

Potential impact of the recession on the building services engineering sector in 2009

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Executive summary

This report looks at the potential impact of the recession on the building services engineering (BSE) sector within the UK and the current experiences of BSE consultants interviewed for this research, all of whom are members of the Chartered Institution of Building Services Engineers (CIBSE).

Overview of the economy

The performance of the UK economy over 2008 was poor, with GDP falling in the last two quarters of 2008, indicating that the UK economy is in recession.

The recession has been exacerbated by the high financial market turmoil, housing market downturns and high commodity prices. Imports fell throughout the first half of 2008, which is good news for the balance of payments deficit¹ as exports remained stable, but at the same time unemployment rose, particularly within the second quarter.

The UK's greater exposure to weakness both in credit and equity markets has impacted negatively on economic performance and has contributed to a further depreciation of sterling.

2009 is set to be a very difficult year financially, with GDP expected to fall further as the UK remains gripped in a recession and unemployment set to rise. It is against these financial conditions that the BSE sector is expected to compete.

The survey sample

Fifty-six BSE consultancy companies took part in the research; these included both small single site and large multi-site companies. Predominantly, the companies were based in England although there was a small amount of representation from the devolved nations. The workload of the consultants interviewed however was UK-wide; therefore this allowed general assumptions to be made about the workload and the possible economic performance of the sector during 2009 across the whole of the UK.

For analysis purposes, SummitSkills has broken down the workload of the sector into five main 'work sector' headings: private commercial (office accommodation, shops); private industrial (warehouse and factory-type developments); private housing; social housing and major public works e.g. NHS and school new build/refurbishment.

Repair and maintenance in domestic minor works is not engaged in by consultants, therefore calculations within this report for this area of work are based on best assumptions.

Up to and including 2008, the BSE sector, including the interviewed consultants enjoyed a significant period of 'boom' in relation to the growth of their business, as the demand for construction across all the work sectors defined in this report expanded. The majority of consultants interviewed had increased staffing levels.

¹ A balance of payments deficit occurs when the value of imports exceeds that of exports, thus meaning that sterling is leaving the country faster than other currencies are entering it. This phenomenon is deemed in classic economic theory to reduce the value of sterling, as the money supply does not match the fixed assets of the country

Recession impacts on the sector

The consultants interviewed for this report had contracts across all of the identified work sectors, with the exception of minor repair and maintenance. In line with the rest of the economy, estimations from those interviewed show that for 2009 there is expected to be a considerable percentage of contracts that will be postponed or cancelled. The impact of this on the BSE sector is likely to be significant, particularly in relation to employment.

Impact of the recession on consultants

Since the economic downturn, 9% of the sample interviewed (which consisted primarily of the larger companies) had made some staff redundant.

The majority of consultants (61%) expect the recession to last for two years, until the end of 2010 (see table 4.1 section four).

For 2009, a majority of the consultants estimate that the size of their workforce will remain the same, although 29% of the sample thinks that workforce numbers will decrease. Once the recession is over, post-2010, then the majority interviewed expect the size of their workforce to increase again (see tables 4.3 & 4.4).

Employment impact for the building services engineering sector

To accurately determine the potential employment impact of the recession on the BSE sector, it was necessary to estimate the number of operatives in each work sector. It is acknowledged that most BSE companies work across the broad spectrum of the sectors and because of this fact, the number of jobs allocated to each work sector should be seen as an indication rather than a fully accurate picture of the numbers working within each work sector. Table A shows the approximate calculations:

Table A² Approximate numbers of operatives in the BSE crafts working within the five defined work areas identified in this report – UK wide

	Employment 2008	Total Industrial & Commercial	Private Commercial	Private Industrial	Major Public Works	Total Domestic Sector	Private Housing	Social Housing	Repair & Maintenance
United Kingdom									
Electrical Trades and Installation	196,810	118,086	53,139	34,245	30,702	78,724	20,468	18,894	39,362
Plumbing	90,424	54,254	24,414	15,734	14,106	36,170	9,404	8,681	18,085
Heating and Ventilation	55,645	33,387	15,024	9,682	8,681	22,258	5,787	5,342	11,129
Air Conditioning & Refrigeration	27,821	19,475	8,764	5,648	5,063	8,346	2,170	2,003	4,173

² This table is an extract of table 5.2. Please see section 5 for full details on how these calculations for each of the work sectors were arrived at.

Average percentages of work postponed or cancelled in 2009 (best and worse-case scenarios)

Across all the BSE work sectors identified within this report, the consultants interviewed estimated percentages of their work that was due to start in 2009 but is likely to be postponed or cancelled. Table B below shows the best case and worse case scenarios for the percentage of their estimations in this area.

Table B Percentage of BSE work due to start on site in 2009 by work sector likely to be mothballed or cancelled

Work Sector	Best Case Scenario	Worst Case Scenario
Private Commercial	11.62%	35.58%
Private Industrial	30.96%	49.36%
Private Housing	32%	55.75%
Social Housing	10.4%	29.6%
Major Public Works	20.4%	44.2%

Calculation of indicative 'notional' job losses³ in the BSE sector

Using the estimated figures on the existing number of operatives across each work sector and the level of work likely to be postponed or cancelled, Table C contains a summary of the indicative notional job losses throughout the sector as a result of the recession. Section 7 contains full data for each of the work sections (tables 7.1-7.6 inclusive).

Although the logic behind the estimated notional job losses is based on sound principles, the figures can only ever be indicative and there are a number of issues that affect the absolute accuracy of the figures which SummitSkills acknowledges. The figures are based on a variety of assumptions that include⁴:

- Interviewees' estimation of work to be postponed or cancelled may not transpire to be fully accurate
- A 1% reduction in work may not lead to a 1% reduction in labour
- Because many BSE companies move across work sectors in both domestic and commercial and industrial, the breaking down of the workforce into defined work sectors is in this sense artificial, but is helpful to show potential job losses against each sector.

Other factors that may affect future workforce figures include:

- Reduction of compulsory overtime by employers may reduce actual job losses
- Devaluation of the pound against the Euro may mean that it is not as cost beneficial for migrant workers to remain within the UK, which may lead to a natural reduction in the workforce.

³ The term 'notional' is used here to indicate the indicative nature of the figures because to arrive at them a number of reasonable assumptions were made.

⁴ Full detail behind all assumptions made is presented in section 7.

These figures therefore should be used as an indicator, rather than established fact:

Table C Total indicative notional UK job losses from the best case and worst case scenarios, by BSE industry⁵

	Employment 2008	Indicative notional job losses best case scenario	Indicative notional job losses worst case scenario
United Kingdom			
Electrical Trades and Installation	196,810	35,490	82,125
Plumbing	90,424	16,306	37,731
Heating and Ventilation	55,645	10,034	23,222
Air Conditioning and Refrigeration	27,821	5,121	11,621

The percentage loss of indicative notional jobs across the UK BSE sector due to work being postponed or cancelled in 2009 is, in the best case scenario, approximately 18% (23% ACR⁶), with the worst case scenario being approximately 42%.

Indicative notional apprentice job losses

An important implication of the recession for SummitSkills and the future of the sector is the impact it may have on the careers of those workers currently on sector apprenticeship schemes. Assuming that 3.5% of the indicative notional job losses are apprentices (based on historical research carried out by the sector's trade associations that apprentices account for 3.5% of the workforce), table D shows the potential impact across the various craft industries making up the BSE sector.

Table D Total indicative notional UK apprentice job losses from the best case and worst case scenarios, by BSE industry⁷

	Indicative notional job losses best case scenario	Indicative notional job loss best case scenario apprentices	Indicative notional job losses worst case scenario	Indicative notional job losses worst case scenario apprentices
United Kingdom				
Electrical Trades and Installation	35,490	1,242	82,125	2,874
Plumbing	16,306	571	37,731	1,321
Heating and Ventilation	10,034	351	23,222	813
Air Conditioning and Refrigeration	5,121	179	11,621	407

Conclusion

Building services engineering consultants expect a significant drop in work over the next two years due to postponement or cancellation of projects affected by the recession.

Based on this, SummitSkills has estimated the impact this will have on the contracting industry. Approximate calculations indicate there could be job losses of between 67,000 and 154,000 across the building services engineering sector. Within these figures, there is potential for between 2,300 and 5,400 apprentices to be made redundant.

⁵ This table is an extract of table 8.1 in section 8 of the report. The full table contains the data also broken down into nation and English region.

⁶ This slightly different percentage for ACR is due to the slightly higher reliance that it is believed that the ACR industries have on the industrial sectors, than the electrotechnical, heating and ventilation and plumbing industries.

⁷ This table is an extract of table 9.1 in section 9 of the report. The full table contains the data also broken down into nation and English region.

As a result of this research, SummitSkills has identified four key areas to work on with its stakeholders with the aim of reducing the impact of the recession on the sector. These four work areas will explore ways to:

1. Redeploy and maintain the training of redundant apprentices
2. Support employers to develop the skills of existing workers in new building services market areas
3. Support the education and training delivery infrastructure
4. Maintain the stream of new entrants in preparation for the sector coming out of recession

Work on these areas are already underway but will continue throughout 2009 in order to minimise potential disruption to the sector's workforce and its skills levels.

1 Overview of the economy

Table 1.1 shows the Organisation for Economic Cooperation and Development (OECD) economic forecasts and shows that in quarter 3 and quarter 4 of 2008, the UK economy went into recession.

Table 1.1 Gross Domestic Product (GDP) growth in the UK

	Quarter 3 2007	Quarter 4 2007	Quarter 1 2008	Quarter 2 2008	Quarter 3 2008	Quarter 4 2008
UK	2.3	2.2	1.1	0.2	-0.3 +/- 1.2	-0.4 +/-1.2

Source: ETB (2008, p84)/ OECD Economic Forecast (2008)

The recession in the UK has been exacerbated by the high financial market turmoil, housing market downturns and high commodity prices that the OECD believes will continue to bear down on global growth (ETB, 2008, p84).

Unemployment, according to the OECD, is set to rise by 100,000 to reach 5.8% of the UK workforce by 2009, although this is currently predicted to be below the EU average of 7%.

Consumer spending was robust in the first quarter of 2008, but fell slightly in the second. Fixed investment contracted markedly in both quarters, but particularly within the second quarter, thereby substantially dampening growth.

Imports fell throughout the first half of 2008, which is good news for the balance of payments deficit⁸ as exports remained stable, but at the same time unemployment rose, particularly within the second quarter.

The UK's greater exposure to weakness both in credit and equity markets has impacted negatively on economic performance and has contributed to a further depreciation of sterling. It is anticipated that this will continue to help exports and damage imports, but will make the cost of foreign holidays more expensive. Between February and September 2008, depreciation was around 7% on a nominal effective exchange rate basis, which brought sterling depreciation to 15% since July 2007.

Weakening domestic demand also impacted on the economy in the second quarter of 2008, as the reduction in credit supply for consumers and business was exacerbated by weakening housing and labour markets and an inflation-induced stagnation in real disposable income (ETB, 2008, p84).

2009 is set to be a very difficult year financially, with GDP expected to fall further as the UK remains gripped in a recession and unemployment set to rise.

It is against these financial conditions that the BSE sector is expected to compete.

⁸ A balance of payments deficit occurs when the value of imports exceeds that of exports, thus meaning that sterling is leaving the country faster than other currencies are entering it.

