etc.) too small	21.8	22.9	23.7	22.4	22.2	23.6
Lack of skilled personnel	19.6	23.1	19.3*	25.4	24.2	21.6
Lack of information on technologies	8.6	13.4	10.0**	15.4	16.6**	8.6
Lack of information on markets	11.6	17.0	13.3**	19.3	17.1	16.6
Innovation costs hard to control	15.4	20.3	15.9**	22.9	20.8	19.6
Organisational rigidities	7.0	11.1	13.7*	9.5	12.7	9.0
Other reasons:						
Lack of technological opportunities	12.0	11.5	11.9	11.3	13.0	9.3
No need to innovate due to earlier innovations	5.6	7.7	10.0*	6.3	7.1	8.6
Innovation too easy to copy	11.6	12.4	11.1	13.2	12.0	13.0
Legislation, norms, regulations, standards, taxation	20.6	21.9	21.9	22.0	22.7	20.9
Lack of consumer responsiveness to innovation	16.5	15.3	15.6	15.2	11.0**	20.9
Uncertainty in timing of innovation	10.5	11.5	10.4	12.2	11.5	11.3

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by industry or innovating experience (* = significant at the 10% level, ** = significant at the 5% level or better).

An interesting picture emerges when we sub-divide the sample by size groups. This is done in Table 4.5. In general the overall rankings of constraints are pretty much the same in each of the sub-groups. Lack of appropriate sources of finance, innovation costs too high, and pay-off period too long regularly record the highest proportions, followed by factors internal to the firm in which lack of innovation capacity and skilled personnel are most frequently cited. The higher constraints due to finance availability and innovation costs in the NI sample when compared with the rest of the UK are found in each of the size groups.

Table 4.5 Barriers to innovation by size of firm (% very significant or crucial)

	NI 2004			GB 2002		
Factors	Micro	Small	Medium	Micro	Small	Medium
Economic:						
Excessive perceived risk	21.9	23.4	25.0	23.6	22.9	19.3
Lack of appropriate sources of finance	44.6	40.7	29.2	28.1	28.0	22.4
Innovation costs too high	34.2*	42.7	33.3	30.6**	29.9	20.9
Pay-off period of innovation too long	25.3*	33.2	25.0	29.2	27.8	28.0
Firm level:						
Firm's innovation potential (e.g. R&D etc.) too small	24.0	22.4	12.5	23.0**	22.7	16.5
Lack of skilled personnel	20.4	26.1	29.2	16.4**	21.3	20.9
Lack of information on technologies	10.7*	16.3	20.8	7.7**	10.2	5.3
Lack of information on markets	14.8	19.7	20.8	9.7**	13.9	8.1
Innovation costs hard to control	18.1*	24.1	8.3	15.9*	16.4	11.2
Organisational rigidities	10.2	12.9	4.2	8.3	6.6	5.6
Other reasons:						
Lack of technological opportunities	12.2	11.5	0.0	11.6**	13.5	8.4
No need to innovate due to earlier innovations	8.9	6.4	4.2	6.5	5.7	3.7
Innovation too easy to copy	11.5	14.2	4.2	11.4	12.2	10.0
Legislation, norms, regulations, standards, taxation	21.7	23.1	12.5	20.9	21.5	17.4
Lack of consumer responsiveness to innovation	16.8	12.9	20.8	17.0	16.6	15.3
Uncertainty in timing of innovation	10.5	13.6	4.2	12.1	9.4	10.9

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by size (* = significant at the 10% level, ** = significant at the 5% level or better).

Taken as a whole these results suggest a lack of appropriate finance as a particular barrier in high-tech services. They also point to difficulties in the level of costs and their management, and the timing of innovation and its payback period as problems for high-tech manufacturing.

5 Government Business Support

Table 5.1 allows an assessment of the level of use of government support schemes for business. This can be compared with Table 5.1 for other sources of advice. The programmes with the highest use are those from Invest NI, not surprising perhaps since part of the sample was drawn from Invest NI client firms. The usage of the various business support schemes from Invest NI ranges from: 24.2% for development/growth; 15.7% for training; 14.9% for technology and E-business; 13.7% for trade development; 11.6% for start-up; to 11.4% for R&D support. The next most common schemes are ENI support at 5.2% and EU funding schemes at 4.1% of sample firms.

There are some significant differences by firm type. Manufacturing firms are significantly more likely to have received all forms of Invest NI support, whilst business service firms are more likely to have taken up the DTI Small Firms Loan Guarantee Scheme. Newer firms are also more likely to have used Invest NI, particularly in relation to start-up, development/growth, training and trade development support. Newer firms are also significantly more likely to have used ENI support and the DTI's SFLGS. Innovators have used all forms of advice and support more than non-innovators, generally the difference is large and statistically significant.

Table 5.1
Financial Assistance or Advice from Central Government Business Support Schemes (% of respondents reporting use, multiple responses allowed)

Government Business Support Schemes	All	Manu-facturing	Services	Older	Newer	Non-innovators	Innovators
	%	%	%	%	%	%	%
Knowledge Transfer Partnerships (KTP)	3.5	3.9	3.0	3.9	3.0	2.1**	4.8
Invest NI Start up support	11.6	10.6	13.1	2.9**	25.4	8.5**	14.3
Local Enterprise Agency (ENI) support	5.2	5.4	4.9	2.0**	10.3	3.4**	6.7
Invest NI development/growth support	24.2	29.2**	17.5	18.7**	33.2	13.9**	32.8
Invest NI training support	15.7	19.0**	11.2	2.6**	21.1	8.0**	22.2
Invest NI R&D support	11.4	15.5**	5.7	11.0	12.4	3.9**	17.8
Invest NI technology & E-business support	14.9	19.9**	8.5	14.3	15.7	9.5**	19.3
Invest NI trade development support	13.7	17.2**	9.0	10.4**	18.4	6.7**	19.8
DTI Small Firms Loan Guarantee Scheme	2.8	1.7**	4.4	1.0**	5.7	1.0**	4.3
European funding schemes	4.1	5.4**	2.5	3.1*	5.4	3.1	5.0
SMART	1.5	1.7	1.4	1.2	2.1	0.0**	2.8
Other	4.0	4.6	3.3	2.9	5.1	2.8	5.0

Asterisks in the first column of a group indicate statistically significant differences between the types of businesses grouped by industry, age or innovation. (* significant at the 10% level, ** significant at the 5% level, respectively).

Table 5.1 (continued)
Financial Assistance or Advice from Central Government Business Support Schemes (% of respondents reporting use, multiple responses allowed)

Government Business Support Schemes	Micro	Small	Medium	Stable/ Declining	Medium growth	Fast growth
	%	%	%	%	%	%
Knowledge Transfer Partnerships (KTP)	2.0**	4.8	15.4	3.1	5.0	6.1
Invest NI Start up support	15.1**	6.9	7.7	5.2	6.7	10.0
Local Enterprise Agency (ENI) support	7.5**	2.1	0.0	3.8**	0.8	7.2
Invest NI development/growth support	17.1**	33.5	38.5	17.6**	35.3	31.7
Invest NI training support	7.3**	26.0	42.3	9.3**	14.4	25.0
Invest NI R&D support	4.9**	18.3	46.2	8.3**	14.3	17.8
Invest NI technology & E-business support	10.2**	21.6	19.2	10.7**	19.3	21.1
Invest NI trade development support	10.2**	17.4	34.6	11.4**	20.2	17.8
DTI Small Firms Loan Guarantee Scheme	2.6	3.0	3.8	1.7	2.5	4.4
European funding schemes	3.9	4.5	3.8	3.8	3.4	3.9
SMART	1.4	1.8	0.0	0.7	1.7	2.2
Other	4.1	3.6	7.7	2.8	3.4	2.8

Asterisks in the first column of a group indicate statistically significant differences between the types of businesses grouped by size or growth. (* significant at the 10% level, ** significant at the 5% level, respectively).

Growing businesses, and particularly fast growth firms, are more likely to have used support from the various Invest NI schemes and from ENI. The picture is more subtle across the size groups. Invest NI start-up support and ENI support were used by a significantly higher proportion of micro firms. For the other Invest NI support schemes there was a significant rise in their use as one moves from micro to small and on to medium-sized businesses; and several schemes reached between a quarter and a third of businesses of this size. Knowledge Transfer partnerships also exhibited a marked increase with firm size and 15.4% of medium-sized businesses made use of them.

Satisfaction levels with government schemes of those who used theses schemes is revealed in Table 5.2. The levels are generally very high with 77% to 94% saying that they are satisfied, or very satisfied. The satisfied proportions are higher than the CBR has found for similar GB surveys. Invest NI has both the lowest, 76.6% for start-up support, and the highest, 93.7% for training support, satisfaction levels; and those with more detailed knowledge of these schemes may be better placed to understand this variation.

Although there are some differences in satisfaction between the various groups of firms, few are statistically significant. Manufacturing firms have higher satisfaction levels for Invest NI R&D support. Innovators are more satisfied with Invest NI in its development/growth, training and trade development support. Fast growth firms are less satisfied with ENI support. Interestingly, there are no significant differences across the size groups in the satisfaction with theses schemes for those who have used them.

Table 5.2

Clients' Satisfaction with Business Support Schemes (% of clients who are satisfied or very satisfied +)

Government Business Support Schemes	All	Manu-facturing	Services	Older	Newer	Non-innovators	Innovators
	%	%	%	%	%	%	%
Knowledge Transfer Partnerships (KTP)	84.6	81.3	90.0	77.8	100.0	71.4	89.5
Invest NI Start up support	76.6	81.3	71.7	66.7	78.0	77.4	76.2
Local Enterprise Agency (ENI) support	78.6	84.0	70.6	60.0	84.4	92.3	72.4
Invest NI development/growth support	88.3	87.6	89.7	91.7	86.4	80.9*	90.7
Invest NI training support	93.7	94.3	92.1	91.5	95.5	86.2*	95.8
Invest NI R&D support	91.2	95.7**	75.0	92.3	89.7	92.9	90.9
Invest NI technology & E-business support	91.6	90.0	96.6	91.2	93.9	88.6	92.8
Invest NI trade development support	89.6	88.5	92.6	95.8	87.3	72.7**	94.0
DTI Small Firms Loan Guarantee Scheme	82.6	75.0	86.7	80.0	83.3	75.0	84.2
European funding schemes	93.3	95.8	83.3	100.0	85.7	91.7	94.4
SMART	90.0	100.0	75.0	100.0	75.0	0.0	90.0
Other	82.8	80.0	88.9	83.3	80.0	62.5*	90.5

Table 5.2 (continued)

Clients' Satisfaction with Business Support Schemes (% of clients who are satisfied or very satisfied +)

Government Business Support Schemes	Micro	Small	Medium	Stable/ Declining	Medium growth	Fast growth
	%	%	%	%	%	%
Knowledge Transfer Partnerships (KTP)	85.7	93.3	50.0	87.5	80.0	90.9
Invest NI Start up support	87.3	73.9	50.0	80.0	62.5	70.6
Local Enterprise Agency (ENI) support	77.1	85.7	0.0	100.0**	0.0	76.9
Invest NI development/growth support	88.0	89.3	80.0	86.4	91.9	89.1
Invest NI training support	90.9	93.9	100.0	92.3	92.6	97.7
Invest NI R&D support	81.0	94.8	91.7	100.0	100.0	90.3
Invest NI technology & E-business support	89.4	92.5	100.0	91.9	95.2	88.9
Invest NI trade development support	83.7	94.4	88.9	86.7	95.5	90.3
DTI Small Firms Loan Guarantee Scheme	83.3	80.0	100.0	100.0	100.0	75.0
European funding schemes	92.9	93.3	100.0	100.0	100.0	100.0
SMART	75.0	100.0	0.0	100.0	100.0	100.0
Other	88.2	80.0	50.0	83.0	100.0	40.0

Asterisks in the first column of a group indicate statistically significant differences between the types of businesses grouped by size, age, industry, growth or innovation. (* significant at the 10% level, ** significant at the 5% level, respectively).

+ Clients were asked to score satisfaction on a scale of 1-4 with 1 very dissatisfied, 2=dissatisfied, 3=satisfied and 4=very satisfied.

6 Profitability and Finance

6a Profitability

The survey included a question about the current pre-tax profits of the firm prior to interest payments and directors emoluments. This enables us to calculate the profit margin, which can then be compared across the various types of firm. The 1999 GB survey revealed a median profit margin of 10.5% for the whole sample and this fell by 2002 to 9.4%. This compares with a finding of 12.5% overall for the NI sample, but this may be accounted for by the smaller average size of the NI survey firms. When we compare across the groups in the current survey, Figure 6.1 shows that the profit margins are significantly higher for micro and service sector firms; and these findings match those of our GB surveys. We also find that innovators are significantly less profitable than non-innovators and this has been found in all the previous CBR surveys. There are no significant differences between older and newer, or across the size groups.

Figure 6.1
Median Profit Margins 2004

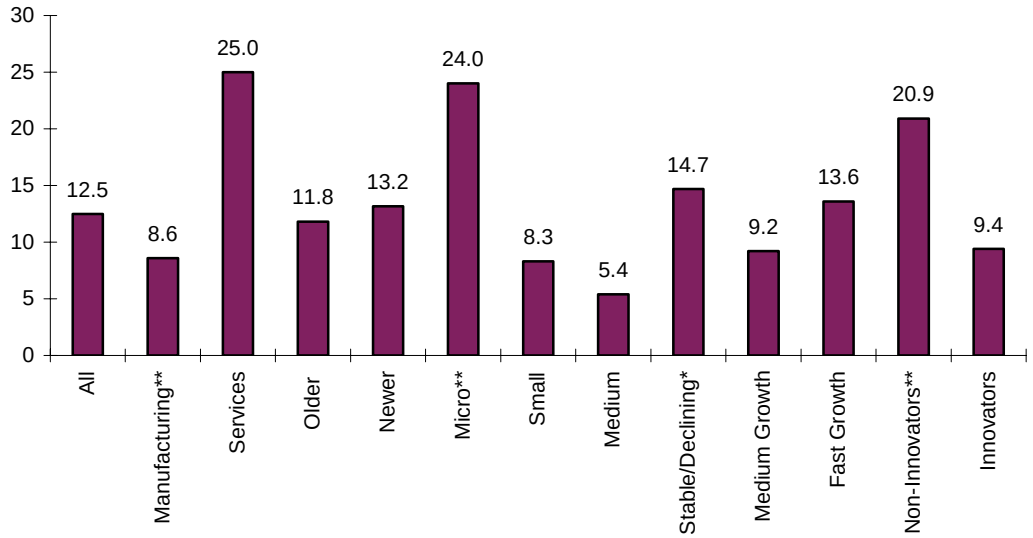


Table 6.1 explores whether the higher profitability of service firms, and of NI firms, results from their smaller average size. The table shows that service sector firms are more profitable than their manufacturing counterparts within every size group in both the GB and NI surveys. The table also reveals that the greater profitability of NI firms overall is due to both the higher profitability of the small NI firms and the greater preponderance of service sector firms in the NI sample. Since retained profits are a key source of finance, we must bear these results in mind when we examine the external financing of the sample firms.