2 The survey sample

Methodology has not been placed within a definable section of this report, but instead has been explained throughout the document related to the various sections of the research. Within this section the sample size, geographical dispersion and size of company are described, so a clear idea of sample can be obtained.

The sample was generated from consultants listed with the Chartered Institution of Building Services Engineers (CIBSE). For ease of identification, in this instance SummitSkills has classified building services engineering consultants as being qualified or part-qualified members of CIBSE, graduates and technicians. There are individuals and companies offering BSE consultancy outside of CIBSE, however it is more difficult to identify them as currently there is not SOC (Standard Occupation Classification) code specifically for BSE consultants.

Unless otherwise stated, the sample size for all the tables in this report is 56.

Table 2.1 below indicates company size, the nation in which they are based and whether they operate from a single site or multiple sites. Consultants are often difficult to categorise as their geographic work patterns are significantly more varied than contractors, which means that they can and do work across the UK, not necessarily local to their base.

Table 2.1 Consultant size, geographical location and single or multi-site

	1-24	25+	Single Site	Multi-Site
England	88%	97%	100%	88%
Scotland	4%	3%	0%	6%
Wales	4%	0%	0%	3%
Northern Ireland	4%	0%	0%	3%

BMG/ SummitSkills (2009)

This table shows that a considerable percentage of the consultants are based in England, although this does not necessarily mean that their work is restricted to England alone. There is some representation from Scotland, Wales and Northern Ireland, all of which appear to be companies that are multi-site.

Table 2.2 below shows that the consultants making up the sample are engaged on a spread of work across the whole of what might be termed the construction 'work sectors'.

For analysis purposes, the workload of the sector has been broken down into five main headings: private commercial (office accommodation, shops); private industrial (warehouse and factory-type developments); private housing; social housing and major public works e.g. NHS and school new build/refurbishment. Through clearly defining and identifying major public works, SummitSkills is seeking to establish the impact that current levels of Government investment being made to stimulate the economy may have on employability in the sector.

Table 2.2 Type of work carried out by consultant sample across the UK

	Private Commercial	Private Industrial	Private Housing	Social Housing	Major Public Works
England	92%	94%	94%	94%	94%
Scotland	4%	2%	0%	0%	0%
Wales	2%	2%	3%	3%	3%
Northern Ireland	2%	2%	3%	3%	3%

BMG/ SummitSkills (2009)

The percentages show that the majority of companies engage in all the areas of business that constitute the market for 'new build' construction within the UK.

Table 2.3 shows a further breakdown of the size of the various consultants within the survey, and whether these are single or multi-site companies:

Table 2.3 Employer size and whether single or multi-site consultancy

Employer size	1-24	25+	Single Site	Multi-Site
1-9	48%	0%	33%	14%
10-24	52%	0%	38%	14%
25-199	0%	90%	29%	63%
200+	0%	10%	0%	9%

BMG/ SummitSkills (2009)

The data in table 2.3 shows that the larger companies who employ the most people tend to be multi-site. The percentages also indicate a reasonable company size spread, given the overall number of participants in the survey.

Table 2.4 shows the sizes of the consultant companies against the percentages of the type of work undertaken.

Table 2.4 Type of work carried out by consultant sample across the UK by size of consultant

	Private Commercial	Private Industrial	Private Housing	Social Housing	Major Public Works
1-9	22%	24%	23%	31%	23%
10-24	24%	26%	37%	28%	26%
25-199	49%	45%	37%	41%	46%
200+	5%	5%	3%	0%	5%

BMG/ SummitSkills (2009)

Table 2.4 suggests that in this sample, the companies worked on a variety of projects across all the main areas of the construction field. This again gives the data a relatively balanced picture.

Many BSE consultancies (particularly the larger ones) are part of multi-disciplinary practices offering a range of professional consultancy services, from architecture and quantity surveying to structural engineering. Table 2.5 shows consultants' employee size, whether they are single or multi-site, and areas of work:

Table 2.5 Analysis of single or multi-site practices in survey and type of work undertaken

	1-25	25+	Private Commercial	Private Industrial	Private Housing	Social Housing	Major Public Works	Single Site	Multi-Site
Only establishment	60%	19%	38%	43%	53%	45%	33%	100%	0%
Part of larger organisation with multi-sites	40%	81%	62%	57%	47%	55%	67%	0%	100%

BMG/ SummitSkills (2009)

Table 2.6 shows the percentages of consultants within the sample who encourage their staff to become full members of CIBSE.

Table 2.6 Percentage of the consultants sample who encourage their staff to become members of the Chartered Institution of Building Services Engineers (CIBSE)

	Total	1-24	25+	Single Site	Multi-Site
Yes	96%	96%	97%	95%	97%
No	4%	4%	3%	5%	3%

BMG/ SummitSkills (2009)

Given that the sample emanated from consultants registered with CIBSE, it is perhaps not surprising to see that the vast majority of staff are being encouraged by their employers to join the professional institution.

Table 2.7 looks at whether the consultants within the survey had increased or decreased in size during the previous five years. Given the extended boom that the building services engineering sector has enjoyed up until the recent recession, it is not surprising that two-thirds of the consultants surveyed had grown the size of their practices.

Table 2.7 Analysis of workforce increase or decrease in last five years by company size, work type and single or multiple site

	Total	1-25	25+	Private Commercial	Private Industrial	Private Housing	Social Housing	Major Public Works	Single Site	Multi-Site
Increased	66%	56%	74%	65%	69%	63%	62%	72%	57%	71%
Decreased	23%	28%	19%	24%	24%	27%	24%	18%	24%	23%
Same	11%	16%	6%	11%	7%	10%	14%	10%	19%	6%

BMG/ SummitSkills (2009)

Table 2.8 shows that where there was an increase or decrease, it tended to be predominantly less than 10% or between 11-20% of the total workforce, suggesting that there are no high fluctuations either way.

Table 2.8 Percentage of workforce increase or decrease in last five years by company size, work type and single or multiple site

	Total	1-25	25+	Private Commercial	Private Industrial	Private Housing	Social Housing	Major Public Works	Single Site	Multi-Site
<10%	26%	29%	24%	27%	26%	26%	16%	14%	29%	24%
11-20%	30%	24%	34%	29%	26%	15%	20%	29%	29%	30%
21-30%	10%	19%	3%	10%	13%	19%	20%	18%	18%	6%
31-40%	2%	0%	3%	2%	3%	4%	0%	6%	6%	0%
41-50%	14%	5%	21%	14%	13%	19%	16%	6%	6%	18%
51-99%	4%	5%	3%	4%	5%	0%	0%	0%	0%	6%
100%	8%	14%	3%	8%	8%	11%	16%	6%	6%	9%
>100%	6%	5%	7%	6%	8%	7%	12%	6%	6%	6%

BMG/ SummitSkills (2009)

Table 2.9 shows the percentage of consultant sample working in each region/nation within the UK over the last two years:

Table 2.9 Percentage of consultants working in each region/nation

	Total	1-25	25+	Private Commercial	Private Industrial	Private Housing	Social Housing	Major Public Works	Single Site	Multi-Site
Northern Ireland	32%	20%	42%	31%	29%	30%	24%	26%	29%	34%
Scotland	66%	52%	77%	65%	64%	57%	48%	59%	48%	77%
Wales	55%	40%	68%	55%	55%	47%	52%	51%	48%	60%
North East	71%	56%	84%	71%	74%	67%	62%	67%	71%	71%
Yorkshire & Humberside	68%	64%	71%	67%	67%	63%	66%	69%	71%	66%
North West	71%	72%	71%	71%	74%	70%	66%	69%	81%	66%
East Midlands	77%	80%	74%	76%	79%	73%	72%	74%	90%	69%
West Midlands	79%	80%	77%	78%	79%	77%	83%	82%	90%	71%
East of England	86%	80%	90%	85%	83%	90%	86%	85%	90%	83%
South East	95%	88%	100%	95%	95%	97%	93%	95%	95%	94%
South West	82%	76%	87%	82%	81%	83%	79%	82%	86%	80%
London	93%	84%	100%	93%	93%	93%	90%	92%	95%	91%

BMG/ SummitSkills (2009)

Although the percentage of companies working in Northern Ireland is lower than the other devolved nations and English regions, given the small size of the Northern Irish economy and the percentage of the BSE sector actually employed in the province, these figures seem satisfactory.

Unlike contractors, the demographic workload of consultants varies considerably. Although most of the consultants are based in England, their engagement with projects in Northern Ireland, Scotland and Wales allows some analysis of the potential impact of the recession on these nations.

Table 2.10 details the spread of types of workload by consultant. It shows that the majority of companies (98%) are engaged in private commercial, which is what would be expected given the boom in the service sector over the previous five years, although private industrial at 75% is also a high level of engagement. With 70% of companies interviewed being involved in major public sector projects, this also shows the reliance of the BSE sector on Public Private Partnership (PPP) and Private Finance Initiative (PFI)-type projects, although the extent to which this can drive the sector through the recession is something that will be seen as the impacts of the economical downturn in 2009 become apparent.

Table 2.10 Percentage of consultants engaging in each type of work sector

	Total	1-24	25+	Single Site	Multi-Site
Private Commercial	98%	100%	97%	100%	97%
Private Industrial	75%	84%	68%	86%	69%
Private Housing Sector	54%	72%	39%	76%	40%
Social Housing Sector	52%	68%	39%	62%	46%
Major Public Works	70%	76%	65%	62%	74%

BMG/ SummitSkills (2009)

3 Recession impacts on the BSE sector

This section examines the current and predicted activity within the various work sectors that have been defined within this report – private commercial; private industrial; private housing; social housing and major public works.

For each sector, SummitSkills has analysed consultants' current level of engagement in that area, the amount of work due to start in 2009, whether they are aware of work already being postponed or cancelled, and their estimated percentage of work that will be affected by projects being put on hold or called off completely.

3.1 Private commercial sector

Table 3.1 shows the percentage of business that the consultants currently obtain from the private commercial sector:

Table 3.1 Total business percentage of private commercial work engaged in by interviewed consultants

Total percentage of work from private commercial sector	Total	1-24	25+	Single Site	Multi-Site
<25%	38%	52%	27%	38%	38%
26-50%	27%	20%	33%	24%	29%
51-75%	13%	12%	13%	19%	9%
76-99%	18%	12%	23%	14%	21%
Don't Know	4%	4%	4%	5%	3%

BMG/ SummitSkills (2009)

Of this private commercial sector work currently being carried out, the next question established how much of it was scheduled to start on site in 2009. Table 3.2 below shows the responses to this question:

Table 3.2 Total percentage of private commercial sector work due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
None	19%	24%	14%	19%	18%
<25%	36%	44%	30%	28%	41%
26-50%	24%	16%	30%	28%	21%
51-75%	5%	0%	10%	5%	6%
76-99%	7%	0%	13%	10%	6%
100%	4%	8%	0%	5%	3%
Don't Know	5%	8%	3%	5%	5%

BMG/ SummitSkills (2009)

The next question sought to elicit whether the consultants were aware of any work due to start on site in 2009 that was to be postponed or cancelled due to the recession.