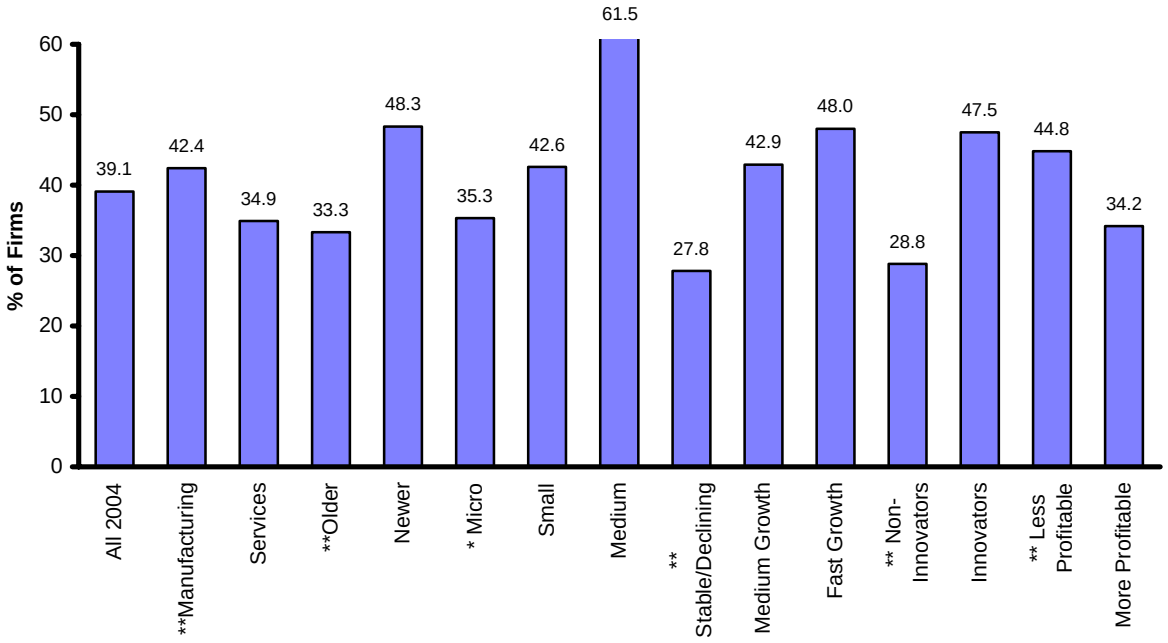
Table 6.1
Median profit margin by size and sector

	NI 2004				GB 2002			
	Micro	Small	Medium	NI - All	Micro	Small	Medium	GB - All
Manufacturing	13.6	7.5	4.7	8.7	16.7	6.2	5.4	7.5
Services	31.0	12.2	6.0	25.0	35	9.2	6.4	12.5
All	24.0	8.3	5.4	12.5	21.7	7.2	5.5	8.9
No. of firms	303	245	21	569	555	861	296	1,712

6b New Finance

The proportion of the 1999 sample firms seeking external finance in the previous two years is shown in the first column of Figure 6.2. About 39% of the sample sought external finance in the period 2002-04, virtually the same as that found for the sample in both the 1999 and 2002 GB surveys. The figure shows that manufacturing firms are more likely to seek external finance. The proportion seeking external finance is significantly greater for innovators, for less profitable firms, for older firms and for larger firms. The need for external finance is also significantly related to growth, with the zero or negative growth firms seeking new external finance much less often. Each of these findings was also found to be the case for the previous GB surveys.

Figure 6.2
Percentage of firms seeking finance in the last two years - 2004



This link between growth and the need for external finance is examined further in Table 6.2. This table reinforces the link between external finance and growth with 33% of non-growing

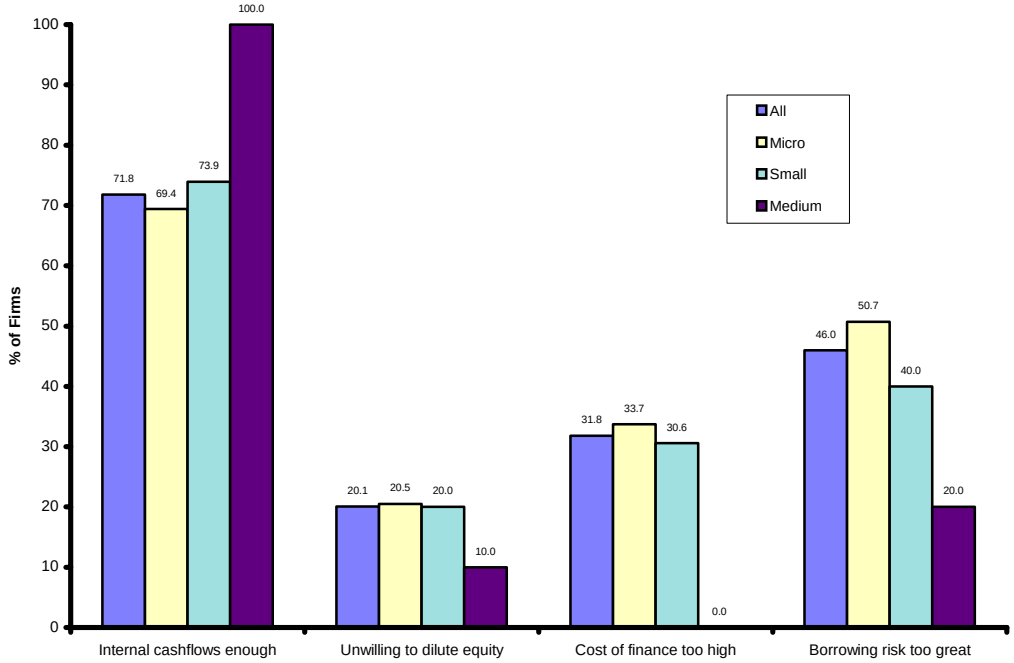
firms seeking finance in comparison with 51% of fast growing firms. It also shows that a greater proportion of less profitable firms need to seek external finance. When the sample is divided in half using the profit margin, only 33% (32% GB) of those with above average profitability sought external finance, whilst the proportion was 44% (50% GB) for the less profitable.

Table 6.2
Percentage of firms who sought finance in 2001-04 by profitability and growth

Profit Margin	GB 2002 - All	NI 2004 - All	Stable/ Declining	Medium growth	Fast growth
Above Average	32.0	33.1	26.4	35.9	42.1
Below Average	49.7	43.9	31.4	45.2	63.1
All	40.8	39.4	33.4	41.6	51.4
No. of firms	1,462	468	226	101	141

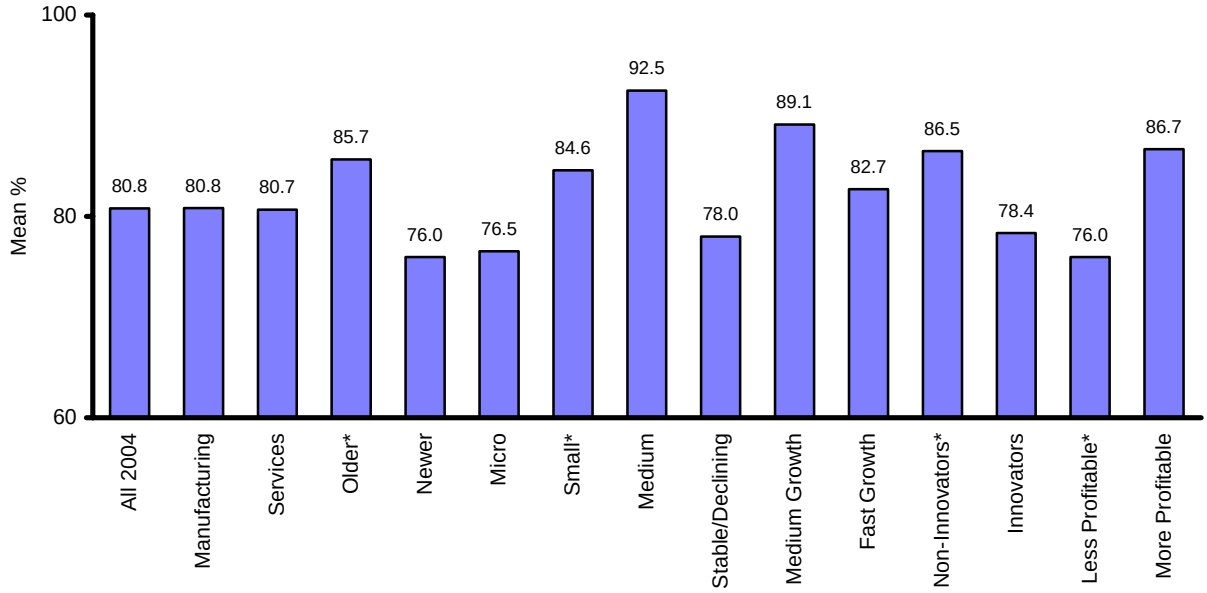
The CBR NI survey included a question about why firms did not seek external finance in the previous two years. The key findings are presented in Figure 6.3 which shows the dominant reason is that internal cash flows were sufficient. This was given as a reason by 72% of the micro firms rising to 100% of the medium-sized firms. The second most common reason given was that the borrowing risk was too great. This influenced 51% of micro firms, but only 20% of medium-sized firms, not to seek external finance. The fear of equity dilution also falls with firm size and was given as a reason by 21%, 20% and 10% of the micro, small and medium firms respectively. The cost of finance also declines in importance as a deterrent with rising firm size.

Figure 6.3
Reasons given for not seeking additional finance



The average percentage of finance obtained is shown in the first column of Figure 6.4. At 81% it is somewhat below the 90% success obtained by firms in our 1999 and 2002 GB surveys. Older firms obtain a significantly higher proportion of the funds they seek than newer firms. There is a significant and positive relationship between firm size and fundraising success. More profitable firms also have a significantly higher proportion obtained than less profitable firms, as do firms exhibiting some growth. Non-innovators are also more successful in obtaining the funds they seek than are innovative firms. The other groups show no differences in the percentage of finance obtained.

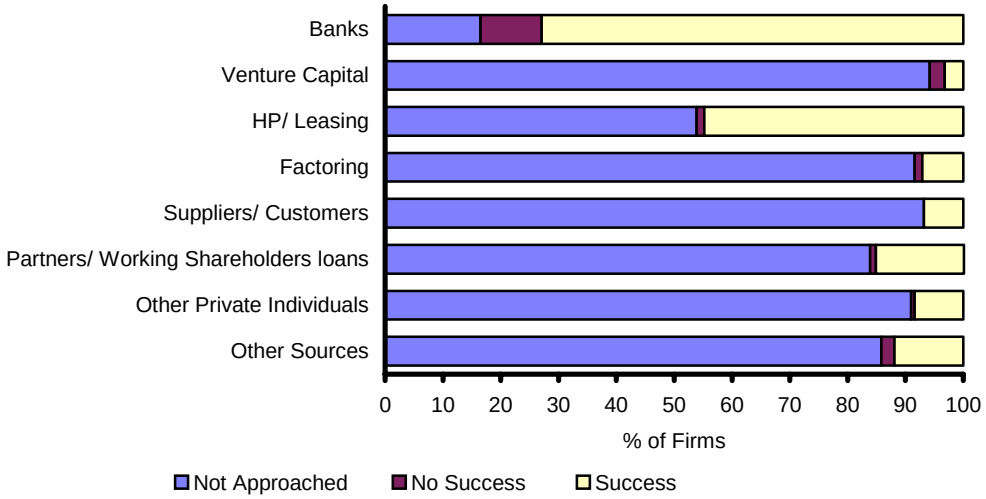
Figure 6.4
Mean percentage of finance obtained - 2004



6c Sources of Finance

Firms that sought external finance were asked about which sources they had approached and how successful they had been in obtaining what they sought. Firms may approach more than one source of finance and Figure 6.5 shows, for each source, the percentage of firms which approached that source and whether, or not, they met with some success. The figure reveals that 83% of those seeking finance approached their bank. The only other source approached by about half the sample was HP/leasing businesses (46%). Working shareholders or partners were also approached fairly frequently in 2002-04, 16% of those who sought external finance. Each other source was approached by less than 10% of these firms. These figures are very close to those found for the GB sample in 2002.

Figure 6.5
Sources of finance approached and success rate (2002-2004)



A significant proportion of our sample failed to get the financial support they sought from the banks. However, given the dominance of the banks as a potential source, this is not particularly surprising. Table 6.3 examines this issue in a more direct way, by calculating the proportion of those approaching each source of finance that met with no success. This failure rate is shown for all firms in the second and fourth columns of the table for the GB sample and the NI sample respectively. The table shows that NI firms are less likely to approach factoring firms and venture capitalists and more likely to approach banks and other sources.

The figure also shows that the failure rate is greatest for approaches to venture capitalists. For the first time we have distinguished between seeking equity and seeking loans from venture capitalists. We can see that the former is more popular and slightly less likely to fail. Of course each firm may have approached several different venture capital firms, but this would be recorded as only one approach here. The same is true for other categories, so the failure rate must be interpreted as the overall failure from that type of support. The picture is the same for the GB sample, but they have a lower failure rate with venture capitalists.

The lowest failure rate is found for applications to HP and leasing firms and this is also the case in the GB sample. The failure rates for banks and factoring are similar in the NI survey to that found for the rest of the UK. Unlike what was found in the GB survey, partners and existing shareholders and other private individuals are less likely to refuse a loan request compared with an equity participation. The failure rates for these types of finance is lower in the NI sample.

Table 6.3

Sources of finance: % approached and % failure rate

	GB 2002 All (2000-02)		NI 2004 All (2002-04)	
	Approached	Failure Rate	Approached	Failure Rate
	%	%	%	%
Banks	79.0	11.0	83.5	12.7
Venture Capital	-	-	-	-
- equity	7.2	41.0	4.2	53.8
- loan	4.3	45.7	3.9	58.3
HP/Leasing	49.3	4.8	46.1	2.8
Factoring	16.1	14.6	8.4	15.4
Trade Customers	4.3	14.2	6.8	0.0
Partners/ Shareholders	-	-	-	-
- equity	8.0	15.4	9.4	6.9
- loan	9.9	8.8	10.0	9.7
Other Private Individuals	-	-	-	-
- equity	4.2	35.3	4.2	7.7
- loan	6.3	15.7	6.1	10.5
Other Sources	8.0	10.8	14.2	15.9

Table 6.4 shows the differences in frequency of approach and failure rates across our size groups. Micro firms are more likely to approach banks than larger firms and the proportion approaching banks is higher in the NI sample than in the GB sample in each size class. On the other hand larger firms are more likely to have sought HP, leasing and factoring finance. The picture for venture capital is not as clear. It would appear that small firms are the least likely size group to approach venture capitalists, less than micro firms, contrary to what was found in the GB sample.

In line with our previous surveys micro firms are more likely to use the banks and continue to have the highest failure rate in seeking bank finance. In fact, we find that in general the micro firms suffer a higher failure rate with most sources, with venture capitalists most likely to turn them down. This is consistent both with a higher risk profile for such firms and with a lower level of cost effectively obtainable information about them.

Table 6.4

Sources of finance: % approached and % failure rate

	NI 2004					
	Micro		Small		Medium	
	Approached	Failure Rate	Approached	Failure Rate	Approached	Failure Rate
	%	%	%	%	%	%
Banks	87.5	15.7	79.1	10.4	81.3	0.0
Venture Capital	-	-	-	-	-	-
- equity	4.4**	85.7	2.2	33.3	18.8	0.0
- loan	6.3	70.0	1.5	0.0	0.0	0.0
HP/Leasing	30.0**	2.1	61.9	3.6	75.0	0.0
Factoring	5.6*	44.4**	9.7	0.0	25.0	0.0
Trade Customers	6.9	0.0	7.5	0.0	0.0	0.0
Partners/ Shareholders	-	-	-	-	-	-
- equity	10.0	6.3	8.2	9.1	12.5	0.0
- loan	11.9	10.5	8.2	9.1	6.3	0.0
Other Private Individuals	-	-	-	-	-	-
- equity	5.6	11.1	1.5	0.0	12.5	0.0
- loan	7.5	8.3	3.7	20.0	12.5	0.0
Other Sources	15.6	12.0	14.2	21.1	0.0	0.0

	GB 2002					
	Micro		Small		Medium	
	Approached	Failure Rate	Approached	Failure Rate	Approached	Failure Rate
	%	%	%	%	%	%
Banks	83.4**	13.5**	77.6	10.5	77.7	9.4
Venture Capital	-	-	-	-	-	-
- equity	2.7**	60.0*	8.1	33.3	9.5	47.0
- loan	1.1*	0.0	5.0	45.5	6.1	54.5
HP/Leasing	35.8**	10.4	51.1	2.7	58.7	5.7
Factoring	6.4**	41.7**	18.8	10.8	19.6	14.3
Trade Customers	2.1	25.0	4.3	11.8	6.7	16.7
Partners/ Shareholders	-	-	-	-	-	-
- equity	4.8	22.2	9.0	17.5	8.9	6.3
- loan	7.5	30.0	10.9	8.7	10.1	16.7
Other Private Individuals	-	-	-	-	-	-
- equity	5.3	30.0	4.3	42.1	3.8	25.0
- loan	11.8	13.6	5.9	15.4	1.7	33.3
Other Sources	11.8	13.6	6.1	7.4	8.9	12.5

6d Finance Obtained

The importance of the various sources of finance is summarised in Table 6.5 for our various types of firm. The upper half of the table shows, for those firms which obtained some finance, the proportion which received at least part of the total finance they received from that source.

This comparison supports the broad picture described about the relative importance of different sources, but does reveal some significant differences. Manufacturing firms are more likely to obtain support from banks, HP/leasing and factoring businesses, but significantly less likely to draw upon partners/working shareholders. Older firms are significantly more likely to draw upon factoring and HP/leasing finance, whilst newer firms gain support from trade customers, shareholders and private individuals significantly more frequently. Innovators also draw more from partners, shareholders and private individuals. There are few simple differences across the growth categories, but less profitable firms are more likely to use factoring and HP/leasing finance.

The lower half of Table 6.5 examines the percentage division of the finance obtained from these various sources. Therefore, in this part of the table, the percentages do sum to 100%. The first and second columns take the GB and NI samples as a whole; and the NI figures are displayed in Figure 6.9. For the GB sample we found a resurgence of bank finance in 1999 and a return to its dominance of SME finance, but that picture has been reversed somewhat since then. The proportion of bank finance in the UK sample was 61% in 1999, but fell back to 52% in 2002. The figure for the NI sample in 2004 is between these two at 59%. HP, leasing and invoice finance was 25% in 1999, and climbed to 32% in 2002, in comparison with 20% within the NI sample.

Figure 6.9
Mean % share of finance obtained by source of finance 2002-04

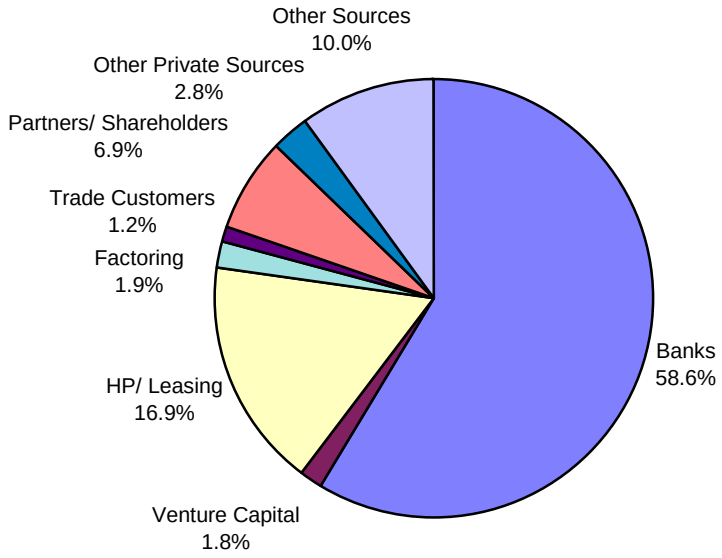


Table 6.5 Finance obtained

Source of Finance	GB 2002 - All	NI 2004 - All	Manu-facturing	Services	Stable/ Declining	Medium Growth	Fast Growth	Less Profitable	More Profitable	Older	Newer	Non-Innovators	Innovators
% of respondents receiving additional finance from:													
Banks	69.5	70.4	72.1	67.7	61.5*	74.5	76.5	69	72.2	71.6	68.8	67.6	71.8
Venture Capital													
- equity	4.3	1.9	1.0	3.2	1.3	0.0	2.4	2.4	0.0	1.9	1.9	1.0	2.3
- loans	2.3	1.6	1.5	1.6	2.6	0.0	0.0	1.6	1.0	1.2	1.9	1.9	1.4
HP/Leasing	46.4	43.3	45.2	40.3	37.2**	70.6	43.5	52.4*	40.2	52.5**	34.4	46.7	41.7
Factoring	13.6	6.9	8.1	4.8	5.1	9.8	8.2	11.1**	2.1	9.3*	4.5	5.7	7.4
Trade Customers	3.7	6.5	7.1	5.6	1.3	7.8	7.1	7.1	3.1	3.1**	10.2	5.7	6.9
Partners/ Shareholders													
- equity	6.7	8.4	6.1*	12.1	10.3	3.9	5.9	8.7	5.2	6.2	10.8	4.8	10.2
- loans	8.9	8.7	6.6*	12.1	11.5	7.8	9.4	10.3	9.3	5.6**	12.1	4.8*	10.6
Other Private Individuals													
- equity	2.7	3.7	3.0	4.8	5.1	0.0	2.4	2.4	2.1	1.2**	6.4	1.0*	5.1
- loans	5.3	5.3	3.6*	8.1	3.8	3.9	4.7	6.3	4.1	1.9**	8.9	1.9*	6.9
Other Sources	7.1	11.5	11.7	11.3	6.4	9.8	9.4	8.7	15.5	9.9	13.4	8.6	13.0
Mean % share by source of finance:													
Banks	52.3	58.6	57.0	60.8	59.5	53.4	60.1	51.7**	63.9	59.7	57.1	60.9	57.4
Venture Capital													
- equity	2.0	1.3	0.4*	2.5	0.9	0.0	1.5	1.7*	0.0	0.9	1.7	0.7	1.6
- loans	0.9	0.5	0.5	0.5	1.2	0.0	0.0	0.5	0.8	0.6	0.4	0.6	0.5
HP/Leasing	24.8	16.9	18.6	14.7	19.6	20.3	17.2	21.5**	15.4	20.1**	13.9	19.4	15.8
Factoring	6.1	1.9	2.9	0.5	1.1	4.7	2.1	3.7**	0.3	3.0	0.8	3.5	1.1
Trade Customers	1.0	1.2	1.6	0.5	0.0	0.5	2.3	2.3	0.4	0.2	2.2	1.7	0.9
Partners/ Shareholders													
- equity	2.1	2.5	2.3	2.7	3.9	0.7	0.9	1.9	1.4	3.0	1.9	2.2	2.6
- loans	2.9	4.4	4.3	4.6	4.1	7.2	4.3	5.7	3.3	3.0*	5.9	1.9	5.6
Other Private Individuals													
- equity	1.1	0.7	0.7	0.7	1.0	0.0	1.1	0.3	0.5	0.5	0.9	0*	1.0
- loans	2.4	2.1	1.3*	3.3	0.9	2.7	3.1	2.7	1.8	0.8*	3.5	1.4	2.5
Other Sources	4.4	9.8	10.4	9.3	7.6	10.5	7.5	8.2	12.3	8.3	11.8	7.7	11.0

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by industry, growth, profitability, age, size or innovation experience (* = significant at the 10% level, ** = significant at the 5% level or better).

Manufacturing firms continue to use a higher proportion of HP/leasing finance and a lower proportion of bank finance than service firms; and they draw less on all equity sources. Less profitable firms draw much less on banks and, as a consequence, draw upon a wider range of other sources of finance in comparison with profitable firms. In particular less profitable use significantly more of HP/leasing and factoring. This is also the case for older firms. Non-innovators have a very heavy reliance on the banks and draw significantly less from HP/leasing and invoice finance. Innovators get more of their finance from venture capital and from individuals.

Table 6.6 provides an equivalent table showing the use of finance sources across the various size groups for both the GB and the NI surveys.

Table 6.6
Finance obtained

	NI 2004			GB 2002		
Source of Finance	Micro	Small	Medium	Micro	Small	Medium
% of respondents receiving additional finance from:						
Banks	71.1	68.3	81.3	71.1	68.8	69.6
Venture Capital						
- equity	0.6**	1.4	18.8	1.1**	5.4	5.0
- loans	1.8	1.4	0.0	1.1	2.7	2.8
HP/Leasing	28.3**	57.6	75.0	31.6**	49.3	54.7
Factoring	3.0**	9.4	25.0	3.7**	16.6	16.6
Trade Customers	6.6	7.2	0.0	1.6	3.8	5.5
Partners/ Shareholders						
- equity	9.0	7.2	12.5	3.7	7.4	8.3
- loans	10.2	7.2	6.3	7.4	9.9	8.3
Other Private Individuals						
- equity	4.8**	1.4	12.5	3.7	2.5	2.2
- loans	6.6	2.9	12.5	10.0**	4.9	1.1
Other Sources	13.3	10.8	0.0	10.0	5.6	7.7
Mean % share by source of finance:						
Banks	63.9**	51.6	61.8	62.9**	48.4	50.8
Venture Capital						
- equity	0.4	1.1	11.7	0.0**	2.6	2.4
- loans	0.6	0.5	0.0	0.3	1.2	1.0
HP/Leasing	9.3**	26.2	19.1	17.8**	27.5	25.5
Factoring	1.4	2.7	0.4	0.9**	7.6	8.1
Trade Customers	2.0	0.3	0.0	0.5	1.1	1.2
Partners/ Shareholders						
- equity	2.3	2.9	0.7	1.8	2.2	2.2
- loans	4.5	4.2	5.4	2.0	3.7	2.0
Other Private Individuals						
- equity	0.5	1.0	0.2	1.9	0.9	0.4
- loans	3.4	0.7	0.8	5.1**	2.2	0.0
Other Sources	11.7	9.0	0.0	6.8**	2.6	6.4

Asterisks in the first column of a group indicate statistically significant differences between the types of business grouped by size (* = significant at the 10% level, ** = significant at the 5% level or better).

The top half of the table looks at the proportion of firms receiving finance from each of the sources of finance, but considers only those firms that received some finance. The bottom half of the table shows the mean proportion of the total finance received by the sample firms from each source.

Looking first at the upper half of the table we can see that bank finance is the most frequently used source of finance in both survey samples used by over two thirds of firms in all size categories. HP/leasing and factoring are used as sources of finance significantly more frequently by the larger firms. New equity finance is used more frequently by medium-sized firms.