Table 3.3 below shows the results of this question:

Table 3.3 Percentage of consultants aware of private commercial work due for start on site in 2009 being cancelled or mothballed

	Total	1-24	25+	Single Site	Multi-Site
Yes	53%	32%	69%	29%	68%
No	47%	68%	31%	71%	32%

BMG/ SummitSkills (2009)

Table 3.4 suggests that currently the majority of consultants expect the percentage of work to be postponed or cancelled not to exceed 50% of the total contracts currently on their books. The potential impact of loss or postponement of work on possible employment within the sector is covered in the next section of this report.

Table 3.4 Percentage of private commercial work that consultants expect to be mothballed or cancelled which was due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
Up to 25%	63%	67%	61%	80%	58%
26-50%	33%	33%	33%	20%	37%
51-75%	0%	0%	0%	0%	0%
76-99%	4%	0%	6%	0%	5%
100%	0%	0%	0%	0%	0%
Don't Know	0%	0%	0%	0%	0%

BMG/ SummitSkills (2009)

3.2 Private industrial sector

Table 3.5 identifies the work being carried out by the consultant sample that is defined as private industrial. Given the recent boom in the service sector of the UK economy, engagement in industrial work is lower than that of commercial work and mirrors the volumes of work available.

Table 3.5 Total business percentage of private industrial sector engaged in by interviewed consultants

Total percentage of work from private industrial sector	Total	1-24	25+	Single Site	Multi-Site
<25%	84%	76%	90%	72%	92%
26-50%	7%	14%	0%	16%	0%
51-75%	2%	5%	0%	6%	0%
76-99%	2%	0%	5%	0%	4%
Don't Know	5%	5%	5%	6%	4%

BMG/ SummitSkills (2009)

Table 3.6 shows the amount of interviewees' private industrial work that is currently due to start on site in 2009.

Table 3.6 Total percentage of private industrial sector work due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
None	34%	46%	22%	37%	32%
<25%	18%	18%	18%	16%	20%
26-50%	16%	14%	17%	10%	19%
51-75%	4%	0%	9%	5%	4%
76-99%	6%	2%	10%	7%	8%
100%	13%	10%	16%	20%	7%
Don't Know	9%	10%	8%	5%	10%

BMG/ SummitSkills (2009)

Table 3.7 shows the amount of consultants who are aware of private industrial sector work being postponed or cancelled.

Table 3.7 Percentage of consultants aware of private industrial work due for start on site in 2009 being cancelled or mothballed

	Total	1-24	25+	Single Site	Multi-Site
Yes	48%	55%	44%	27%	62%
No	52%	45%	56%	73%	38%

BMG/ SummitSkills (2009)

Table 3.8 shows the views of the consultants in relation to the percentage of planned 2009 private industrial sector work which is likely to be postponed or cancelled:

Table 3.8 Percentage of private industrial sector work consultants expect to be mothballed or cancelled which was due to start on site in 2009.

	Total	1-24	25+	Single Site	Multi-Site
Up to 25%	31%	33%	29%	33%	30%
26-50%	38%	33%	43%	33%	40%
51-75%	0%	0%	0%	0%	0%
76-99%	8%	0%	14%	0%	10%
100%	15%	33%	0%	33%	10%
Don't Know	8%	1%	14%	1%	10%

BMG/ SummitSkills (2009)

As can be seen from table 3.8, there is likely to be some private industrial work being postponed or cancelled due to the recession. The impact of this on the BSE contracting sector will be considered in the next section.

3.3 Private housing

Table 3.9 shows the percentage of private housing incorporated within their business portfolio. As expected this type of work does not form a large part of the portfolios of a number of companies, although its presence does allow for determining the effect on the sector of any reduction in work.

Table 3.9 Total business percentage of private housing work engaged in by interviewed consultants

Total percentage of work from private housing sector	Total	1-24	25+	Single Site	Multi-Site
<25%	73%	78%	67%	81%	64%
26-50%	23%	17%	33%	19%	29%
51-75%	0%	0%	0%	0%	0%
76-99%	0%	0%	0%	0%	0%
Don't Know	4%	5%	0%	0%	7%

BMG/ SummitSkills (2009)

Table 3.10 below shows the percentage of private housing work on the consultants' desks that was due to start on site in 2009:

Table 3.10 Total percentage of private housing sector work due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
None	37%	44%	25%	25%	50%
<25%	13%	22%	0%	25%	0%
26-50%	20%	17%	25%	19%	21%
51-75%	7%	0%	17%	0%	15%
76-99%	0%	0%	0%	0%	0%
100%	23%	17%	33%	31%	14%
Don't Know	0%	0%	0%	0%	0%

Source: BMG/ SummitSkills (2009)

Table 3.11 shows the percentage of consultants who are aware of 2009 private sector housing work being postponed or cancelled:

Table 3.11 Percentage of consultants who are aware of private housing sector work due for start on site in 2009 being cancelled or mothballed

	Total	1-24	25+	Single Site	Multi-Site
Yes	21%	10%	33%	8%	43%
No	79%	90%	67%	92%	57%

BMG/ SummitSkills (2009)

Table 3.12 below shows that of those consultants who are engaged in private housing work, a large percentage (25%) expect that up to 99% of housing work due to start on site in 2009 will be cancelled or postponed:

Table 3.12 Percentage of private housing sector work consultants expect to be mothballed or cancelled which was due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
Up to 25%	25%	0%	33%	0%	33%
26-50%	50%	0%	67%	0%	67%
51-75%	0%	0%	0%	0%	0%
76%-99%	25%	100%	0%	100%	0%
100%	0%	0%	0%	0%	0%
Don't Know	0%	0%	0%	0%	0%

BMG/ SummitSkills (2009)

3.4 Social housing

Table 3.13 shows the percentage of work that consultant companies identified as social housing:

Table 3.13 Total business percentage of social housing sector engaged in by interviewed consultants

Total percentage of work from social housing sector	Total	1-24	25+	Single Site	Multi-Site
<25%	79%	70%	92%	62%	94%
26-50%	14%	18%	8%	23%	6%
51-75%	4%	6%	0%	8%	0%
76-99%	3%	6%	0%	7%	0%
Don't Know	0%	0%	0%	0%	0%

BMG/ SummitSkills (2009)

Table 3.14 below shows the amount of social housing work due to start on site in 2009:

Table 3.14 Total percentage of social housing sector work due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
None	41%	47%	33%	54%	31%
<25%	28%	24%	33%	15%	38%
26-50%	10%	12%	8%	15%	6%
51-75%	3%	0%	8%	0%	6%
76-99%	0%	0%	0%	0%	0%
100%	14%	12%	18%	8%	19%
Don't Know	4%	5%	0%	8%	0%

Source: BMG/ SummitSkills (2009)

Table 3.15 indicates the percentage of interviewed consultants who are aware or expect social housing work due to start on site in 2009 to be mothballed or cancelled.

Table 3.15 Percentage of consultants who are aware of social housing sector work due for start on site in 2009 being cancelled or mothballed

	Total	1-24	25+	Single Site	Multi-Site
Yes	29%	0%	63%	17%	36%
No	71%	100%	37%	83%	64%

BMG/ SummitSkills (2009)

Table 3.16 indicates the percentage of forthcoming social housing work that the consultants envisage will be postponed or cancelled. Interestingly, this is significantly less than the private sector work, and perhaps shows an expectation that Government spending will reduce the impact of the recession in this sector.

Table 3.16 Percentage of social housing sector work consultants expect to be mothballed or cancelled which was due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
Up to 25%	40%	0%	40%	100%	25%
26-50%	40%	0%	40%	0%	75%
51-75%	0%	0%	0%	0%	0%
76-99%	0%	0%	0%	0%	0%
100%	0%	0%	0%	0%	0%
Don't Know	20%	0%	20%	0%	25%

BMG/ SummitSkills (2009)

Increasingly there is a requirement that private sector schemes include a social housing element. However, making a judgement on to what extent social housing in this area might be affected compared to original quantities envisaged by agencies such as housing associations, is difficult.

3.5 Major public works

New major public works is a section identified by SummitSkills to take into account the increasing influence that, particularly in a time of recession, this type of work will have on the sector's economic performance.

Table 3.17 shows the engagement by the interviewed consultants in major public works:

Table 3.17 Total business percentage of major public works sector engaged in by interviewed consultants

Total percentage of work from major public works sector	Total	1-24	25+	Single Site	Multi-Site
<25%	46%	53%	40%	54%	42%
26-50%	26%	26%	25%	23%	27%
51-75%	21%	21%	20%	23%	19%
76-99%	5%	0%	10%	0%	8%
Don't Know	2%	0%	5%	0%	4%

BMG/ SummitSkills (2009)

Table 3.18 shows the percentages of major public works that form part of the interviewee's work portfolios and are currently being funded through PFI or PPP:

Table 3.18 Percentage of major project work currently being funded through PFI and PPP schemes

	Total	1-24	25+	Single Site	Multi-Site
None	59%	79%	40%	69%	54%
Up to 25%	15%	16%	15%	15%	15%
26-50%	8%	0%	15%	0%	12%
51-75%	3%	0%	5%	8%	0%
76%-99%	3%	0%	5%	0%	4%
100%	3%	0%	5%	0%	4%
Don't Know	9%	5%	15%	8%	12%

BMG/ SummitSkills (2009)

Table 3.19 shows the percentages of public works the consultant sample is due to start on site in 2009:

Table 3.19 Percentage of major project work due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
None	18%	16%	20%	23%	15%
Up to 25%	18%	16%	20%	8%	23%
26-50%	26%	32%	20%	31%	23%
51-75%	15%	11%	20%	23%	12%
76%-99%	0%	0%	0%	0%	0%
100%	18%	25%	10%	15%	19%
Don't Know	5%	0%	10%	0%	8%

BMG/ SummitSkills (2009)

Table 3.20 suggests that the consultants expect the vast majority of major public work to hold up well.

Table 3.20 Percentage of consultants who are aware of major public projects sector work due for start on site in 2009 being cancelled or mothballed

	Total	1-24	25+	Single Site	Multi-Site
Yes	29%	0%	63%	17%	36%
No	71%	100%	37%	83%	64%

BMG/ SummitSkills (2009)

Table 3.21 shows the percentages of major public work that the consultants anticipate will be postponed or cancelled in 2009:

Table 3.21 Percentage of major public projects sector work consultants expect to be mothballed or cancelled which was due to start on site in 2009

	Total	1-24	25+	Single Site	Multi-Site
Up to 25%	60%	0%	60%	0%	60%
26-50%	20%	0%	20%	0%	20%
51-75%	0%	0%	0%	0%	0%
76-99%	20%	0%	20%	0%	20%
100%	0%	0%	0%	0%	0%
Don't Know	0%	0%	0%	0%	0%

BMG/ SummitSkills (2009)

4 The impact of the recession on building services engineering sector consultants

4.1 Consultant views on the recession and its impact on their work

This section looks at consultant views on the recession. It is likely that BSE consultants' recruitment and investment behaviour will be determined by how long they expect the recession will last. Table 4.1 suggests that predominantly this is perceived to be two years, to the end of 2010 or the beginning of 2011:

Table 4.1 The length of time that BSE consultants expect the current recession to last

	Total	1-24	25+	Single Site	Multi-Site
One year up to the end of 2009	20%	28%	13%	14%	23%
Two years to the end of 2010	61%	52%	67%	52%	66%
Up to 2012	11%	12%	10%	24%	3%
Beyond 2012	5%	0%	10%	5%	6%
Don't Know	3%	8%	0%	5%	2%

BMG/ SummitSkills (2009)

Marginally, it appears that the larger consultancies are more pessimistic than the smaller companies. This may impact on recruitment over the short to medium term, particularly affecting building services graduates coming out of universities in the UK. Table 4.2, 4.3 and 4.4 suggest however that while dropping through 2009, work is expected to begin to rise in 2010/2011, recovering strongly through to 2015.