Other sources of finance were mentioned frequently by micro and small firms. The main source for both groups was Invest N.I. The secondly most frequently used source was government or EU initiatives which was used mainly by micro firms.

If we turn to the lower half of the table, we can see that small and medium-sized firms received higher proportions of their finance from banks than their GB counterparts. In both the GB and NI samples both micro and medium-sized firms have higher proportions of bank finance than small firms. The opposite pattern is observed for HP/leasing finance where the percentage contribution to the total financial package is highest for small firms in both samples. Factoring shows the same pattern across the size groups as HP/leasing for the NI sample, but in the GB sample, where it was a more important source, it was a larger proportion for medium-sized firms. In the NI sample, with the exception of medium-sized firms, a higher proportion of their finance comes from other sources; whereas only medium-sized firms make significant use of venture capital.

Appendix 1

The Sampling Frame and the Survey Process

The sampling frame chosen for the Northern Ireland survey was the Dun & Bradstreet (D&B) database. This is the same database as we use for the CBR's national SME surveys. The database is the only comprehensive database that contains sole proprietors and partnerships as well as companies, although it still understates the proportion of sole traders and partnerships (Bullock (2004)). The database contains, apart from business name and address, names of executives and other information such as the legal status, the year the business was formed, description of the business's activity and SIC codes.

The sectors chosen for the survey were manufacturing and business services in independent businesses employing up to 499 workers.

A sample of 3,603 independent firms, with name of an executive, was acquired from D&B; this was the total number of firms available on the database (see Table A1.1).

Table A1.1 Total Sample acquired from D&B

	Employment Size					
Sector	1-10	10-19	20-49	50-99	100-499	Total
Manufacturing high-tech	63	24	30	10	9	136
Conventional manufacturing	1,284	280	270	81	53	1,968
Business services high-tech	74	10	6	0	0	90
Conventional business services	1,173	128	78	17	13	1,409
Total	2,594	442	384	108	75	3,603

This total was somewhat less than we had hoped for, and we therefore enlisted help from Invest NI who provided us with their client list, in the relevant sectors, to add to the database from D&B. Prior to the survey, the databases were merged and duplicated businesses were removed. The final survey sample totalled 4,751 firms, with 2,906 residing only on the D&B database, 1,176 on the Invest N.I. list only and the remaining 669 firms on both databases.

Table A1.2 Final Sampling Frame

Source	With contact name	Contact name missing	Total
D&B only	2,906	0	2,906
Invest N.I. Only	1,000	176	1,176
Both D&B & Invest N.I.	669	0	669
Total	4,575	176	4,751

The survey took the form of a postal survey, with the first mailing sent out at the end of October 2004. This consisted of a letter and a questionnaire addressed to the managing director, partner or proprietor of the firm with some background information to the survey

and offering password only access to the survey results on the web as an incentive to take part. Follow up letters including another copy of the questionnaire were sent two and four weeks after the initial mailing to those who had not responded. All questionnaires that were returned up to the end of January 2005 are included in the analysis.

Table A1.3 shows that of the total number of firms surveyed, 303 were excluded after the survey for not being eligible. The final number of eligible firms was therefore 4,448. 853 useable questionnaires were returned before the cut-off date, thus producing a response rate of 19.2%.

Table A1.3 Survey Response

Total sampling frame	4,751	
(less firms excluded for being ineligible)		
Ceased trading	(76)	
More than 499 employees	(7)	
Not independent	(9)	
Other	(1)	
Returned from Royal Mail, no new address found	(210)	
Total number of ineligible firms	(303)	
Surveyed firms	4,448	
Useable questionnaires returned	853	19.2%

Although the overall response rate was 19.2%, the response from the firms on the Invest NI client list was significantly higher at 23.9% compared to the firms on the D&B database, which was 16.0% (see Table A1.4).

Table A1.4 Response by Sample Source

	D&B		Invest N.I.		Total	
Outcome	N	%	N	%	N	%
Response	425	16.0	426	23.9	851*	19.1
Refusal	99	3.7	39	2.2	138	3.1
Non-response	2,139	80.3	1,320	73.9	3,459	77.8
Total	2,663	100.0	1,785	100.0	4,448	100.0

* A total of 853 questionnaires were returned, 2 of these had removed the ID and are excluded from this table.

Appendix 2

Small and Medium Sized Firms Benchmarking Survey

This questionnaire is designed for a wide variety of independent firms. Please answer as many questions as you can.

All information will be kept confidential and anonymous, and will be used only for academic research.

University of Cambridge

Centre for Business Research University of Cambridge
The Judge Institute of Management Studies Trumpington Street Cambridge CB2 1AG
Tel: 01223 765327 Fax: 01223 765338 Email: surveys@cbr.cam.ac.uk
Website: www.cbr.cam.ac.uk

SECTION A GENERAL CHARACTERISTICS OF YOUR BUSINESS

IN THIS SECTION WE WOULD LIKE YOU TO TELL US SOMETHING OF THE CHARACTER OF YOUR BUSINESS.

A1. Is your firm: *Please tick* **one** *box.*

A sole proprietor?		A partnership?		A company?		Other?.....		**CO7**

A2. In what year did your firm begin trading? **YEAR7**

A3. Was your firm established as a result of: *Please circle* **one** *answer in* **each** *row.*

A spin-off from an existing business?	Yes	No	Don't Know	**EST71A**
A spin-off from another organisation?	Yes	No	Don't Know	**EST71B**
A management buy-out?	Yes	No	Don't Know	**EST71C**
A merger with, or purchase of, existing firm(s)?	Yes	No	Don't Know	**EST71D**
A completely new start-up?	Yes	No	Don't Know	**EST71E**

A4. Was your business established as a result of: *Please circle* **one** *answer in* **each** *row.*

The actual or potential unemployment of its founder(s)?	Yes	No	Don't Know	**EST72**
The desire of its founder(s) to run his, or her own business? ..	Yes	No	Don't Know	**EST73**
The desire to implement a new idea/invention/concept?	Yes	No	Don't Know	**EST74**
The wealth ambitions of its founder(s)?	Yes	No	Don't Know	**EST75**

A5. Please provide the following information for the latest financial year for which you have data available?
Please specify the accounting month and year end and the number of months covered in that year.

	Month	Year		
Accounting year ending:	**DATE7**	**FINYR7**	No. of months covered	**MONTHS7**

Turnover	£ ,000		**TURN7**
Exports	£ ,000		**EXP7**
Pre-Tax profits (losses) including directors', partners' or proprietors' remuneration, but before deduction of interest and tax	£ ,000		**PROF7**
Total annual wage and salary bill excluding directors', partners' or proprietors' remuneration	£ ,000		**WAGE7**
Average number of full time employees (including working directors)			**AVEMPF7**
Average number of part time employees			**AVEMPP7**

A6. Please provide the equivalent information for 3 years ago.
Please specify the accounting month and year end and the number of months covered in that year.

	Month	Year		
Accounting year ending:	**DATE7A**	**FINYR7A**	No. of months covered	**MONTHS7A**

Turnover	£ ,000		**TURN7A**
Exports	£ ,000		**EXP7A**
Pre-Tax profits (losses) including directors', partners' or proprietors' remuneration, but before deduction of interest and tax	£ ,000		**PROF7A**
Total annual wage and salary bill excluding directors', partners' or proprietors' remuneration	£ ,000		**WAGE7A**
Average number of full time employees (including working directors)			**AVEMPF7A**
Average number of part time employees			**AVEMPP7A**

A7. Please answer each of these questions about your firm's Chief Executive/Managing Partner/Proprietor:

Years with the business?	yrs	**CSP71**
Years as Chief Executive/Managing Partner/Proprietor?	yrs	**CSP72**
Age?.....	yrs	**CSPAGE7**
Gender?	Male Female	**CSPGEN7**

A8. Which of the following most closely describes the Chief Executive's/Managing Partner's/Proprietor's involvement in decision making? *Please tick* **one** *box.*

Personal control of strategic and operating decisions.....	**INVDEC7**
Personal control of strategic decisions, but delegation of operating decisions	
Key member of group taking strategic decisions with indirect control of operating decisions	
Other (please specify)	

A9. Please indicate which of the following most closely describes the structure of your management organisation. *Please tick* **one** *box.*

Informal structure.....	**STRUC7**
Structure based on functional specialisation (e.g. production, personnel, marketing, finance, etc)	
Structure based on product markets.....	
Structure based on geographic regions	
Other (please specify).....	

A10. Does your firm have:
Please circle the appropriate answer in **each** *row.*

A written business plan?.....	Yes No	**BUSPL7**
A written human resources plan?	Yes No	**HRPL7**
Monthly management accounts?.....	Yes No	**MANAC7**
A web site for information?	Yes No	**WEBINF7**
A web site for trading?.....	Yes No	**WEBTRD7**

IF YOUR FIRM IS NOT A COMPANY PLEASE GO TO SECTION B

A11. **If your business is a company** what percentage of its ordinary shares is owned by:

The Chief Executive?.....	%	**SHARE71**
The Whole Board of Directors?.....	%	**SHARE72**
The largest single shareholder?.....	%	**SHARE73**

A12. How many members of the board were appointed as the result of funds raised from outside the firm? **EXTFND7**

SECTION B WORKFORCE AND TRAINING

IN THIS SECTION WE WOULD LIKE TO EXPLORE SOME FEATURES OF YOUR LABOUR FORCE.

B1. What numbers of your workforce are currently employed in the occupation groups listed below? Could you please also indicate if you are currently finding it difficult to recruit suitable employees in a particular occupation group? *Please enter number of full/part time employees* **and** *circle appropriate recruiting answer in* **each** *row.*

	Total	Employees Full Time	Employees Part Time	Current difficulty in recruiting		
Semi-skilled & unskilled manual	**TOTEMP71**	**FULL71**	**PART71**	Yes	No	**RECDIF71**
Skilled manual	**TOTEMP72**	**FULL72**	**PART72**	Yes	No	**RECDIF72**
Clerical & administrative	**TOTEMP73**	**FULL73**	**PART73**	Yes	No	**RECDIF73**
Technicians & lower professionals.....	**TOTEMP74**	**FULL74**	**PART74**	Yes	No	**RECDIF74**
Technologists, scientists & higher professionals	**TOTEMP75**	**FULL75**	**PART75**	Yes	No	**RECDIF75**
Managerial.....	**TOTEMP76**	**FULL76**	**PART76**	Yes	No	**RECDIF76**

B2. Is formal training provided for any occupational groups?..... Yes No **TRAIN7**

IF NO, PLEASE GO TO B5

B3. If you provide formal training, is the training: *Please tick the appropriate box(es).*

On the job?..... **TRAIN71** Off the job? **TRAIN72**

B4. If you provide formal training for any occupation group(s) roughly what proportion of your total labour costs is accounted for by formal training costs?..... **TCOST7** %

B5. In the last year what, approximately, was your percentage rate of labour turnover? ..... **LAB7** %

B6. Does your firm currently use any of the following types of workers and has there been a significant change in your employment of them since 2001? *Please circle answers to* **both** *questions in* **each** *row.*

	Currently employed		Significant change from 2001			
Self employed workers.....**WORK71**	Yes	No	1=Decrease	2=No Change	3=Increase	**WKCH71**
Casual workers **WORK72**	Yes	No	1=Decrease	2=No Change	3=Increase	**WKCH72**
Workers on fixed term contracts .**WORK73**	Yes	No	1=Decrease	2=No Change	3=Increase	**WKCH73**

B7. Does your firm currently use any of the following to improve your competitiveness and has there been a significant change in your use of them since 2001*? Please circle answers to* **both** *questions in* **each** *row.*

	Currently in use		Significant change from 2001			
Total quality management **WORK74**	Yes	No	1=Decrease	2=No Change	3=Increase	**WKCH74**
Quality circles **WORK75**	Yes	No	1=Decrease	2=No Change	3=Increase	**WKCH75**
Job rotation/multi-skilling **WORK76**	Yes	No	1=Decrease	2=No Change	3=Increase	**WKCH76**
Performance related pay **WORK77**	Yes	No	1=Decrease	2=No Change	3=Increase	**WKCH77**

SECTION C COMPETITIVE SITUATION AND COLLABORATIVE ACTIVITY

THIS SECTION IS ABOUT YOUR COMPETITIVE SITUATION AND COLLABORATIVE ACTIVITY.

C1. In which of the following areas do you feel your main competitive advantage lies?
Please circle the appropriate number in **each** *row.*

	Insignificant advantage	Slightly significant advantage	Moderately significant advantage	Very significant advantage	Crucial advantage	
Price	1	2	3	4	5	**COMP701**
Marketing and promotion skills	1	2	3	4	5	**COMP702**
Speed of service	1	2	3	4	5	**COMP703**
Established reputation	1	2	3	4	5	**COMP704**
Cost advantages	1	2	3	4	5	**COMP705**
Product or service design	1	2	3	4	5	**COMP706**
Product or service quality	1	2	3	4	5	**COMP707**
Specialised expertise/product/service	1	2	3	4	5	**COMP708**
Range of expertise/products/services	1	2	3	4	5	**COMP709**
Flair and creativity	1	2	3	4	5	**COMP710**
Personal attention and responsiveness to client needs	1	2	3	4	5	**COMP711**

C2. How many firms do you regard as serious competitors? **COMPS71**

IF NONE, PLEASE GO TO C4

C3. Of your serious competitors:

How many are larger than your firm? **COMPS72**

How many are overseas firms? **COMPS73**

C4. What percentage of your sales last year was accounted for by: *Please circle the appropriate percentage in* **each** *row.*

Largest Customer?.....	Less than 10%	10-24%	25-49%	50-75%	More than 75%	**LARGEST7**
Top 5 Customers?.....	Less than 10%	10-24%	25-49%	50-75%	More than 75%	**TOP75**

C5. Is your firm's largest market: *Please tick* ***one*** *box.*

Local? ☐ Other Northern Ireland? ☐ Other UK? ☐ Republic of Ireland? ☐ Other International? ☐ **MARKET7**

C6. Has your firm in the last 3 years engaged in formal or informal collaborative or partnership arrangements with any other organisations? ..... Yes No **PARTARR7**

IF NO, PLEASE GO TO C8

IF YES, were they: *Please tick the appropriate box(es).*

	Local (within 10 miles)	National	Overseas	
Suppliers?				**PARTN71**
Customers?				**PARTN72**
Higher Education Institutes?				**PARTN73**
Private Research Institutes/Consultants?				**PARTN76**
Firms in your line of business?				**PARTN74**
Others? Please specify **OTHPART7**				**PARTN75**

C7. If you have engaged in such arrangements were they designed to:
Please circle the appropriate answer in **each** *row.*

Share research and/or development activity?	Yes	No	**ARR701**
Expand the range of expertise or products offered to customers?	Yes	No	**ARR702**
Assist in management and staff development?	Yes	No	**ARR703**
Improve financial and market credibility?	Yes	No	**ARR704**
Assist in the development of specialist services/products required by customers?	Yes	No	**ARR705**
Gain access to or spread costs of new equipment or information sources?	Yes	No	**ARR706**
Help to keep current customers?	Yes	No	**ARR707**
Provide access to new UK markets?	Yes	No	**ARR708**
Provide access to overseas markets?	Yes	No	**ARR709**
Outsource elements of own output?	Yes	No	**ARR710**
Jointly purchase materials or inputs?	Yes	No	**ARR711**

C8. Have you received financial assistance or advice from any of the government business support schemes listed below during the last 3 years? For those schemes used, please indicate your level of satisfaction.
Please circle appropriate answer **and** *where applicable number for* **each** *row.*

	Assistance or Advice obtained		Very dissatisfied	Dissatisfied	Satisfied	Very satisfied	
Knowledge Transfer Partnerships (KTP) **GOV711**	Yes	No	1	2	3	4	**GSAT711**
Invest NI Start up support **GOV712**	Yes	No	1	2	3	4	**GSAT712**
Local Enterprise Agency (ENI) support **GOV713**	Yes	No	1	2	3	4	**GSAT713**
Invest NI development/growth support **GOV714**	Yes	No	1	2	3	4	**GSAT714**
Invest NI training support **GOV715**	Yes	No	1	2	3	4	**GSAT715**
Invest NI R&D support **GOV716**	Yes	No	1	2	3	4	**GSAT716**
Invest NI technology & E-business support **GOV717**	Yes	No	1	2	3	4	**GSAT717**
Invest NI trade development support **GOV718**	Yes	No	1	2	3	4	**GSAT718**
DTI Small Firms Loan Guarantee Scheme **GOV707**	Yes	No	1	2	3	4	**GSAT707**
European funding schemes **GOV719**	Yes	No	1	2	3	4	**GSAT719**
SMART **GOV709**	Yes	No	1	2	3	4	**GSAT709**
Others? Please specify **OTHGOV7** **GOV720**	Yes	No	1	2	3	4	**GSAT720**

SECTION D INNOVATION

IN THIS SECTION WE WOULD LIKE YOU TO TELL US ABOUT YOUR INNOVATIVE ACTIVITY.

*Please count innovation as occurring when a new or significantly improved manufactured product, or service product, is introduced to the market (product innovation), or when a new or significantly improved production, or delivery method, is used commercially (process innovation), and when **changes** in knowledge or skills, routines, competence, equipment, or engineering practices **are required** to develop or make the new product, or to introduce the new process.*

*Please do **not** count as product innovation, changes which are purely aesthetic (such as changes in colour or decoration), or which simply involve product differentiation (that is minor design or presentation changes which differentiate the product while leaving it technically unchanged in construction or performance). The implementation of a quality standard is not innovation unless it is directly related to the introduction of technologically new, or significantly improved, products or processes.*

D1. Has your firm introduced any innovations in manufactured products or in service products, or in their processes of production, or distribution, during the last 3 years?
Please circle appropriate answers in **each** *row. If for any row you introduced more than one innovation then please circle the answers for that row with respect to your most important innovation.*

	Innovation new to your firm but **not** to your industry?		Innovation new to your firm **and** to your industry?		
Technologically new or significantly improved manufactured product **NEW711**	Yes	No	Yes	No	**NEW721**
Technologically new or significantly improved methods of producing manufactured product **NEW712**	Yes	No	Yes	No	**NEW722**
Technological improvements in supply, storage or distribution systems for manufactured product **NEW713**	Yes	No	Yes	No	**NEW723**
New or significantly improved service product..... **NEW714**	Yes	No	Yes	No	**NEW724**
New method to produce & deliver your service product **NEW715**	Yes	No	Yes	No	**NEW725**

IF YOU CIRCLED NO IN ALL BOXES PLEASE GO TO D3

D2. How were your firm's total sales in the last financial year distributed across the following types of products?

Products or services unchanged or only marginally changed in the last 3 years.....	%	**SALPC71**
Significantly improved products or services introduced within the last 3 years.....	%	**SALPC72**
New products or services introduced within the last 3 years	%	**SALPC73**
Total sales last year	100%	

D3. Does your firm intend to develop or introduce any innovations in products or processes in the next 3 years? ..... Yes No **INTRO7**

D4. Did your firm engage in R&D in the last financial year? ..... Yes No **RD72**

IF NO, PLEASE GO TO D5

IF YES: How many staff were engaged in R&D?

for part of their time..... **RD73** for all of their time..... **RD74**

What was your total R&D expenditure? ..... £ ,000 **RD75**

D5. How many patents, if any, has your firm applied for in the last 3 years? *If none, please enter NIL*. **PAT7**

D6. Please indicate the importance of the following internal sources (these include management, production, R&D, sales and marketing functions) and/or external sources of information for your firm's innovation activities during the last 3 years. *Please circle appropriate number in* **each** *row.*

	Insignificant source	Slightly significant source	Moderately significant source	Very significant source	Crucial source	
Internal Sources:						
within the firm	1	2	3	4	5	**SRC701**
within the group (if you have subsidiary or associated companies)	1	2	3	4	5	**SRC702**
External Sources:						
suppliers of equipment, materials and components	1	2	3	4	5	**SRC704**
clients or customers	1	2	3	4	5	**SRC705**
competitors in your line of business	1	2	3	4	5	**SRC706**
consultancy firms	1	2	3	4	5	**SRC707**
universities/higher education institutes	1	2	3	4	5	**SRC708**
professional conferences, meetings, professional journals	1	2	3	4	5	**SRC723**
fairs/exhibitions	1	2	3	4	5	**SRC712**
trade associations, chambers of commerce	1	2	3	4	5	**SRC713**
computer-based information networks	1	2	3	4	5	**SRC717**
Other sources (Please specify) **OTHSRC7**	1	2	3	4	5	**SRC724**

D7. Please indicate the relative importance of the following factors as barriers to innovation in your firm during the last 3 years. *Please circle appropriate number in* **each** *row.*

	Insignificant barrier	Slightly significant barrier	Moderately significant barrier	Very significant barrier	Crucial barrier	
Economic Factors:						
excessive perceived risk	1	2	3	4	5	**BAR701**
lack of appropriate sources of finance	1	2	3	4	5	**BAR702**
innovation costs too high	1	2	3	4	5	**BAR703**
pay-off period of innovation too long	1	2	3	4	5	**BAR704**
Firm Level Factors:						
firm's innovation potential (e.g. R&D, design, etc.) too small	1	2	3	4	5	**BAR705**
lack of skilled personnel	1	2	3	4	5	**BAR706**
lack of information on technologies	1	2	3	4	5	**BAR707**
lack of information on markets	1	2	3	4	5	**BAR708**
innovation costs hard to control	1	2	3	4	5	**BAR709**
organisational rigidities	1	2	3	4	5	**BAR710**
Other Reasons:						
lack of technological opportunities	1	2	3	4	5	**BAR713**
no need to innovate due to earlier innovations	1	2	3	4	5	**BAR714**
innovation too easy to copy	1	2	3	4	5	**BAR715**
legislation, norms, regulations, standards, taxation	1	2	3	4	5	**BAR716**
lack of customer responsiveness to innovation	1	2	3	4	5	**BAR717**
uncertainty in timing of innovation	1	2	3	4	5	**BAR718**

SECTION E FACTORS AFFECTING EXPANSION AND EFFICIENCY

THIS SECTION CONCERNS FACTORS WHICH AFFECT THE RATE OF DEVELOPMENT OF YOUR BUSINESS.

E1. Given your firm's history in the last 3 years, which of the following factors have acted as a significant limitation on your ability to meet your business objectives? *Please circle the appropriate number in* **each** *row.*

	Insignificant limitation	Slightly significant limitation	Moderately significant limitation	Very significant limitation	Crucial limitation	
Availability and cost of finance for expansion	1	2	3	4	5	**LIM701**
Availability and cost of overdraft finance	1	2	3	4	5	**LIM702**
Skilled labour	1	2	3	4	5	**LIM703**
Management skills	1	2	3	4	5	**LIM704**
Marketing and sales skills	1	2	3	4	5	**LIM705**
Acquisition of technology	1	2	3	4	5	**LIM706**
Difficulties in implementing new technology	1	2	3	4	5	**LIM707**
Availability of appropriate premises or site	1	2	3	4	5	**LIM708**
Access to overseas markets	1	2	3	4	5	**LIM709**
Overall growth of market demand in principal product markets	1	2	3	4	5	**LIM710**
Increasing competition	1	2	3	4	5	**LIM711**

E2. Which of the following do you feel describes your growth objectives over the next 3 years? *Please tick* **one** *box.*

Become smaller? ☐ Stay same size? ☐ Grow moderately. ☐ Grow substantially .. ☐ **GROWTH7**

E3. Are you aware that R&D tax credit/relief is available to small firms? ..... Yes No **TAXCAV7**

IF NO, PLEASE GO TO SECTION F

IF YES: Have you claimed tax credit/relief? ..... Yes No **TAXCCL7**

IF NO, PLEASE GO TO SECTION F

IF YES: Has your use of R&D tax credit/relief led to an increase in your R&D expenditure that would not otherwise have occurred? *Please tick* ***one*** *box.*

Not at all.... ☐ To a limited extent . ☐ To a great extent . ☐ **TAXCIN7**

SECTION F FINANCE

THIS SECTION IS CONCERNED WITH SEEKING FINANCE.

F1. Have you made attempts to obtain additional finance (i.e. additional to internal cash flows) in the last 2 financial years? *Please circle the appropriate answer in the box* ..... Yes No **FINANC7**

IF NO, PLEASE GO TO F3

IF YES, roughly what amount did you seek and what proportion of the overall amount you sought did you obtain? *If you were completely unsuccessful in obtaining finance enter* **NIL** *in the percentage obtained box.*

Amount sought .....**SOUGHT7** £ ,000 Percentage obtained..... % **OBTPC7**

F2. For each of the following sources please indicate which you approached in the last 2 financial years and whether the approach resulted in an offer of financial support. In addition please indicate roughly the percentage of the overall total finance additional to cash flow which you obtained from each source.

Please tick **one** *of the first* **four** *boxes in* **each** *row, and please put the percentage of your total additional finance obtained in the* **final** *column of each row.*

Source of finance:	Not Approached	Approached but no finance offered	Approached but offered less than full amount	Approached and offered the full amount	% of finance obtained from this source
Banks **APPR71**					**ADFIN71**%
Hire Purchase or Leasing Firms.....**APPR73**					**ADFIN73**%
Factoring/Invoice Discounting Firms ...**APPR74**					**ADFIN74**%
Trade Customers/Suppliers.....**APPR75**					**ADFIN75**%
Venture Capital Firms equity finance **APPR721**					**ADFIN721**%
Venture Capital Firms loan finance **APPR722**					**ADFIN722**%
Partners/Working Shareholders equity.....**APPR761**					**ADFIN761**%
Partners/Working Shareholders loans.....**APPR762**					**ADFIN762**%
Other Private Individuals – equity finance **APPR771**					**ADFIN771**%
Other Private Individuals – loan finance **APPR772**					**ADFIN772**%
Other Sources (Please specify) **OTHAPPR7** **APPR78**					**ADFIN78**%
				Total	100%

PLEASE GO TO THE END

F3. If you did not make attempts to obtain additional finance in the last 2 years, was it because: *Please circle the appropriate answer in each row.*

Internal cash flows sufficient?.....	Yes No	**NOADD71**
Unwilling to dilute equity shareholding?	Yes No	**NOADD72**
Cost of external finance too high?.....	Yes No	**NOADD73**
Unwilling to increase borrowing risk?	Yes No	**NOADD74**
Other reasons (Please specify).....**OTHNOAD7**	Yes No	**NOADD75**

SECTION G POLICY CHANGES FOR SMALL AND MEDIUM SIZED BUSINESSES

G1. What main policy changes which would affect your business would you like to see introduced by government? *Please list up to three changes in decreasing order of importance. For each policy change please indicate briefly what actions your business would take as a consequence and what you hope the main outcome for your business performance would be.*

Policy Change 1:

Action: **POLCHG71**
Outcome

Policy Change 2:

Action: **POLCHG72**
Outcome:

Policy Change 3:

Action: **POLCHG73**
Outcome:

THANK YOU FOR YOUR HELP

PLEASE RETURN THE QUESTIONNAIRE IN THE ENVELOPE PROVIDED.

ANY QUESTIONS?