Table 4.2 BSE consultants' expectations on the size of their workforce over the immediate twelve month period (2009)

	Total	1-24	25+	Single Site	Multi-Site
Increase	18%	16%	19%	19%	17%
Decrease	29%	20%	36%	14%	37%
No change	53%	64%	45%	67%	46%

BMG/ SummitSkills (2009)

Table 4.3 shows the same information over a two year (medium term) period:

Table 4.3 BSE consultants' expectations on the size of their workforce over a two year period (2010-2011)

	Total	1-24	25+	Single Site	Multi-Site
Increase	50%	48%	51%	48%	51%
Decrease	14%	4%	23%	0%	23%
No change	34%	44%	26%	52%	23%
Don't Know	2%	4%	0%	0%	3%

BMG/ SummitSkills (2009)

Table 4.4 shows the same information over a five year (long term) period:

Table 4.4 BSE consultants expectations on the size of their workforce over a five year period (to 2015)

	Total	1-24	25+	Single Site	Multi-Site
Increase	64%	60%	68%	48%	74%
Decrease	9%	4%	13%	5%	11%
No change	20%	28%	13%	38%	9%
Don't Know	7%	8%	6%	10%	6%

BMG/ SummitSkills (2009)

From table 4.3 and 4.4 it appears that larger consultancies are likely to be increasing employment prospects for new entrants, which will particularly benefit graduates seeking to enter the BSE sector and gain employment within consultancies.

Table 4.5 shows (by work sectors defined earlier within this report) the changes that the consultants envisage will take place in their workforce compared to their current engagement. Given the positive nature of the responses in tables 4.3 and 4.4, these percentages should be seen within the context of growth and also may indicate how staff time and new entrants will be allocated across the various work sectors.

Table 4.5 Percentage of change in workforce by work sector that the consultants expect over the next five years

	Total	1-24	25+	Single Site	Multi-Site
Private Commercial Sector	68%	68%	68%	62%	71%
Private Industrial Sector	48%	48%	48%	52%	46%
Private Housing Sector	29%	32%	26%	24%	31%
Social Housing Sector	25%	20%	29%	19%	29%
Major Public Works	36%	36%	35%	24%	43%
Don't Know	18%	16%	19%	24%	14%

BMG/ SummitSkills (2009)

What the data in table 4.5 appears to show is that the consultants anticipate most business over the next five years to be in the private commercial sector, replicating growth that has been experienced in the services sector over the last decade and even since World War 2 as the UK has gradually moved towards becoming a service-dominated economy.

There is a feeling that the private industrial sector and the major public works sector will be strong, with both private and social housing being less buoyant compared to the other sectors. If this analysis is correct, the domestic sector is likely to remain more sluggish overall than the industrial and commercial sector.

4.2 How the BSE consultants are responding to the recession

Table 4.6 shows the techniques BSE consulting companies are using to respond to the recession. Currently, only 9% of the sample has made staff redundant, although this factor will be influenced by the level of new work secured during 2009 as their existing work comes to completion. Redundancies in the main appear to be occurring in the larger multi-site practices rather than the smaller practices.

Currently the recession has not had a significant impact on the majority of consultants. Where companies are aware of it, they are merely introducing cost cutting techniques (20%). Smaller companies are looking at overseas work, whereas presumably larger companies are already involved in this work. Only 11% of the sample is currently diversifying into other business areas, with this activity being equally divided between larger and smaller companies.

An interesting phenomenon is that 11% of the sample seems to be adopting the practice of extending credit terms to clients, perhaps to continue to turn over work. This strategy is potentially dangerous, as consultants could be left without large fee payments if clients who have been given extended credit go into receivership.

Generally, there does not seem to be an apparent overall strategy developed by the consultants interviewed to respond to the issues that recession brings.

Table 4.6 Response that consultants are making within their companies to respond to the credit crunch

	Total	1-24	25+	Single Site	Multi-Site
No effect at all on the business	29%	36%	23%	33%	26%
Introducing cost cutting exercises	20%	16%	23%	14%	23%
Recognising that clients will pay later	11%	16%	6%	19%	6%
Keeping expenses low	9%	8%	10%	10%	9%
Getting as much work as we can	9%	8%	10%	19%	3%
Making some redundancies	9%	0%	16%	0%	14%
Constantly reviewing the situation/ diversifying	11%	12%	10%	10%	11%
Using materials wisely/ reducing waste	7%	4%	10%	0%	11%
No major effect on the business	7%	8%	6%	5%	9%
Monitoring our clients closely	7%	8%	6%	10%	6%
Provision of good customer service	5%	0%	10%	0%	9%
Looking more into overseas work	5%	0%	10%	10%	9%
More cautious/ nervous	5%	12%	0%	10%	3%
Other	29%	20%	35%	24%	31%

BMG/ SummitSkills (2009)

5 Employment impact for the BSE sector

The three sections to follow look at the impact of the recession on the BSE sector, in terms of 'notional' job losses⁹. In section five, the total number of operatives working in each of the six work sectors are calculated and presented split by the various industries and by UK, devolved nation and English region. In section six, the average percentages of contracts that the consultants believe will be postponed or cancelled in 2009 within each of the work sectors are calculated, using both best case and worse case scenarios. In section seven, those average percentages are used to calculate the number of notional job losses across the BSE sector that would occur in a best case and worst case scenario.

Table 5.2 contains an approximate breakdown of employment in the main industry areas within the SummitSkills footprint against the five work sectors defined earlier in this report. The figures in the table have been based on the calculations made below:

BSRIA (2005) assumes that for plumbing and heating & ventilation, the industrial and commercial to domestic split is 60% to 40% of the total labour. SummitSkills assumes that for air conditioning and refrigeration (ACR), the labour split between industrial and commercial and domestic is 70% to 30%. For electrotechnical, as with plumbing and heating & ventilation, a 60% to 40% split is assumed.

It is proposed that the following work sectors belong under an industrial and commercial classification:

- Private industrial
- Private commercial
- Major public works

It is proposed that the following work sectors belong under a domestic classification:

- Private housing
- Public housing
- Repair and maintenance¹⁰

From table 2.10, (reproduced in part below in table 5.1) it can be seen that 23% more consultants engage in work in the private commercial sector than the private industrial sector, with major public capital projects being only slightly below (5%) the private industrial sector. Similarly we can see that slightly more consultants engage in work in the private housing sector than the social housing sector, though the difference (2%) is not great. These numbers do not necessarily indicate the value of work done in these sectors though they do give an indication and back up the assumptions made below.

Table 5.1 Percentage of consultants engaging in each type of work sector

	Total
Private Commercial	98%
Private Industrial	75%
Private Housing Sector	54%
Social Housing Sector	52%
Major Public Works	70%

⁹ The term 'notional' is used here to highlight the indicative nature of the figures, because to arrive at them a number of reasonable assumptions were made. Section 7 describes the drawbacks of using some of these assumptions in the creation of these figures.

¹⁰ Repair and maintenance is not an area of work due to its domestic minor value nature that consultants are engaged in, but which is the main employment area for many micro businesses within the BSE sector.

In order to arrive at the estimated split of work being carried out against each work sector, SummitSkills has assumed that the percentage split within the 60% industrial and commercial sector work (70% ACR) is 45% private commercial, 29% private industrial and 26% major public works. These assumptions reflect SummitSkills' best estimates of the respective amounts of work being carried out across those sectors. As stated above the responses provided in table 5.1 add some weight to these assumptions when looking at the level of engagement across each sector.

In relation to the 40% (30% ACR) domestic sector, it is assumed that 26% (of this 40%) is private housing, 24% social housing and 50% repair and maintenance. The repair and maintenance category has been included by SummitSkills as, whilst not an area mentioned by the consultants, it is a considerable area of work for BSE contractors. The assumptions made here for the percentage splits within the domestic sector are derived from SummitSkills' best estimates of the work being carried out in this area.

There is clearly not the artificial breakdown between the sectors that have been made here, as many firms and operatives may work across the whole spectrum of work areas. Therefore it is important to think of the operatives/jobs in terms of notional jobs per work area, rather than as actual jobs¹¹.

Table 5.2 Approximate numbers of operatives in the BSE crafts working within the five defined work areas identified in this report

	Employment 2008	Total Industrial and Commercial 60%/70%	Private Commercial 45%	Private Industrial 29%	Major Public Works 26%	Total Domestic Sector 40%/ 30%	Private Housing 26%	Social Housing 24%	Repair and Maintenance 50%
United Kingdom									
Electrical Trades and Installation	196,810	118,086	53,139	34,245	30,702	78,724	20,468	18,894	39,362
Plumbing	90,424	54,254	24,414	15,734	14,106	36,170	9,404	8,681	18,085
Heating and Ventilation	55,645	33,387	15,024	9,682	8,681	22,258	5,787	5,342	11,129
Air Conditioning and Refrigeration	27,821	19,475	8,764	5,648	5,063	8,346	2,170	2,003	4,173
North West									
Electrical Trades and Installation	21,810	13,086	5,889	3,795	3,402	8,724	2,268	2,094	4,362
Plumbing	8,699	5,219	2,349	1,514	1,357	3,480	905	835	1,740
Heating and Ventilation	5,354	3,212	1,445	931	836	2,142	557	514	1,071
Air Conditioning and Refrigeration	2,677	1,874	843	543	488	803	209	192	402
North East									
Electrical Trades and Installation	10,190	6,114	2,751	1,773	1,590	4,076	1,060	978	2,038
Plumbing	3,755	2,253	1,014	653	586	1,502	391	360	751
Heating and Ventilation	2,310	1,386	624	402	360	924	240	222	462
Air Conditioning and Refrigeration	1,155	809	364	235	210	346	90	83	173
Yorks & Humber									
Electrical Trades and Installation	16,590	9,954	4,479	2,887	2,588	6,636	1,725	1,593	3,318
Plumbing	9,329	5,597	2,519	1,623	1,455	3,732	970	896	1,866
Heating and Ventilation	5,741	3,445	1,550	999	896	2,296	597	551	1,148
Air Conditioning and Refrigeration	2870	2,009	904	583	522	861	224	206	431

¹¹ Due to the fact that the original numbers of operatives working within each of the work sectors is an estimate, notwithstanding that it is built on a reasonable set of assumptions, it is only an approximate allocation of the total workforce in each of the work sections.