PLEASE TELEPHONE: 01223 765326 OR EMAIL: SURVEYS@CBR.CAM.AC.UK

Appendix 3

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
	ID	1-853	Range	
	SOURCE	1	D&B	
		2	N.I.	
		3	Both D&B & N.I.	
		1-3	Range	
	DATERET	dd/mm/yyyy	Date format	Date questionnaire returned
		02/11/2004-25/01/2005	Range	
	UKSIC92	15.11 – 75.11	Range	SIC Code
	ACTIVCAT	1	Manufacturing	Based on SIC code from sample
		2	Services	
		-1	Missing	
		1-2	Range	
	SECTOR	1	High-Tech Manufacturing	Based on SIC code from sample
		2	Conventional Manufacturing	
		3	High-Tech Services	
		4	Conventional Services	
		-1	Missing	
		1-4	Range	
A1	CO7	1	Sole proprietor	
		2	Partnership	
		3	Company	
		4	Other	
		-1	Missing	
		1-4	Range	
A2	YEAR7	1700-2004		
		-1	Missing	
		1797-2004	Range	
	BUS_AGE		Age of Business	Computed as 2005 minus YEAR7 (year founded)
		1-208	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
	AGECAT	1	Older	Businesses formed in 1994 or earlier
		2	Newer	Businesses formed in 1995 or later
		-1	Missing	
		1-2	Range	
A3	EST71A to EST71E			
		1	Yes	
		0	No	
		2	Don't know	
		-1	Missing	
		0-1	Range	
A4	EST72 to EST75	1	Yes	
		0	No	
		2	Don't know	
		-1	Missing	
		0-1	Range	
	BUSFORM	1	Business spin-off	How firm was established
		2	Management buy-out	Calculated from EST71A-E and EST72-5
		3	Merger or purchase of existing firm	
		4	Start-up	
		5	Non-business spin-off	
		1-5	Range	
A5	DATE7	1-12		
		-99	N/A	
		-1	Missing	
		1-12	Range	
A5	FINYR7	1998-2004		
		-99	N/A	
		-1	Missing	
		2000-2005	Range	
A5	MONTHS7	1-19		
		-99	N/A	
		-1	Missing	
		1-19	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
A5	TURN7	0-900M £	Thousands of pounds	
		-99	N/A	
		-1	Missing	
		0-22M	Range	
A5	EXP7	0-810M £	Thousands of pounds	
		-99	N/A	
		-1	Missing	
		0-61.5M	Range	
A5	PROF7	-42M-131M £	Thousands of pounds	A loss of –1 coded as –0.999 to differentiate from a missing code -1
		-99	N/A	
		-1	Missing	
		-1.1M - 3.6M	Range	
A5	WAGE7	0-300M £	Thousands of pounds	
		-99	N/A	
		-1	Missing	
		0-7M	Range	
A5	AVEMPF7			
		-99	N/A	
		-1	Missing	
		0-300	Range	
A5	AVEMPP7			
		-99	N/A	
		-1	Missing	
		0-80	Range	
	AVEMFP7			Computed as sum of full and part time workers (avempf7+avempp7)
		-99	N/A	
		-1	Missing	
		0-330	Range	
A6	DATE7A	1-12		
		-99	N/A	
		-1	Missing	
		1-12	Range	
A6	FINYR7A	1998-2004		
		-99	N/A	
		-1	Missing	
		1999-2004	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
A6	MONTHS7A	1-18		
		-99	N/A	
		-1	Missing	
		2-16	Range	
A6	TURN7A	0-900M £	Thousands of pounds	
		-99	N/A	
		-1	Missing	
		0-88.6M	Range	
A6	EXP7A	0-810M £	Thousands of pounds	
		-99	N/A	
		-1	Missing	
		0-5.8M	Range	
A6	PROF7A	-42M-131M £	Thousands of pounds	A loss of –1 coded as –0.999 to differentiate from a missing code -1
		-99	N/A	
		-1	Missing	
		-0.6M-32.7M	Range	
A6	WAGE7A	0-300M £	Thousands of pounds	
		-99	N/A	
		-1	Missing	
		0-86M	Range	
A6	AVEMPF7A			
		-99	N/A	
		-1	Missing	
		0-269	Range	
A6	AVEMPP7A			
		-99	N/A	
		-1	Missing	
		0-50	Range	
A7	CSP71	0-80		
		-1	Missing	
		1-50	Range	
A7	CSP72	0-80		
		-1	Missing	
		1-50	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
A7	CSPAGE7	0-95		
		-1	Missing	
		22-86	Range	
A7	CSPGEN7	1	Male	
		2	Female	
		3	More than 1, male and female	
		-1	Missing	
		1-2	Range	
A8	INVDEC7	1	Pc / strat & oper	
		2	Pc /strat	
		3	Key member	
		4	Other	
		-1	Missing	
		1-4	Range	
A9	STRUC7	1	Informal structure	
		2	Functional spec	
		3	Product markets	
		4	Geog regions	
		5	Other	
		-1	Missing	
		1-5	Range	
A10	BUSPL7 HRPL7 MANAC7 WEBINF7 WEBTRD7	1	Yes	
		0	No	
		-1	Missing	
		0-1	Range	
A11	SHARE71 – SHARE73	0-100	%	IF share1>=50 then SHARE3 =SHARE1; if SHARE1=100 then all 3 =100; the CEO is always part of the board so SHARE2 has to >=SHARE1.
		-99	N/A	
		-1	Missing	
		0-100	Range	
A12	EXTFND7	0-98		
		-1	Missing	
		0-6	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
B1	TOTEMP71	0-1000		
		-1	Missing	
		0-228	Range	
B1	TOTEMP72	0-1000		
		-1	Missing	
		0-130	Range	
B1	TOTEMP73	0-1000		
		-1	Missing	
		0-76	Range	
B1	TOTEMP74	0-1000		
		-1	Missing	
		0-400	Range	
B1	TOTEMP75	0-1000		
		-1	Missing	
		0-120	Range	
B1	TOTEMP76	0-1000		
		-1	Missing	
		0-35	Range	
	TOTFP7			Total workforce
		-1	Missing	Computed as sum of totemp71 to totemp76
		0-295	Range	
B1	FULL71	0-1000		
		-1	Missing	
		0-216	Range	
B1	FULL72	0-1000		
		-1	Missing	
		0-130	Range	
B1	FULL73	0-1000		
		-1	Missing	
		0-62	Range	
B1	FULL74	0-1000		
		-1	Missing	
		0-360	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
B1	FULL75	0-1000		
		-1	Missing	
		0-120	Range	
B1	FULL76	0-1000		
		-1	Missing	
		0-28	Range	
B1	PART71	0-1000		
		-1	Missing	
		0-80	Range	
B1	PART72	0-1000		
		-1	Missing	
		0-37	Range	
B1	PART73	0-1000		
		-1	Missing	
		0-14	Range	
B1	PART74	0-1000		
		-1	Missing	
		0-40	Range	
B1	PART75	0-1000		
		-1	Missing	
		0-9	Range	
B1	PART76	0-1000		
		-1	Missing	
		0-4	Range	
	EMPL7	1-330	Range	Total employment taken from avemfp7 or totfp7; D&B data; Fame; or by calling the firm
	EMPCAT	1	Micro	1-9 employees
		2	Small	10-99 employees
		3	Medium	100-499 employees
		1-3	Range	
	EMPL7A	-1	Missing	Total employment 3 years ago calculated as avempf7a +avempp7a
		1-280	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
B1	RECDIF71-76	1	Yes	
		0	No	
		-1	Missing	
		0-1	Range	
B2	TRAIN7	1	Yes	If blank but B3,4 or 5 filled in assume it is Yes,1.
		0	No	
		-1	Missing	
		0-1	Range	
B3	TRAIN71	1	Yes	
		0	No	
		-1	Missing	
		0-1	Range	
B3	TRAIN72	1	Yes	
		0	No	
		-1	Missing	
		0-1	Range	
B4	TCOST7	0-100	%	
		-1	Missing	
		0-100	Range	
B5	LAB7	0-100	%	
		-1	Missing	
		0-100	Range	
B6	WORK71-73	1	Yes	
		0	No	
		-1	Missing	
		0-1	Range	
B6	WKCH71-73	1	Decrease	
		2	No change	
		3	Increase	
		-1	Missing	
		1-3	Range	
B7	WORK74-77	1	Yes	
		0	No	
		-1	Missing	
		0-1	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
B7	WKCH74-77	1	Decrease	
		2	No change	
		3	Increase	
		-1	Missing	
		1-3	Range	
C1	COMP701 to	1	Insignificant advantage	Odd blanks enter as 1
	COMP711	2	Slightly significant advantage	
		3	Moderately significant advantage	
		4	Very significant advantage	
		5	Crucial advantage	
		-1	Missing	If all blank enter all -1
		1-5	Range	
C2	COMPS71	0-98		
		99	99+	
		-1	Missing	
		0-99	Range	
C3	COMPS72	0-98		
		99	99+	
		-1	Missing	
		0-99	Range	
C3	COMPS73	0-98		
		99	99+	
		-1	Missing	
		0-20	Range	
C4	LARGEST7	1	Less than 10%	
	TOP75	2	10-24%	
		3	25-49%	
		4	50-75%	
		5	More than 75%	
		-1	Missing	
		1-5	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
C5	MARKET7	1	Local	
		2	Other Northern Ireland	
		3	Other UK	
		4	Republic of Ireland	
		5	Other International	
		-1	Missing	
		1-5	Range	
C6	PARTARR7	1	Yes	If missing and PARTN71-5 filled in
		0	No	code as yes
		-1	Missing	
		0-1	Range	
C6	PARTN71	10	Local	
	PARTN72	11	National	
	PARTN73	2	Overseas	
	PARTN76	12	Local + national	
	PARTN74	13	Local + overseas	
	PARTN75	14	National + overseas	
		15	all three	
		0	Blank	
		-99	N/A	
		0-15	Range	
C6	OTHPART7	1	Government	
		2	Other	
		-1	Missing	
		-99	N/A	
		1-2	Range	
C7	ARR701-11	1	Yes	
		0	No	Odd blanks coded as No
				Code missing only if all questions unanswered
		-1	Missing	
		-99	N/A	If PARTARR=No
		0-1	Range	
C8	GOV711 to GOV718	1	Yes	
	GOV707	0	No	Odd blanks coded as No
	GOV719			Code missing only if all questions unanswered
	GOV709	-1	Missing	
	GOV720	0-1	Range	

Question Number	Variable Name	Value & Range	Label	Remark
C8	OTHGOV7	1	Other Invest NI	
		2	Other government	
		3	Other non-government	
		4	Other	
		-99	N/A	
		-1	Missing	
		1-4	Range	
C8	GSAT711 to	1	Very dissatisfied	
	GSAT718	2	Dissatisfied	
	GSAT707	3	Satisfied	
	GSAT719	4	Very satisfied	
	GSAT709	-99	N/A	
	GSAT720	-1	Missing	
		1-4	Range	
D1	NEW711 - 15	1	Yes	If all blank, code -1
	NEW721 - 25	0	No	For missing odds, code 0
		-1	Missing	No missing if some have been answered
		0-1	Range	
	NEW731	1	Yes	Manufacturing product innovation
		0	No	Computed as yes if new711 or
		-1	Missing	new721 equals 1.
		0-1	Range	
	NEW732	1	Yes	Manufacturing process innovation
		0	No	Computed as yes if new712 or
		-1	Missing	new722 equals 1.
		0-1	Range	
	NEW733	1	Yes	Manufacturing supply storage or distribution innovation
		0	No	Computed as yes if new713 or
		-1	Missing	new723 equals 1.
		0-1	Range	
	NEW734	1	Yes	Service product innovation
		0	No	Computed as yes if new714 or
		-1	Missing	new724 equals 1.
		0-1	Range	

Question Number	Variable Name	Value & Range	Label	Remark
	NEW735	1	Yes	Service product delivery innovation
		0	No	Computed as yes if new715 or
		-1	Missing	new725 equals 1.
		0-1	Range	
	NEW736	1	Yes	Product innovation
		0	No	Computed as yes if new731 or
		-1	Missing	new734 equals 1.
		0-1	Range	
	NEW737	1	Yes	Process innovation
		0	No	Computed as yes if new732 or
		-1	Missing	new732 equals 1.
		0-1	Range	
	NEW726	1	Yes	Novel product innovation
		0	No	Computed as yes if new721 or
		-1	Missing	new724 equals 1.
		0-1	Range	
	NEW727	1	Yes	Novel process innovation
		0	No	Computed as yes if new722 or
		-1	Missing	new725 equals 1.
		0-1	Range	
	NEW738	1	Yes	All innovation
		0	No	Computed as yes if new736
		-1	Missing	or new733=1.
		0-1	Range	
	INNOVCAT	1	Non-innovator	
		2	Innovator	
		-1	Missing	
		0-1	Range	
D2	SALPC71	0-100		If D1 is all No, code 100,0,0
	SALPC72	-1	Missing	If D1 is all No or missing, and D2 answered, enter as is
	SALPC73	0-100	Range	If blank and D1 is yes or missing, code -1,-1,-1
				If blank but sum of rest=100, enter 0
				If blank but sum of rest not=100, enter 0.

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
D3	INTRO7	1	Yes	
		0	No	
		-1	Missing	
		0-1	Range	
				If any of RD73 to RD75>0, AND RD72=NO, check D1 and change RD2
D4	RD72	1	Yes	
		0	No	If appropriate
		-1	Missing	
		0-1	Range	
D4	RD73	0+		If one only is missing, code 0
		-1	Missing	If RD72 is NO, code 0
		0-70	Range	If RD72 is missing, code -1
				If RD72 is YES and both are missing, code -1
D4	RD74	0+		If one only is missing, code 0
		-1	Missing	If RD72 is NO, code 0
		0-67	Range	If RD72 is missing, code -1
				If RD72 is YES and both are missing, code -1
D4	RD75	0 - 100M £	Thousands of pounds	
		-1	Missing	If RD72 is NO, code 0
		0-1.5M	Range	If RD72 is missing, code -1
				If a dash, code 0
				If blank, code -1
D5	PAT7	0+		
		-1	Missing	
		0-10	Range	
				SRC702 is N/A if not within a
D6	SRC701-702,	1	Insignificant source	group, leave as sysmis if blank
			Slightly significant	unless the whole question is blank
	SRC704-708,	2	Source	when it should be -1
			Moderately significant	If some rows answered code the
	SRC723,	3	source	others as not used;
			Very significant	Only code as missing if the whole
	SRC712-713,	4	Source	question is missing
	SRC717,	5	Crucial source	
	SRC724	-99	N/A	
		-1	Missing	
		1-5	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
D6	OTHSRC7	1	Media Information	
		2	Networking	
		3	Other	
		-99	N/A	
		-1	Missing	
		1-3	Range	
D7	BAR701-18	1	Insignificant barrier	Code 1 for odd blanks
		2	Slightly significant Barrier	Only missing if the whole question is unanswered
		3	Moderately Significant barrier	
		4	Very significant barrier	
		5	Crucial barrier	
		-1	Missing	
		1-5	Range	
E1	LIM701-11	1	Insignificant constraint	Odd blanks enter as 1
		2	Slightly significant constraint	
		3	Moderately Significant constraint	
		4	Very significant Constraint	
		5	Crucial constraint	
		-1	Missing	If all blank enter all -1
		1-5	Range	
E2	GROWTH7	1	Become smaller	
		2	Stay same size	
		3	Grow moderately	
		4	Grow substantially	
		-1	Missing	
		1-4	Range	
	EMPGRO7			Employment growth
		-1	Missing	Calculated as ((empl7-empl7a)/empl7a)*100
		-85.7 - 600	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
	GROWCAT	1	Stable/Declining	Businesses with zero or negative employment growth in last 2 years
		2	Medium Growth	Businesses with employment growth greater than 0% and less than 25% in last 2 years
		3	Fast growth	Business with employment growth of 25% or greater in last 2 years
		-1	Missing	
		1-3	Range	
E3	TAXCAV7	1	Yes	
		0	No	
		-1	Missing	
		0-1	Range	
E3	TAXCCL7	1	Yes	
		0	No	
		-1	Missing	
		-99	N/A	If TAXCAV7=No
		0-1	Range	
E3	TAXCIN7	1	Not at all	
		2	To a limited extent	
		3	To a great extent	
		-1	Missing	
		-99	N/A	If TAXCAV7=No or TAXCCL7=No
		1-3	Range	
F1	FINANC7	1	Yes	
		0	No	
		-99	N/A	
		-1	Missing	
		0-1	Range	
F1	SOUGHT7	0-500M		If No finance, not applicable
		-99	N/A	
		-1	Missing	
		0-40M	Range	
F1	OBTPC7	0-100	%	If No finance, not applicable
		-99	N/A	
		-1	Missing	
		0-100	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
F2	APPR71	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	
		-99	N/A	If No finance, not applicable
		0-4	Range	
F2	APPR73	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-4	Range	
F2	APPR74	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-3	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
F2	APPR75	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-4	Range	
F2	APPR721	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-3	Range	
F2	APPR722	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-3	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
F2	APPR761	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-4	Range	
F2	APPR762	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-4	Range	
F2	APPR771	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-4	Range	
F2	APPR772	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-3	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
F2	APPR78	0	Not approached	
		1	Approached but no finance	
		2	Approached but offered less	
		3	Approached and offered full	
		4	Some finance obtained	
		-1	Missing	If No finance, not applicable
		-99	N/A	
		0-4	Range	
F2	OTHAPPR7	1	Other company	
		2	Government /EU Initiative	
		3	Invest NI	
		4	Credit card	
		5	Other	
		-99	N/A	
		-1	Missing	
		1-7	Range	
F2	ADFIN71	0-100	%	
		0-100	Range	
F2	ADFIN73	0-100	%	
		0-100	Range	
F2	ADFIN74	0-100	%	
		0-100	Range	
F2	ADFIN75	0-100	%	
		0-100	Range	
F2	ADFIN721	0-100	%	
		0-90	Range	
F2	ADFIN722	0-100	%	
		0-67	Range	
F2	ADFIN761	0-100	%	
		0-100	Range	

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – VARIABLE LIST

Question Number	Variable Name	Value & Range	Label	Remark
F2	ADFIN762	0-100	%	
		0-100	Range	
F2	ADFIN771	0-100	%	
		0-65	Range	
F2	ADFIN772	0-100	%	
		0-100	Range	
F2	ADFIN78	0-100	%	
		0-100	Range	
F3	NOADD71-5	1	Yes	
		0	No	
		-1	Missing	
		-99	N/A	If attempted to obtain finance, not applicable
		0-1	Range	
F3	OTHNOAD7	1	No need	
		2	Used alternative funds	
		3	Unsure about implications	
		4	Unable	
		5	Unsure about how	
		-99	N/A	
		-1	Missing	
		1-5	Range	

Appendix 4

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
Section A - General Characteristics of the Business					
A1	CO7	Type of firm: company, partnership, sole proprietor	9	1.1	853
A2	YEAR7	Year in which company began trading	11	1.3	853
A3	EST71A	Company established as a result of: A spin-out from an existing business	14	1.6	853
A3	EST71B	Company established as a result of: A spin-out from another organisation	14	1.6	853
A3	EST71C	Company established as a result of: A management buy-out	13	1.5	853
A3	EST71D	Company established as a result of: A merger with, or purchase of, existing firm(s)	13	1.5	853
A3	EST71E	Company established as a result of: A completely new start-up	12	1.4	853
A4	EST72	Company established as a result of: The actual or potential unemployment of its founder(s)?	34	4.0	853
A4	EST73	Company established as a result of: The desire of its founder(s) to run his, or her own business?	36	4.2	853
A4	EST74	Company established as a result of: The desire to implement a new idea/invention/concept?	36	4.2	853
A4	EST75	Company established as a result of: The wealth ambitions of its founder(s)?	59	6.9	853
A5	DATE7	Accounting month covered in latest financial year	118	13.8	853
A5	FINYR7	Acoounting year covered in latest financial year	120	14.1	853
A5	MONTHS7	No. of months covered in latest financial year	155	18.2	853
A5	TURN7	Turnover/Sales in latest financial year	152	17.8	853
A5	EXP7	Exports in latest financial year	228	26.7	853
A5	PROF7	Pre-Tax profits in latest financial year	271	31.8	853
A5	WAGE7	Total annual wage and salary bill	267	31.3	853
A5	AVEMPF7	Average number of full time employees (including directors) in latest financial year	94	11.0	853

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
A5	AVEMPP7	Average number of part time employees	94	11.0	853
A6	DATE7A	Accounting month covered :3 years ago	283	33.2	853
A6	FINYR7A	Acoounting year covered :3 years ago	289	33.9	853
A6	MONTHS7A	No. of months covered :3 years ago	350	41.0	853
A6	TURN7A	Turnover/Sales : 3 years ago	279	32.7	853
A6	EXP7A	Exports : 3 years ago	344	40.3	853
A6	PROF7A	Pre-Tax profits :3 years ago	361	42.3	853
A6	WAGE7A	Total annual wage and salary bill :3 years ago	365	42.8	853
A6	AVEMPF7A	Average number of full time employees (including directors) :3 years ago	263	30.8	853
A5	AVEMPP7A	Average number of part time employees: 3 years ago	262	30.7	853
A7	CSP71	CEO Years with the business?	39	4.6	853
A7	CSP72	CEO Years as Chief Executive Managing Partner Proprietor?	64	7.5	853
A7	CSPAGE7	Age of Chief Executive	50	5.9	853
A7	CSPGEN7	Gender of Chief Executive	39	4.6	853
A8	INVDEC7	CEO's involvement in decision making?	44	5.2	853
A9	STRUC7	Structure of your management organisation.	33	3.9	853
A10	BUSPL7	Does your firm have: A written business plan?	44	5.2	853
A10	HRPL7	Does your firm have: A written human resources plan?	98	11.5	853
A10	MANAC7	Does your firm have: Monthly management accounts?	55	6.4	853
A10	WEBINF7	Does your firm have: A web site for information?	52	6.1	853
A10	WEBTRD7	Does your firm have: A web site for trading?	82	9.6	853

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
A11	SHARE71	Proportion of ordinary shares owned by chief executive	99	24.6	403
A11	SHARE72	Proportion of ordinary shares owned by the whole Board of Directors	83	20.6	403
A11	SHARE73	Proportion of ordinary shares owned by the largest single shareholder	88	21.8	403
A12	EXTFND7	How many members of the board were appointed as the result of funds raised from outside the firm?	153	38.0	403
Section B – Workforce and Training					
B1	TOTEMP71	Total No of employees:Semi-skilled & unskilled manual	82	9.6	853
B1	TOTEMP72	Total No of employees:Skilled manual	81	9.5	853
B1	TOTEMP73	Total No of employees:Clerical & administrative	67	7.9	853
B1	TOTEMP74	Total No of employees:Technicians & lower professionals	78	9.1	853
B1	TOTEMP75	Total No of employees:Technologists, scientists & higher professionals	85	10.0	853
B1	TOTEMP76	Total No of employees:Managerial	67	7.9	853
B1	FULL71	Full time No of employees:Semi-skilled & unskilled manual	124	14.5	853
B1	FULL72	Full time No of employees:Skilled manual	135	15.8	853
B1	FULL73	Full time No of employees:Clerical & administrative	126	14.8	853
B1	FULL74	Full time No of employees:Technicians & lower professionals	108	12.7	853
B1	FULL75	Full time No of employees:Technologists, scientists & higher professionals	118	13.8	853
B1	FULL76	Full time No of employees:Managerial	156	18.3	853
B1	PART71	Part time No of employees:Semi-skilled & unskilled manual	123	14.4	853
B1	PART72	Part time No of employees:Skilled manual	135	15.8	853
B1	PART73	Part time No of employees:Clerical & administrative	126	14.8	853
B1	PART74	Part time No of employees:Technicians & lower professionals	106	12.4	853

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
B1	PART75	Part time No of employees:Technologists, scientists & higher professionals	118	13.8	853
B1	PART76	Part time No of employees:Managerial	156	18.3	853
B1	RECDIF71	Current difficulty in recruiting employees:Semi-skilled & unskilled manual	213	25.0	853
B1	RECDIF72	Current difficulty in recruiting employees:Skilled manual	224	26.3	853
B1	RECDIF73	Current difficulty in recruiting employees:Clerical & administrative	223	26.1	853
B1	RECDIF74	Current difficulty in recruiting employees:Technicians & lower professionals	219	25.7	853
B1	RECDIF75	Current difficulty in recruiting employees:Technologists, scientists & higher professionals	211	24.7	853
B1	RECDIF76	Current difficulty in recruiting employees:Managerial	226	26.5	853
B2	TRAIN7	Is formal training provided for any occupational groups?	50	5.9	853
B3	TRAIN71	Is the training on the job?	71	8.3	853
B3	TRAIN72	Is the training off the job?	71	8.3	853
B4	TCOST7	What proportion of your total labour costs is accounted for by formal training costs?	151	17.7	853
B5	LAB7	in the last year what, approximately, was your percentage rate of labour turnover?	227	26.6	853
B6	WORK71	Does your firm currently use any of the following types of workers:Self employed workers?	97	11.4	853
B6	WORK72	Does your firm currently use any of the following types of workers:Casual workers?	107	12.5	853
B6	WORK73	Does your firm currently use any of the following types of workers:Workers on fixed term contracts	121	14.2	853
B6	WKCH71	Has there been a significant change in your employment of Self employed workers since 2001?	309	36.2	853
B6	WKCH72	Has there been a significant change in your employment of casual workers since 2001?	318	37.3	853
B6	WKCH73	Has there been a significant change in your employment of workers on fixed term contracts since 20	326	38.2	853
B7	WORK74	Does your firm currently use Total Quality Management to improve your competitiveness	109	12.8	853
B7	WORK75	Does your firm currently use Quality circles to improve your competitiveness	133	15.6	853

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
B7	WORK76	Does your firm currently use Job rotation/multi-skilling to improve your competitiveness	110	12.9	853
B7	WORK77	Does your firm currently use Performance related pay to improve your competitiveness	101	11.8	853
B7	WKCH74	Has there been a significant change in your use of Total Quality Management since 2001	331	38.8	853
B7	WKCH75	Has there been a significant change in your use of Quality Circles since 2001	351	41.1	853
B7	WKCH76	Has there been a significant change in your use of Job rotation/multi skilling since 2001	329	38.6	853
B7	WKCH77	Has there been a significant change in your use of Performance related pay since 2001	323	37.9	853
Section C – Competitive Situation and Collaborative Activity					
C1	COMP701	Area of competitive advantage: Price	21	2.5	853
C1	COMP702	Area of competitive advantage: Marketing and promotion skills	21	2.5	853
C1	COMP703	Area of competitive advantage: Speed of service	21	2.5	853
C1	COMP704	Area of competitive advantage: Established reputation	21	2.5	853
C1	COMP705	Area of competitive advantage: Cost advantages	21	2.5	853
C1	COMP706	Area of competitive advantage: Product or service design	21	2.5	853
C1	COMP707	Area of competitive advantage: Product or service quality	21	2.5	853
C1	COMP708	Area of competitive advantage: Specialised expertise/product/service	21	2.5	853
C1	COMP709	Area of competitive advantage: Range of expertise/products/services	21	2.5	853
C1	COMP710	Area of competitive advantage: Flair and creativity	21	2.5	853
C1	COMP711	Area of competitive advantage: Personal attention and responsiveness to client needs	21	2.5	853
C2	COMPS71	Number of firms regarded as serious competitors	130	15.2	853
C3	COMPS72	Of serious competitors: number that are larger than company	176	20.6	853
C3	COMPS73	Of serious competitors: number are overseas firms	295	34.6	853