Table 5.2 cont. Approximate numbers of operatives in the BSE crafts working within the five defined work areas identified in this report

	Employment 2008	Total Industrial and Commercial 60%/70%	Private Commercial 45%	Private Industrial 29%	Major Public Works 26%	Total Domestic Sector 40%/ 30%	Private Housing 26%	Social Housing 24%	Repair and Maintenance 50%
East Midlands									
Electrical Trades and Installation	14,560	8,736	3,931	2,533	2,272	5,824	1,514	1,398	2,912
Plumbing	5,995	3,597	1,619	1,043	935	2,398	623	576	1,199
Heating and Ventilation	3,690	2,214	996	642	576	1,476	384	354	738
Air Conditioning and Refrigeration	1,845	1,292	581	375	336	553	144	132	277
West Midlands									
Electrical Trades and Installation	18,610	11,166	5,025	3,238	2,903	7,444	1,935	1,787	3,722
Plumbing	8,747	5,248	2,362	1,522	1,364	3,499	910	839	1,750
Heating and Ventilation	5,382	3,229	1,453	936	840	2,153	560	516	1,077
Air Conditioning and Refrigeration	2,691	1,884	848	546	490	807	210	193	404
East of England									
Electrical Trades and Installation	25,290	15,174	6,828	4,400	3,946	10,116	2,630	2,428	5,058
Plumbing	8,991	5,395	2,428	1,565	1,402	3,596	935	863	1,798
Heating and Ventilation	5,533	3,320	1,494	963	863	2,213	575	531	1,107
Air Conditioning and Refrigeration	2,766	1,936	871	561	504	830	216	199	415
Greater London									
Electrical Trades and Installation	24,510	14,706	6,618	4,265	3,823	9,804	2,549	2,353	4,902
Plumbing	10,613	6,368	2,866	1,847	1,655	4,245	1,104	1,018	2,123
Heating and Ventilation	6,531	3,919	1,764	1,137	1,018	2,612	679	627	1,306
Air Conditioning and Refrigeration	3,266	2,286	1,029	663	594	980	255	235	490
South East									
Electrical Trades and Installation	24,480	14,688	6,610	4,260	3,818	9,792	2,546	2,350	4,896
Plumbing	13,505	8,103	3,646	2,350	2,107	5,402	1,405	1,296	2,701
Heating and Ventilation	8,310	4,986	2,244	1,446	1,296	3,324	864	798	1,662
Air Conditioning and Refrigeration	4,155	2,909	1,309	844	756	1,246	324	299	623
South West									
Electrical Trades and Installation	13,870	8,322	3,745	2,413	2,164	5,548	1,442	1,332	2,774
Plumbing	7,800	4,680	2,106	1,357	1,217	3,120	811	749	1,560
Heating and Ventilation	4,800	2,880	1,296	835	749	1,920	499	461	960
Air Conditioning and Refrigeration	2,400	1,680	756	487	437	720	187	173	360
Northern Ireland									
Electrical Trades and Installation	7,560	4,536	2,041	1,315	1,180	3,024	786	726	1,512
Plumbing	2,959	1,775	799	515	461	1,184	308	284	592
Heating and Ventilation	1,821	1,093	492	317	284	728	189	175	364
Air Conditioning and Refrigeration	910	637	287	185	165	273	71	65	137

Table 5.2 cont. Approximate numbers of operatives in the BSE crafts working within the five defined work areas identified in this report

	Employment 2008	Total Industrial and Commercial 60%/70%	Private Commercial 45%	Private Industrial 29%	Major Public Works 26%	Total Domestic Sector 40%/ 30%	Private Housing 26%	Social Housing 24%	Repair and Maintenance 50%
Scotland									
Electrical Trades and Installation	15,500	9,300	4,185	2,697	2,418	6,200	1,612	1,488	3,100
Plumbing	6,760	4,056	1,825	1,176	1,055	2,704	703	649	1,352
Heating and Ventilation	4,160	2,496	1,123	724	649	1,664	433	399	832
Air Conditioning and Refrigeration	2,080	1,456	655	422	379	624	162	150	312
Wales									
Electrical Trades and Installation	3,840	2,304	1,037	668	599	1,536	399	369	768
Plumbing	3,271	1,963	883	569	511	1,308	340	314	654
Heating and Ventilation	2,013	1,208	544	350	314	805	209	193	403
Air Conditioning and Refrigeration	1,006	704	317	204	183	302	79	72	151

6 Average percentages of work postponed or cancelled in 2009 (worst case/best case scenarios)

6.1 Private commercial sector

To estimate the potential notional job losses against each work area (based on the assumptions contained in section 5) it is necessary to calculate the average percentages of work that will be postponed or cancelled, based on the results from the consultant survey data presented so far in this report.

Consultants had a range of views about how each particular work sector was going to be affected by cancellation and postponement of projects due to start in 2009. The figures contained in tables 6.1- 6.5 are therefore 'worst case & best case scenarios' based on the most pessimistic/optimistic scale of the views expressed.

Table 6.1 and the narrative below shows how the best and worse case average percentages for the private commercial sector were calculated, based on the responses given in table 3.4:

- Of those consultants (63%) that thought that up to 25% of work would be delayed or cancelled, in the 'best case' scenario, 0% of contracts would be affected, and in the worst case it would be 24%
- To calculate the best case scenario total, the 0% is multiplied by the 63% of respondents resulting in 0%. To calculate the worst case scenario, the 63% of respondents is multiplied by 0.24 totalling a 15.12% worst case scenario for this category.
- This principle repeats itself for each answer bracket provided in table 3.4:
 - In the '26-50%' answer bracket (that 33% of the sample selected), the best case scenario is 26% and worst case 50%. Therefore $33\% \times 0.26 = 8.58$, and $33\% \times 0.5 = 16.5$
 - None of the respondents selected the 51-75% answer bracket therefore both best and worst case percentages are 0%
 - 4% of respondents thought 76-99% of work would be mothballed or cancelled therefore a best case scenario would be 3.04% ($4\% \times 0.76$) and worst case scenario 3.96 ($4\% \times 0.99$)
 - Finally the last option would be a best and worst case scenario of 100%. In this instance no respondents chose this option therefore the total is 0.
 - The best and worst case scenario figure for each answer bracket is combined to give an overall average percentage of work that is likely to be postponed or cancelled in 2009 (this instance, best case scenario of 11.62%, worst case 35.58%).

The procedure is carried out throughout this section for each work sector, with the workings shown in each table.

Table 6.1 Best and worst case scenario average percentage of work to be mothballed or cancelled in 2009 in private commercial sector

	Total from table 3.4	Best case scenario	Best case scenario total	Worst case scenario	Worst case scenario total
Up to 25%	63%	x0	= 0	x 0.24	= 15.12
26-50%	33%	x 0.26	= 8.58	x 0.5	= 16.5
51%- 75%	0%	x 0.51	= 0	x 0.75	= 0
76%-99%	4%	x 0.76	= 3.04	x 0.99	= 3.96
100%	0%	x 1	= 0	x 1	= 0
Total			11.62%		35.58%

The totals from tables 3.4, 3.8, 3.12, 3.16 and 3.21 that are contained in the first column in tables 6.1, 6.2, 6.3, 6.4 and 6.5 may not add up to 100% as those who answered don't know have been omitted.

6.2 Private industrial sector

Table 6.2 Best and worst case scenario average percentage of work to be mothballed or cancelled in 2009 in private industry sector

	Total from table 3.8	Best case scenario	Best case scenario total	Worst case scenario	Worst case scenario total
Up to 25%	31%	x 0	= 0	x 0.24	= 7.44
26-50%	38%	x 0.26	= 9.88	x 0.5	= 19
51%- 75%	0%	x 0.51	= 0	x 0.75	= 0
76%-99%	8%	x 0.76	= 6.08	x 0.99	= 7.92
100%	15%	x 1	= 15	x 1	= 15
Total			30.96%		49.36%

6.3 Private housing sector

Table 6.3 Best and worst case scenario average percentage of work to be mothballed or cancelled in 2009 in private housing sector

	Total from table 3.12	Best case scenario	Best case scenario total	Worst case scenario	Worst case scenario total
Up to 25%	25%	x 0	= 0	x 0.24	= 6
26-50%	50%	x 0.26	= 13	x 0.5	= 25
51%- 75%	0%	x 0.51	= 0	x 0.75	= 0
76%-99%	25%	x 0.76	= 19	x 0.99	= 24.75
100%	0%	x 1	= 0	x 1	= 0
Total			32%		55.75%

6.4 Social housing

Table 6.4 Best and worst case scenario average percentage of work to be mothballed or cancelled in 2009 in social housing sector

	Total from table 3.16	Best case scenario	Best case scenario total	Worst case scenario	Worst case scenario total
Up to 25%	40%	x 0	= 0	x 0.24	= 9.6
26-50%	40%	x 0.26	= 10.4	x 0.5	= 20
51%- 75%	0%	x 0.51	= 0	x 0.75	= 0
76%-99%	0%	x 0.76	= 0	x 0.99	= 0
100%	0%	x 1	= 0	x 1	= 0
Total			10.4%		29.6%

6.5 Major public works

Table 6.5 Best and worst case scenario average percentage of work to be mothballed or cancelled in 2009 in the major public works sector

	Total from table 3.21	Best case scenario	Best case scenario total	Worst case scenario	Worst case scenario total
Up to 25%	60%	x 0	= 0	x 0.24	= 14.4
26-50%	20%	x 0.26	= 5.2	x 0.5	= 10
51%- 75%	0%	x 0.51	= 0	x 0.75	= 0
76%-99%	20%	x 0.76	= 15.2	x 0.99	= 19.8
100%	0%	x 1	= 0	x 1	= 0
Total			20.4%		44.2%

From the calculations derived in tables 6.1 - 6.5, the sectors of work that the consultants expect to be hit most hard are private industrial (49.36% worst case scenario) and private housing (55.75%). Given the general gloom in the housing market over the last year or more, this is not surprising. What is interesting is that private commercial work is not expected to suffer as much as the other private sector work. This triangulates earlier findings shown in table 4.5, where the consultants expect the private commercial sector to recover strongly and continue to grow.

Public sector housing, according to the consultants, is not likely to suffer as much in the economic downturn as the majority of the private work sectors. Major public projects are also expected not to take as heavy a downturn as other private sectors. This finding is in keeping with general expectations, particularly as Government spending on capital projects (including social housing) in an attempt to boost the economy is well documented across the media.

6.6 Repair and maintenance

Because of the minor works nature of repair and maintenance, it is not an area that consultants become involved in. Therefore SummitSkills has estimated the percentage downturn using the performance of the sector and the economy. It is assumed that in a recession although many people will wait before having works such as a new bathroom suite or electrical rewire carried out, essential repair of burst pipes and similar emergency works will continue as normal with little reference to the performance of the economy.

It is assumed therefore a best case scenario of a 10% downturn, and a worst case scenario of a 40% downturn.

7 Calculation of indicative ‘notional’¹² job losses in the building services engineering sector

7.1 Explaining the indicative notional job losses context

Although the logic behind the creation of the notional job losses is based on sound principles, the figures can only ever be indicative, and there are a number of issues that SummitSkills concedes about the absolute accuracy of the figures contained in tables 7.1- 7.6:

- The percentages of work to be postponed or cancelled in 2009 upon which the best and worst case scenarios are built have been created from the opinions of highly informed professional people, but may ultimately be more pessimistic (or indeed optimistic) than the actual reality.
- Because consultants in the interview sample are working across the whole of the UK, and form only 10% of the total number of UK consultant companies, there is the potential for regional pockets of work and development to be missed. The Scottish BSE sector in particular tends to perform better than is often allowed for in Labour Market Intelligence.
- The assumption that for every 1% reduction of work there is an equal 1% reduction in the labour requirement is used here for estimation purposes. Whilst it's a reasonable assumption, it is possible that the actuality is not a 1% reduction of labour for a 1% reduction in work.
- Repair and maintenance is not part of the consultants' work, being usually very small in nature and located in the domestic area. The percentages therefore are very indicative based on the performance of other work areas. It is this work sector though that is most affected by varying consumer behaviour. The notional job loss figures therefore should be seen as highly indicative.
- The assumptions on the labour split between commercial and domestic sectors are based on an assumption by BSRJA (2005). Further assumptions are based on the consultant interview data. While these are sensible, they are only indicative of the reality on the ground. More accurate assessment of the percentages obtained from new primary research could produce different results.
- Most BSE companies are not restricted to one sector such as private housing or private industrial. Predominantly they move across sectors in both domestic and industrial/commercial. Even smaller companies in the domestic sector may work in one or more of the sub-sectors that have been placed under that generic heading. The breaking down of the total UK, devolved nation and English region BSE workforce into these work sectors is in this sense artificial, but is useful in that it shows potential job losses in each work sector and shows where work is likely to perform best.

¹² See section 5 for an introduction to the use of the term notional and its context within this report

- The creation of the major public works sector has been created by SummitSkills to try to evaluate the impact on employment that this valuable sector is likely to have in a recession as the UK Government directs money into capital investment to stimulate economic growth. Subsequent analysis may integrate this work sector into the other commercial and industrial sectors, although here there is good reason for retaining it.

Other points that need to be considered are:

- The reduction of 'compulsory' overtime by employers may reduce actual job losses within UK companies. For example, Spon's M&E Pricing Handbook (2008) allows approximately 313 hours of overtime per man in a twelve man mechanical gang per year, which allows some considerable room for reduction of labour cost without compulsory redundancy (Davis Langdon Mott Green Wall Engineering Services, 2008, p102).
- Devaluation of the pound (see section 1) against the Euro and the currencies of the A8 countries (particularly Poland) mean that it is not as cost beneficial as it was a number of years ago for migrant workers to remain within the UK. As SummitSkills (2008) showed, the reliance on migrant workers particularly by the larger BSE companies within the UK is significant; therefore an economic repatriation caused by a devalued pound may mean limited impact on the indigenous sector workers and retention of apprentice recruitment and training. Further research is needed in this area.

All of the factors listed above must be considered when analysing the figures to follow. These calculations are presented as indicative job losses rather than absolutely determined job losses and should be used as a guide rather than established fact.

Calculating the notional job losses

The figures for the number of operatives working in each of the six work sectors are obtained from table 5.2. They are then multiplied by the best and worst case scenario percentages of work to be cancelled or postponed (tables 6.1 - 6.5 and the table 6.6 assumption for repair and maintenance) to arrive at the total notional job losses within each work sector across each industry for the UK, devolved nations and English regions.

7.2 Industrial and commercial

7.2.1 Private commercial

Table 7.1 Indicative notional job losses in the private commercial sector by BSE industry, UK, devolved nation and English region

	Private commercial estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
United Kingdom					
Electrical Trades and Installation	53,139	11.62%	6,175	35.58%	18,906
Plumbing	24,414	11.62%	2,837	35.58%	8,687
Heating and Ventilation	15,024	11.62%	1,746	35.58%	5,346
Air Conditioning and Refrigeration	8,764	11.62%	1,018	35.58%	3,118
North West					
Electrical Trades and Installation	5,889	11.62%	684	35.58%	2,095
Plumbing	2,349	11.62%	273	35.58%	833
Heating and Ventilation	1,445	11.62%	168	35.58%	514
Air Conditioning and Refrigeration	843	11.62%	98	35.58%	300
North East					
Electrical Trades and Installation	2,751	11.62%	320	35.58%	979
Plumbing	1,014	11.62%	118	35.58%	361
Heating and Ventilation	624	11.62%	73	35.58%	222
Air Conditioning and Refrigeration	364	11.62%	42	35.58%	130
Yorkshire and Humberside					
Electrical Trades and Installation	4,479	11.62%	520	35.58%	1,594
Plumbing	2,519	11.62%	293	35.58%	896
Heating and Ventilation	1,550	11.62%	180	35.58%	551
Air Conditioning and Refrigeration	904	11.62%	105	35.58%	322
East Midlands					
Electrical Trades and Installation	3,931	11.62%	457	35.58%	1,399
Plumbing	1,619	11.62%	188	35.58%	576
Heating and Ventilation	996	11.62%	116	35.58%	354
Air Conditioning and Refrigeration	581	11.62%	68	35.58%	207
West Midlands					
Electrical Trades and Installation	5,025	11.62%	584	35.58%	1,788
Plumbing	2,362	11.62%	274	35.58%	840
Heating and Ventilation	1,453	11.62%	169	35.58%	517
Air Conditioning and Refrigeration	848	11.62%	99	35.58%	302
East of England					
Electrical Trades and Installation	6,828	11.62%	793	35.58%	2,429
Plumbing	2,428	11.62%	282	35.58%	864
Heating and Ventilation	1,494	11.62%	174	35.58%	532
Air Conditioning and Refrigeration	871	11.62%	101	35.58%	310
Greater London					
Electrical Trades and Installation	6,618	11.62%	769	35.58%	2,355
Plumbing	2,866	11.62%	333	35.58%	1,020
Heating and Ventilation	1,764	11.62%	205	35.58%	628
Air Conditioning and Refrigeration	1,029	11.62%	120	35.58%	366
South East					
Electrical Trades and Installation	6,610	11.62%	768	35.58%	2,352
Plumbing	3,646	11.62%	424	35.58%	1,297
Heating and Ventilation	2,244	11.62%	261	35.58%	798
Air Conditioning and Refrigeration	1,309	11.62%	152	35.58%	466
South West					
Electrical Trades and Installation	3,745	11.62%	435	35.58%	1,332
Plumbing	2,106	11.62%	245	35.58%	749
Heating and Ventilation	1,296	11.62%	151	35.58%	461
Air Conditioning and Refrigeration	756	11.62%	88	35.58%	269
Northern Ireland					
Electrical Trades and Installation	2,041	11.62%	237	35.58%	726
Plumbing	799	11.62%	93	35.58%	284
Heating and Ventilation	492	11.62%	57	35.58%	175
Air Conditioning and Refrigeration	287	11.62%	33	35.58%	102

Table 7.1 cont. Indicative notional job losses in the private commercial sector by BSE industry, UK, devolved nation and English region

	Private commercial estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
Scotland					
Electrical Trades and Installation	4,185	11.62%	486	35.58%	1489
Plumbing	1,825	11.62%	212	35.58%	649
Heating and Ventilation	1,123	11.62%	130	35.58%	400
Air Conditioning and Refrigeration	655	11.62%	76	35.58%	233
Wales					
Electrical Trades and Installation	1,037	11.62%	120	35.58%	369
Plumbing	883	11.62%	103	35.58%	314
Heating and Ventilation	544	11.62%	63	35.58%	194
Air Conditioning and Refrigeration	317	11.62%	37	35.58%	113

7.2.2 Private industrial

Table 7.2 Indicative notional job losses in the private industrial sector by BSE industry, UK, devolved nation and English region

	Private industrial estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
United Kingdom					
Electrical Trades and Installation	34,245	30.96%	10,601	49.36%	16,903
Plumbing	15,734	30.96%	4,871	49.36%	7,766
Heating and Ventilation	9,682	30.96%	2,998	49.36%	4,779
Air Conditioning and Refrigeration	5,648	30.96%	1,749	49.36%	2,788
North West					
Electrical Trades and Installation	3,795	30.96%	1,175	49.36%	1,873
Plumbing	1,514	30.96%	469	49.36%	747
Heating and Ventilation	931	30.96%	288	49.36%	460
Air Conditioning and Refrigeration	543	30.96%	168	49.36%	268
North East					
Electrical Trades and Installation	1,773	30.96%	549	49.36%	875
Plumbing	653	30.96%	202	49.36%	322
Heating and Ventilation	402	30.96%	124	49.36%	198
Air Conditioning and Refrigeration	235	30.96%	73	49.36%	116
Yorkshire and Humberside					
Electrical Trades and Installation	2,887	30.96%	894	49.36%	1,425
Plumbing	1,623	30.96%	502	49.36%	801
Heating and Ventilation	999	30.96%	309	49.36%	493
Air Conditioning and Refrigeration	583	30.96%	180	49.36%	288
East Midlands					
Electrical Trades and Installation	2,533	30.96%	784	49.36%	1,250
Plumbing	1,043	30.96%	323	49.36%	515
Heating and Ventilation	642	30.96%	199	49.36%	317
Air Conditioning and Refrigeration	375	30.96%	116	49.36%	185
West Midlands					
Electrical Trades and Installation	3,238	30.96%	1,003	49.36%	1,598
Plumbing	1,522	30.96%	471	49.36%	751
Heating and Ventilation	936	30.96%	290	49.36%	462
Air Conditioning and Refrigeration	546	30.96%	169	49.36%	270
East of England					
Electrical Trades and Installation	4,400	30.96%	1,362	49.36%	2,172
Plumbing	1,565	30.96%	485	49.36%	772
Heating and Ventilation	963	30.96%	298	49.36%	475
Air Conditioning and Refrigeration	561	30.96%	174	49.36%	277
Greater London					
Electrical Trades and Installation	4,265	30.96%	1,320	49.36%	2,105
Plumbing	1,847	30.96%	572	49.36%	912
Heating and Ventilation	1,137	30.96%	352	49.36%	561
Air Conditioning and Refrigeration	663	30.96%	205	49.36%	327

Table 7.2 cont. Indicative notional job losses in the private industrial sector by BSE industry, UK, devolved nation and English region

	Private industrial estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
South East					
Electrical Trades and Installation	4,260	30.96%	1,319	49.36%	2,103
Plumbing	2,350	30.96%	728	49.36%	1,160
Heating and Ventilation	1,446	30.96%	448	49.36%	714
Air Conditioning and Refrigeration	844	30.96%	261	49.36%	417
South West					
Electrical Trades and Installation	2,413	30.96%	747	49.36%	1,191
Plumbing	1,357	30.96%	420	49.36%	670
Heating and Ventilation	835	30.96%	259	49.36%	412
Air Conditioning and Refrigeration	487	30.96%	151	49.36%	240
Northern Ireland					
Electrical Trades and Installation	1,315	30.96%	407	49.36%	649
Plumbing	515	30.96%	159	49.36%	254
Heating and Ventilation	317	30.96%	98	49.36%	156
Air Conditioning and Refrigeration	185	30.96%	57	49.36%	91
Scotland					
Electrical Trades and Installation	2,697	30.96%	835	49.36%	1,331
Plumbing	1,176	30.96%	364	49.36%	580
Heating and Ventilation	724	30.96%	224	49.36%	357
Air Conditioning and Refrigeration	422	30.96%	131	49.36%	208
Wales					
Electrical Trades and Installation	668	30.96%	207	49.36%	330
Plumbing	569	30.96%	176	49.36%	281
Heating and Ventilation	350	30.96%	108	49.36%	173
Air Conditioning and Refrigeration	204	30.96%	63	49.36%	101

7.2.3 Major public works

Table 7.3 Indicative notional job losses in the major public works sector by BSE industry, UK, devolved nation and English region