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
C4	LARGEST7	Proportion of sales last year accounted for by: largest customer	98	11.5	853
C4	TOP75	Proportion of sales last year accounted for by: top 5 customers	98	11.5	853
C5	MARKET7	Largest market in terms of sales	54	6.3	853
C6	PARTARR7	Company engaged in formal or informal collaborative or partnership arrangements with any other organisations in last 3 years	20	2.3	853
C6	PARTN71	Were these collaborative arrangements with Suppliers?	1	0.3	306
C6	PARTN72	Were these collaborative arrangements with Customers?	1	0.3	306
C6	PARTN73	Were these collaborative arrangements with Higher Education Institutes?	1	0.3	306
C6	PARTN76	Were these collaborative arrangements with Private Research Institutes/Consultants?	1	0.3	306
C6	PARTN74	Were these collaborative arrangements with Firms in your line of business?	1	0.3	306
C6	PARTN75	Were these collaborative arrangements with Other?	1	0.3	306
C6	OTHPART7	Collaborative arrangements with other, please specify	0	0	7
C7	ARR701	Were these arrangements designed to Share research and/or development activity?	1	0.3	306
C7	ARR702	Were these arrangements designed to Expand the range of expertise or products offered to customers	1	0.3	306
C7	ARR703	Were these arrangements designed to Assist in management and staff development?	1	0.3	306
C7	ARR704	Were these arrangements designed to Improve financial and market credibility?	1	0.3	306
C7	ARR705	Were these arrangements designed to Assist in the development of specialist services/products requ	1	0.3	306
C7	ARR706	Were these arrangements designed to Gain access to or spread costs of new equipment or information	1	0.3	306
C7	ARR707	Were these arrangements designed to Help to keep current customers?	1	0.3	306
C7	ARR708	Were these arrangements designed to Provide access to new UK markets?	1	0.3	306
C7	ARR709	Were these arrangements designed to Provide access to overseas markets?	1	0.3	306

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
C7	ARR710	Were these arrangements designed to Outsource elements of own output?	1	0.3	306
C7	ARR711	Were these arrangements designed to Jointly purchase materials or inputs?	1	0.3	306
C8	GOV711	Received financial assistance or advice from the following in the last 3 years: Knowledge Transfer Partnerships	2	0.2	853
C8	GOV712	Received financial assistance or advice from the following in the last 3 years: Invest NI Start up support	2	0.2	853
C8	GOV713	Received financial assistance or advice from the following in the last 3 years: Local Enterprise Agency Support	2	0.2	853
C8	GOV714	Received financial assistance or advice from the following in the last 3 years: Invest NI development growth support	2	0.2	853
C8	GOV715	Received financial assistance or advice from the following in the last 3 years: Invest NI training support	2	0.2	853
C8	GOV716	Received financial assistance or advice from the following in the last 3 years: Invest NI R&D support	2	0.2	853
C8	GOV717	Received financial assistance or advice from the following in the last 3 years: Invest NI technology and E-business support	2	0.2	853
C8	GOV718	Received financial assistance or advice from the following in the last 3 years:Invest NI trade development support	2	0.2	853
C8	GOV707	Received financial assistance or advice from the following in the last 3 years: DTI Small Firms Loan Guarantee Scheme	2	0.2	853
C8	GOV719	Received financial assistance or advice from the following in the last 3 years: European Funding schemes	2	0.2	853
C8	GOV709	Received financial assistance or advice from the following in the last 3 years:SMART	2	0.2	853
C8	GOV720	Received financial assistance or advice from the following in the last 3 years:Others	2	0.2	853
C8	OTHGOV7	Received financial assistance from Other, please specify	0	0	30
C8	GSAT711	Level of satisfaction: Knowledge Transfer Partnerships (KTP)	4	13.3	30
C8	GSAT712	Level of satisfaction: Knowledge Transfer Partnerships (KTP)	5	5.1	99
C8	GSAT713	Level of satisfaction: Local Enterprise Agency (ENI) support	2	4.5	44
C8	GSAT714	Level of satisfaction: Invest NI development/growth support	18	8.7	206
C8	GSAT715	Level of satisfaction: Invest NI training support	8	6.0	134
C8	GSAT716	Level of satisfaction: Invest NI R&D support	6	6.2	97

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
C8	GSAT717	Level of satisfaction: Invest NI technology & E-business support	8	6.3	127
C8	GSAT718	Level of satisfaction: Invest NI trade development support	11	9.4	117
C8	GSAT707	Level of satisfaction: DTI Small Firms Loan Guarantee Scheme	1	4.2	24
C8	GSAT719	Level of satisfaction: European funding schemes	5	14.3	35
C8	GSAT709	Level of satisfaction: SMART	3	23.1	13
C8	GSAT720	Level of satisfaction: Other	5	14.7	34
Section D - Innovation					
D1	NEW711	Technologically new or significantly improved manufactured product : Innovation new to your firm but not to your industry	3	0.4	853
D1	NEW712	Technologically new or significantly improved methods of producing manufactured product : Innovation new to your firm but not to your industry	3	0.4	853
D1	NEW713	Technological improvements in supply, storage or distribution systems for manufactured product : Innovation new to your firm but not to your industry	3	0.4	853
D1	NEW714	New or significantly improved service product: Innovation new to your firm but not to your industry	3	0.4	853
D1	NEW715	New method to produce & deliver your service product : Innovation new to your firm but not to your industry	3	0.4	853
D1	NEW721	Technologically new or significantly improved manufactured product : Innovation new to your firm and to your industry?	3	0.4	853
D1	NEW722	Technologically new or significantly improved methods of producing manufactured product : Innovation new to your firm and to your industry?	3	0.4	853
D1	NEW723	Technological improvements in supply, storage or distribution systems for manufactured product: Innovation new to your firm and to your industry?	3	0.4	853
D1	NEW724	New or significantly improved service product: Innovation new to your firm and to your industry?	3	0.4	853
D1	NEW725	New method to produce & deliver your service product : Innovation new to your firm and to your industry?	3	0.4	853
D2	SALPC71	Proportion of sales in last financial year: products or services unchanged or only marginally changed in the last 3 years	138	16.2	853
D2	SALPC72	Proportion of sales in last financial year: Significantly improved products or services introduced within the last 3 years	138	16.2	853

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
D2	SALPC73	Proportion of sales in last financial year: New products or services introduced within the last 3 years	138	16.2	853
D3	INTRO7	Does your firm intend to develop or introduce any innovations in products or processes in the next 3 years?	67	7.9	853
D4	RD72	Company engaged in R&D in the last financial year	67	7.9	853
D4	RD73	Number of staff engaged in R&D for part of their time	92	10.8	853
D4	RD74	Number of staff engaged in R&D for all of their time	116	13.6	853
D4	RD75	Total R&D expenditure in the last financial year (£)	101	11.8	853
D5	PAT7	Number of patents company granted in the last 3 years	296	34.7	853
D6	SRC701	Importance of source of knowledge for innovation activities in last 3 years: Internal knowledge within the company	140	16.4	853
D6	SRC702	Importance of source of knowledge for innovation activities in last 3 years: Knowledge within the group	140	16.4	853
D6	SRC704	Importance of source of knowledge for innovation activities in last 3 years: Suppliers of equipment, materials, components, or software	140	16.4	853
D6	SRC705	Importance of source of knowledge for innovation activities in last 3 years: Clients or customers	140	16.4	853
D6	SRC706	Importance of source of knowledge for innovation activities in last 3 years: Competitors in your line of business	140	16.4	853
D6	SRC707	Importance of source of knowledge for innovation activities in last 3 years: Consultants	140	16.4	853
D6	SRC708	Importance of source of knowledge for innovation activities in last 3 years: Universities/higher education institutes	140	16.4	853
D6	SRC723	Importance of source of knowledge for innovation activities in last 3 years: Professional conferences, meetings	140	16.4	853
D6	SRC712	Importance of source of knowledge for innovation activities in last 3 years: Fairs, exhibitions	140	16.4	853
D6	SRC713	Importance of source of knowledge for innovation activities in last 3 years: Trade associations	140	16.4	853
D6	SRC717	Importance of source of knowledge for innovation activities in last 3 years: Environmental standards and regulations	140	16.4	853
D6	SRC724	Importance of source of knowledge for innovation activities in last 3 years: Other sources	6	0.7	853
D6	OTHSRC7	Importance of external sources, other, please specify	0	0	8

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
D7	BAR701	Importance of barriers to innovation: excessive perceived risk	142	16.6	853
D7	BAR702	Importance of barriers to innovation:lack of appropriate sources of finance	142	16.6	853
D7	BAR703	Importance of barriers to innovation: innovation costs too high	142	16.6	853
D7	BAR704	Importance of barriers to innovation: pay-off period of innovation too long	142	16.6	853
D7	BAR705	Importance of barriers to innovation: firm's innovation potential too small	142	16.6	853
D7	BAR706	Importance of barriers to innovation: lack of skilled personnel	142	16.6	853
D7	BAR707	Importance of barriers to innovation: lack of information on technologies	142	16.6	853
D7	BAR708	Importance of barriers to innovation: lack of information on markets	142	16.6	853
D7	BAR709	Importance of barriers to innovation: innovation costs hard to control	142	16.6	853
D7	BAR710	Importance of barriers to innovation: organizational rigidities	142	16.6	853
D7	BAR713	Importance of barriers to innovation: lack of technological opportunities	142	16.6	853
D7	BAR714	Importance of barriers to innovation: no need to innovate due to earlier innovations	142	16.6	853
D7	BAR715	Importance of barriers to innovation: innovation too easy to copy	142	16.6	853
D7	BAR716	Importance of barriers to innovation: legislation, norms, regulations, standards, taxation	142	16.6	853
D7	BAR717	Importance of barriers to innovation: lack of customer responsiveness to innovation	142	16.6	853
D7	BAR718	Importance of barriers to innovation: uncertainty in timing of innovation	142	16.6	853
Section E – Factors Affecting Expansion and Efficiency					
E1	LIM701	Constraint of factor on meeting business needs: Availability and cost of long-term finance for expansion	60	7.0	853
E1	LIM702	Constraint of factor on meeting business needs: Availability and cost of finance for working capital	60	7.0	853
E1	LIM703	Constraint of factor on meeting business needs: Skilled labour	60	7.0	853
E1	LIM704	Constraint of factor on meeting business needs: Management skills	60	7.0	853

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
E1	LIM705	Constraint of factor on meeting business needs: Marketing and sales skills	60	7.0	853
E1	LIM706	Constraint of factor on meeting business needs: Acquisition of technology	61	7.2	853
E1	LIM707	Constraint of factor on meeting business needs: Difficulties in implementing new technology	60	7.0	853
E1	LIM708	Constraint of factor on meeting business needs: Availability of appropriate premises or site	60	7.0	853
E1	LIM709	Constraint of factor on meeting business needs: Access to overseas markets	60	7.0	853
E1	LIM710	Constraint of factor on meeting business needs: Overall growth of market demand in principal product markets	60	7.0	853
E1	LIM711	Constraint of factor on meeting business needs: Increasing competition	60	7.0	853
E2	GROWTH7	Which of the following do you feel describes your growth objectives over the next 3 years?	40	4.7	853
E3	TAXCAV7	Are you aware that R&D tax credit/relief is available to small firms?	39	4.6	853
E3	TAXCCL7	Have you claimed tax credit/relief?	33	9.1	363
E3	TAXCIN7	Has your use of R&D tax credit/relief led to an increase in your R&D expenditure that otherwise would not have occurred?	4	8.0	50
Section F - Finance					
F1	FINANC7	Made attempts to obtain external finance (i.e. additional to retained earnings and depreciation) in the last 2 financial years	31	3.6	853
F1	SOUGHT7	Amount sought	44	13.7	321
F1	OBTPC7	Percentage of the overall amount sought actually obtained	80	24.9	321
F2	APPR71	Sources of finance approached:Banks	11	3.4	321
F2	APPR73	Sources of finance approached: Hire purchase or leasing firms	11	3.4	321
F2	APPR74	Sources of finance approached: Factoring/Invoice/ Discounting firms	11	3.4	321
F2	APPR75	Sources of finance approached:Trade customers/Suppliers	11	3.4	321
F2	APPR721	Sources of finance approached: Venture capital Firms equity finance	11	3.4	321

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
F2	APPR722	Sources of finance approached: Venture capital Firms loan finance	11	3.4	321
F2	APPR761	Sources of finance approached:Partners/working shareholders equity finance	11	3.4	321
F2	APPR762	Sources of finance approached:Partners/working shareholders loans finance	11	3.4	321
F2	APPR771	Sources of finance approached: Other private individuals - equity	11	3.4	321
F2	APPR772	Sources of finance approached: Other private individuals - loans	11	3.4	321
F2	APPR78	Sources of finance approached: Other sources	11	3.4	321
F2	OTHAPPR7	Sources of financial assistance, other, please specify	0	0	42
F2	ADFIN71	% of finance obtained :Banks	101	31.5	321
F2	ADFIN73	% of finance obtained: Hire purchase or leasing firms	101	31.5	321
F2	ADFIN74	% of finance obtained: Factoring/Invoice/ Discounting firms	101	31.5	321
F2	ADFIN75	% of finance obtained:Trade customers/Suppliers	101	31.5	321
F2	ADFIN721	% of finance obtained: Venture capital Firms equity finance	101	31.5	321
F2	ADFIN722	% of finance obtained: Venture capital Firms loan finance	101	31.5	321
F2	ADFIN761	% of finance obtained:Partners/working shareholders equity finance	101	31.5	321
F2	ADFIN762	% of finance obtained:Partners/working shareholders loans finance	101	31.5	321
F2	ADFIN771	% of finance obtained: Other private individuals - equity	101	31.5	321
F2	ADFIN772	% of finance obtained: Other private individuals - loans	101	31.5	321
F2	ADFIN78	% of finance obtained: Other sources	101	31.5	321
F3	NOADD71	If you did not make attempts to obtain additional finance in the last 2 years, was it because: Internal cash flows insufficient	23	4.6	501
F3	NOADD72	If you did not make attempts to obtain additional finance in the last 2 years, was it because: Unwilling to dilute equity share holding	23	4.6	501

NORTHERN IRELAND SURVEY
SMALL AND MEDIUM SIZED BUSINESSES – ITEM NON-RESPONSE ANALYSIS

Question Number	Variable Name	Description	Number of non-responses	Non-response (%)	Total possible responses
F3	NOADD73	If you did not make attempts to obtain additional finance in the last 2 years, was it because: Cost of external finance too high?	23	4.6	501
F3	NOADD74	If you did not make attempts to obtain additional finance in the last 2 years, was it because: Unwilling to increase borrowing risk?	23	4.6	501
F3	NOADD75	If you did not make attempts to obtain additional finance in the last 2 years, was it because:	23	4.6	501
F3	OTHNOAD7	Reasons additional finance not obtained, other, please specify	0	0	20