	Major public works estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
United Kingdom					
Electrical Trades and Installation	30,702	20.4%	6,263	44.2%	13,570
Plumbing	14,106	20.4%	2,878	44.2%	6,235
Heating and Ventilation	8,681	20.4%	1,771	44.2%	3,837
Air Conditioning and Refrigeration	5,063	20.4%	1,033	44.2%	2,238
North West					
Electrical Trades and Installation	3,402	20.4%	694	44.2%	1,504
Plumbing	1,357	20.4%	277	44.2%	600
Heating and Ventilation	836	20.4%	171	44.2%	370
Air Conditioning and Refrigeration	488	20.4%	100	44.2%	216
North East					
Electrical Trades and Installation	1,590	20.4%	324	44.2%	703
Plumbing	586	20.4%	120	44.2%	259
Heating and Ventilation	360	20.4%	73	44.2%	159
Air Conditioning and Refrigeration	210	20.4%	43	44.2%	93
Yorkshire and Humberside					
Electrical Trades and Installation	2,588	20.4%	528	44.2%	1,144
Plumbing	1,455	20.4%	297	44.2%	643
Heating and Ventilation	896	20.4%	183	44.2%	396
Air Conditioning and Refrigeration	522	20.4%	106	44.2%	231
East Midlands					
Electrical Trades and Installation	2,272	20.4%	463	44.2%	1,004
Plumbing	935	20.4%	191	44.2%	413
Heating and Ventilation	576	20.4%	118	44.2%	255
Air Conditioning and Refrigeration	336	20.4%	69	44.2%	149

Table 7.3 cont. Indicative notional job losses in the major public works sector by BSE industry, UK, devolved nation and English region

	Major public works estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
West Midlands					
Electrical Trades and Installation	2,903	20.4%	592	44.2%	1,283
Plumbing	1,364	20.4%	278	44.2%	603
Heating and Ventilation	840	20.4%	171	44.2%	371
Air Conditioning and Refrigeration	490	20.4%	100	44.2%	217
East of England					
Electrical Trades and Installation	3,946	20.4%	805	44.2%	1,744
Plumbing	1,402	20.4%	286	44.2%	620
Heating and Ventilation	863	20.4%	176	44.2%	381
Air Conditioning and Refrigeration	504	20.4%	103	44.2%	223
Greater London					
Electrical Trades and Installation	3,823	20.4%	780	44.2%	1,690
Plumbing	1,655	20.4%	338	44.2%	732
Heating and Ventilation	1,018	20.4%	208	44.2%	450
Air Conditioning and Refrigeration	594	20.4%	121	44.2%	263
South East					
Electrical Trades and Installation	3,818	20.4%	779	44.2%	1,688
Plumbing	2,107	20.4%	430	44.2%	931
Heating and Ventilation	1,296	20.4%	264	44.2%	573
Air Conditioning and Refrigeration	756	20.4%	154	44.2%	334
South West					
Electrical Trades and Installation	2,164	20.4%	441	44.2%	956
Plumbing	1,217	20.4%	248	44.2%	538
Heating and Ventilation	749	20.4%	153	44.2%	331
Air Conditioning and Refrigeration	437	20.4%	89	44.2%	193
Northern Ireland					
Electrical Trades and Installation	1,180	20.4%	241	44.2%	522
Plumbing	461	20.4%	94	44.2%	204
Heating and Ventilation	284	20.4%	58	44.2%	126
Air Conditioning and Refrigeration	165	20.4%	34	44.2%	73
Scotland					
Electrical Trades and Installation	2,418	20.4%	493	44.2%	1,069
Plumbing	1,055	20.4%	215	44.2%	466
Heating and Ventilation	649	20.4%	132	44.2%	287
Air Conditioning and Refrigeration	379	20.4%	77	44.2%	168
Wales					
Electrical Trades and Installation	599	20.4%	122	44.2%	265
Plumbing	511	20.4%	104	44.2%	226
Heating and Ventilation	314	20.4%	64	44.2%	139
Air Conditioning and Refrigeration	183	20.4%	37	44.2%	81

7.3 Domestic sectors

7.3.1 Private housing

Table 7.4 Indicative notional job losses in the private housing sector by BSE industry, UK, devolved nation and English region

	Private housing estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
United Kingdom					
Electrical Trades and Installation	20,468	32%	6,550	55.75%	11,411
Plumbing	9,404	32%	3,009	55.75%	5,243
Heating and Ventilation	5,787	32%	1,852	55.75%	3,226
Air Conditioning and Refrigeration	2,170	32%	694	55.75%	1,210
North West					
Electrical Trades and Installation	2,268	32%	726	55.75%	1,265
Plumbing	905	32%	290	55.75%	504
Heating and Ventilation	557	32%	178	55.75%	311
Air Conditioning and Refrigeration	209	32%	67	55.75%	117
North East					
Electrical Trades and Installation	1,060	32%	339	55.75%	591
Plumbing	391	32%	125	55.75%	218
Heating and Ventilation	240	32%	77	55.75%	134
Air Conditioning and Refrigeration	90	32%	29	55.75%	50
Yorkshire and Humberside					
Electrical Trades and Installation	1,725	32%	552	55.75%	962
Plumbing	970	32%	310	55.75%	541
Heating and Ventilation	597	32%	191	55.75%	333
Air Conditioning and Refrigeration	224	32%	72	55.75%	125
East Midlands					
Electrical Trades and Installation	1,514	32%	484	55.75%	844
Plumbing	623	32%	199	55.75%	347
Heating and Ventilation	384	32%	123	55.75%	214
Air Conditioning and Refrigeration	144	32%	46	55.75%	80
West Midlands					
Electrical Trades and Installation	1,935	32%	619	55.75%	1,079
Plumbing	910	32%	291	55.75%	507
Heating and Ventilation	560	32%	179	55.75%	312
Air Conditioning and Refrigeration	210	32%	67	55.75%	117
East of England					
Electrical Trades and Installation	2,630	32%	842	55.75%	1,466
Plumbing	935	32%	299	55.75%	521
Heating and Ventilation	575	32%	184	55.75%	321
Air Conditioning and Refrigeration	216	32%	69	55.75%	120
Greater London					
Electrical Trades and Installation	2,549	32%	816	55.75%	1,421
Plumbing	1,104	32%	353	55.75%	615
Heating and Ventilation	679	32%	217	55.75%	379
Air Conditioning and Refrigeration	255	32%	82	55.75%	142
South East					
Electrical Trades and Installation	2,546	32%	815	55.75%	1,419
Plumbing	1,405	32%	450	55.75%	783
Heating and Ventilation	864	32%	276	55.75%	482
Air Conditioning and Refrigeration	324	32%	104	55.75%	181
South West					
Electrical Trades and Installation	1,442	32%	461	55.75%	804
Plumbing	811	32%	260	55.75%	452
Heating and Ventilation	499	32%	160	55.75%	278
Air Conditioning and Refrigeration	187	32%	60	55.75%	104
Northern Ireland					
Electrical Trades and Installation	786	32%	252	55.75%	438
Plumbing	308	32%	99	55.75%	172
Heating and Ventilation	189	32%	60	55.75%	105
Air Conditioning and Refrigeration	71	32%	23	55.75%	40

Table 7.4 cont. Indicative notional job losses in the private housing sector by BSE industry, UK, devolved nation and English region

	Private housing estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
Scotland					
Electrical Trades and Installation	1,612	32%	516	55.75%	899
Plumbing	703	32%	225	55.75%	392
Heating and Ventilation	433	32%	139	55.75%	241
Air Conditioning and Refrigeration	162	32%	52	55.75%	90
Wales					
Electrical Trades and Installation	399	32%	128	55.75%	222
Plumbing	340	32%	109	55.75%	190
Heating and Ventilation	209	32%	67	55.75%	117
Air Conditioning and Refrigeration	79	32%	25	55.75%	44

7.3.2 Social housing

Table 7.5 Indicative notional job losses in the social housing sector by BSE industry, UK, devolved nation and English region

	Social housing estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
United Kingdom					
Electrical Trades and Installation	18,894	10.4%	1,965	29.6%	5,593
Plumbing	8,681	10.4%	903	29.6%	2,569
Heating and Ventilation	5,342	10.4%	556	29.6%	1,581
Air Conditioning and Refrigeration	2,003	10.4%	208	29.6%	593
North West					
Electrical Trades and Installation	2,094	10.4%	218	29.6%	620
Plumbing	835	10.4%	87	29.6%	247
Heating and Ventilation	514	10.4%	53	29.6%	152
Air Conditioning and Refrigeration	192	10.4%	20	29.6%	57
North East					
Electrical Trades and Installation	978	10.4%	102	29.6%	289
Plumbing	360	10.4%	37	29.6%	107
Heating and Ventilation	222	10.4%	23	29.6%	66
Air Conditioning and Refrigeration	83	10.4%	9	29.6%	25
Yorkshire and Humberside					
Electrical Trades and Installation	1,593	10.4%	166	29.6%	472
Plumbing	896	10.4%	93	29.6%	265
Heating and Ventilation	551	10.4%	57	29.6%	163
Air Conditioning and Refrigeration	206	10.4%	21	29.6%	61
East Midlands					
Electrical Trades and Installation	1,398	10.4%	145	29.6%	414
Plumbing	576	10.4%	60	29.6%	170
Heating and Ventilation	354	10.4%	37	29.6%	105
Air Conditioning and Refrigeration	132	10.4%	14	29.6%	39
West Midlands					
Electrical Trades and Installation	1,787	10.4%	186	29.6%	529
Plumbing	839	10.4%	87	29.6%	248
Heating and Ventilation	516	10.4%	54	29.6%	153
Air Conditioning and Refrigeration	193	10.4%	20	29.6%	57
East of England					
Electrical Trades and Installation	2,428	10.4%	253	29.6%	719
Plumbing	863	10.4%	90	29.6%	255
Heating and Ventilation	531	10.4%	55	29.6%	157
Air Conditioning and Refrigeration	199	10.4%	21	29.6%	59
Greater London					
Electrical Trades and Installation	2,353	10.4%	245	29.6%	696
Plumbing	1,018	10.4%	106	29.6%	301
Heating and Ventilation	627	10.4%	65	29.6%	186
Air Conditioning and Refrigeration	235	10.4%	24	29.6%	70

Table 7.5 cont. Indicative notional job losses in the social housing sector by BSE industry, UK, devolved nation and English region

	Social housing estimated no. of operatives	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
South East					
Electrical Trades and Installation	2,350	10.4%	244	29.6%	696
Plumbing	1,296	10.4%	135	29.6%	384
Heating and Ventilation	798	10.4%	83	29.6%	236
Air Conditioning and Refrigeration	299	10.4%	31	29.6%	89
South West					
Electrical Trades and Installation	1,332	10.4%	139	29.6%	391
Plumbing	749	10.4%	78	29.6%	222
Heating and Ventilation	461	10.4%	48	29.6%	136
Air Conditioning and Refrigeration	173	10.4%	18	29.6%	51
Northern Ireland					
Electrical Trades and Installation	726	10.4%	76	29.6%	215
Plumbing	284	10.4%	29	29.6%	84
Heating and Ventilation	175	10.4%	18	29.6%	52
Air Conditioning and Refrigeration	65	10.4%	7	29.6%	19
Scotland					
Electrical Trades and Installation	1,488	10.4%	155	29.6%	440
Plumbing	649	10.4%	68	29.6%	192
Heating and Ventilation	399	10.4%	42	29.6%	118
Air Conditioning and Refrigeration	150	10.4%	16	29.6%	44
Wales					
Electrical Trades and Installation	369	10.4%	38	29.6%	109
Plumbing	314	10.4%	33	29.6%	93
Heating and Ventilation	193	10.4%	20	29.6%	57
Air Conditioning and Refrigeration	72	10.4%	7	29.6%	21

7.3.3 Repair and maintenance

Table 7.6 Indicative notional job losses in the repair and maintenance sector by BSE industry, UK, devolved nation and English region

	Repair and maintenance estimated no. of workers	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
United Kingdom					
Electrical Trades and Installation	39,362	10%	3,936	40%	15,745
Plumbing	18,085	10%	1,809	40%	7,234
Heating and Ventilation	11,129	10%	1,113	40%	4,452
Air Conditioning and Refrigeration	4,173	10%	417	40%	1,670
North West					
Electrical Trades and Installation	4,362	10%	436	40%	1,745
Plumbing	1,740	10%	174	40%	696
Heating and Ventilation	1,071	10%	107	40%	428
Air Conditioning and Refrigeration	402	10%	40	40%	161
North East					
Electrical Trades and Installation	2,038	10%	204	40%	815
Plumbing	751	10%	75	40%	300
Heating and Ventilation	462	10%	46	40%	185
Air Conditioning and Refrigeration	173	10%	17	40%	69
Yorkshire and Humberside					
Electrical Trades and Installation	3,318	10%	332	40%	1,327
Plumbing	1,866	10%	187	40%	746
Heating and Ventilation	1,148	10%	115	40%	459
Air Conditioning and Refrigeration	431	10%	43	40%	172
East Midlands					
Electrical Trades and Installation	2,912	10%	291	40%	1,165
Plumbing	1,199	10%	120	40%	480
Heating and Ventilation	738	10%	74	40%	295
Air Conditioning and Refrigeration	277	10%	28	40%	111

Table 7.6 cont. Indicative notional job losses in the repair and maintenance sector by BSE industry, UK, devolved nation and English region

	Repair and maintenance estimated no. of workers	Best case scenario percentage	Total indicative 'notional' job losses best case scenario	Worst case scenario percentage	Total 'notional' job losses worst case scenario
West Midlands					
Electrical Trades and Installation	3,722	10%	372	40%	1,489
Plumbing	1,750	10%	175	40%	700
Heating and Ventilation	1,077	10%	108	40%	431
Air Conditioning and Refrigeration	404	10%	40	40%	162
East of England					
Electrical Trades and Installation	5,058	10%	506	40%	2,023
Plumbing	1,798	10%	180	40%	719
Heating and Ventilation	1,107	10%	111	40%	443
Air Conditioning and Refrigeration	415	10%	42	40%	166
Greater London					
Electrical Trades and Installation	4,902	10%	490	40%	1,961
Plumbing	2,123	10%	212	40%	849
Heating and Ventilation	1,306	10%	131	40%	522
Air Conditioning and Refrigeration	490	10%	49	40%	196
South East					
Electrical Trades and Installation	4,896	10%	490	40%	1,958
Plumbing	2,701	10%	270	40%	1,080
Heating and Ventilation	1,662	10%	166	40%	665
Air Conditioning and Refrigeration	623	10%	62	40%	249
South West					
Electrical Trades and Installation	2,774	10%	277	40%	1,110
Plumbing	1,560	10%	156	40%	624
Heating and Ventilation	960	10%	96	40%	384
Air Conditioning and Refrigeration	360	10%	36	40%	144
Northern Ireland					
Electrical Trades and Installation	1,512	10%	151	40%	605
Plumbing	592	10%	59	40%	237
Heating and Ventilation	364	10%	36	40%	146
Air Conditioning and Refrigeration	137	10%	14	40%	55
Scotland					
Electrical Trades and Installation	3,100	10%	310	40%	1,240
Plumbing	1,352	10%	135	40%	541
Heating and Ventilation	832	10%	83	40%	333
Air Conditioning and Refrigeration	312	10%	31	40%	125
Wales					
Electrical Trades and Installation	768	10%	77	40%	307
Plumbing	654	10%	65	40%	262
Heating and Ventilation	403	10%	40	40%	161
Air Conditioning and Refrigeration	151	10%	15	40%	60

8 Total indicative notional job losses from the best case and worst case scenarios

Table 8.1 below indicates the total indicative notional job losses for the BSE sector by industry across the UK and by devolved nation and English region, based on the worst and best case scenarios estimated through this research:

Table 8.1 Total indicative notional job losses from the best case and worst case scenarios, by BSE industry, UK, devolved nation and English region

	Employment 2008	Indicative notional job losses best case scenario	Indicative notional job losses worst case scenario
United Kingdom			
Electrical Trades and Installation	196,810	35,490	82,125
Plumbing	90,424	16,306	37,731
Heating and Ventilation	55,645	10,034	23,222
Air Conditioning and Refrigeration	27,821	5,121	11,621
North West			
Electrical Trades and Installation	21,810	3,933	9,101
Plumbing	8,699	1,569	3,631
Heating and Ventilation	5,354	965	2,235
Air Conditioning and Refrigeration	2,677	493	1,119
North East			
Electrical Trades and Installation	10,190	1,838	4,252
Plumbing	3,755	677	1,567
Heating and Ventilation	2,310	416	964
Air Conditioning and Refrigeration	1,155	213	483
Yorkshire and Humberside			
Electrical Trades and Installation	16,590	2,992	6,924
Plumbing	9,329	1,682	3,892
Heating and Ventilation	5,741	1,035	2,395
Air Conditioning and Refrigeration	2,870	527	1,199
East Midlands			
Electrical Trades and Installation	14,560	2,624	6,076
Plumbing	5,995	1,081	2,501
Heating and Ventilation	3,690	667	1,540
Air Conditioning and Refrigeration	1,845	341	771
West Midlands			
Electrical Trades and Installation	18,610	3,356	7,766
Plumbing	8,747	1,576	3,649
Heating and Ventilation	5,382	971	2,246
Air Conditioning and Refrigeration	2,691	495	1,125
East of England			
Electrical Trades and Installation	25,290	4,561	10,553
Plumbing	8,991	1,622	3,751
Heating and Ventilation	5,533	998	2,309
Air Conditioning and Refrigeration	2,766	510	1,155
Greater London			
Electrical Trades and Installation	24,510	4,420	10,228
Plumbing	10,613	1,914	4,429
Heating and Ventilation	6,531	1,178	2,726
Air Conditioning and Refrigeration	3,266	601	1,364
South East			
Electrical Trades and Installation	24,480	4,415	10,216
Plumbing	13,505	2,437	5,635
Heating and Ventilation	8,310	1,498	3,468
Air Conditioning and Refrigeration	4,155	764	1,736
South West			
Electrical Trades and Installation	13,870	2,500	5,784
Plumbing	7,800	1,407	3,255
Heating and Ventilation	4,800	867	2,002
Air Conditioning and Refrigeration	2,400	442	1,001

Table 8.1 cont. Total indicative notional job losses from the best case and worst case scenarios, by BSE industry, UK, devolved nation and English region

	Employment 2008	Indicative notional job losses best case scenario	Indicative notional job losses worst case scenario
Northern Ireland			
Electrical Trades and Installation	7,560	1,364	3,155
Plumbing	2,959	533	1,235
Heating and Ventilation	1,821	327	760
Air Conditioning and Refrigeration	910	168	380
Scotland			
Electrical Trades and Installation	15,500	2,795	6,468
Plumbing	6,760	1,219	2,820
Heating and Ventilation	4,160	750	1,736
Air Conditioning and Refrigeration	2,080	383	868
Wales			
Electrical Trades and Installation	3,840	692	1,602
Plumbing	3,271	590	1,366
Heating and Ventilation	2,013	362	841
Air Conditioning and Refrigeration	1,006	184	420

The percentage loss of indicative notional jobs across the UK BSE sector due to work being deferred or cancelled in 2009 is, in the best case scenario, approximately 18% (23% ACR¹³), with the worst case scenario being approximately 42%.

¹³ This slightly different percentage for ACR is due to the slightly higher reliance that it is believed that the ACR industries have on the industrial sectors, than the electrotechnical, heating and ventilation and plumbing industries.

9 Indicative notional job losses for apprentices

An important implication of the recession for SummitSkills and the future of the sector is the impact it may have on the careers of those workers currently engaged in sector apprenticeship schemes. From historical research carried out by the sector's trade associations, the percentage of apprentices within the BSE sector at any one time accounts for 3.5% of the total workforce.

Assuming that 3.5% of the indicative notional job losses are apprentices (and often it appears that redundancies fall more heavily on apprentices than on qualified workers), table 9.1 shows the potential impact by UK, devolved nation and English region in the various craft industries making up the BSE sector:

Table 9.1 Total indicative 'notional' job losses from the best case and worst case scenarios, by BSE industry and by UK, devolved nation and English region for apprentices

	Indicative notional job losses best case scenario	Indicative notional job loss best case scenario apprentices	Indicative notional job losses worst case scenario	Indicative notional job losses worst case scenario apprentices
United Kingdom				
Electrical Trades and Installation	35,490	1,242	82,125	2,874
Plumbing	16,306	571	37,731	1,321
Heating and Ventilation	10,034	351	23,222	813
Air Conditioning and Refrigeration	5,121	179	11,621	407
North West				
Electrical Trades and Installation	3,933	138	9,101	319
Plumbing	1,569	55	3,631	127
Heating and Ventilation	965	34	2,235	78
Air Conditioning and Refrigeration	493	17	1,119	39
North East				
Electrical Trades and Installation	1,838	64	4,252	149
Plumbing	677	24	1,567	55
Heating and Ventilation	416	15	964	34
Air Conditioning and Refrigeration	213	7	483	17
Yorkshire and Humberside				
Electrical Trades and Installation	2,992	105	6,924	242
Plumbing	1,682	59	3,892	136
Heating and Ventilation	1,035	36	2,395	84
Air Conditioning and Refrigeration	527	18	1,199	42
East Midlands				
Electrical Trades and Installation	2,624	92	6,076	213
Plumbing	1,081	38	2,501	88
Heating and Ventilation	667	23	1,540	54
Air Conditioning and Refrigeration	341	12	771	27
West Midlands				
Electrical Trades and Installation	3,356	117	7,766	272
Plumbing	1,576	55	3,649	128
Heating and Ventilation	971	34	2,246	79
Air Conditioning and Refrigeration	495	17	1,125	39
East of England				
Electrical Trades and Installation	4,561	160	10,553	369
Plumbing	1,622	57	3,751	131
Heating and Ventilation	998	35	2,309	81
Air Conditioning and Refrigeration	510	18	1,155	40
Greater London				
Electrical Trades and Installation	4,420	155	10,228	358
Plumbing	1,914	67	4,429	155
Heating and Ventilation	1,178	41	2,726	95
Air Conditioning and Refrigeration	601	21	1,364	48

Table 9.1 cont. Total indicative 'notional' job losses from the best case and worst case scenarios, by BSE industry and by UK, devolved nation and English region for apprentices

	Indicative notional job losses best case scenario	Indicative notional job loss best case scenario apprentices	Indicative notional job losses worst case scenario	Indicative notional job losses worst case scenario apprentices
South East				
Electrical Trades and Installation	4,415	155	10,216	358
Plumbing	2,437	85	5,635	197
Heating and Ventilation	1,498	52	3,468	121
Air Conditioning and Refrigeration	764	27	1,736	61
South West				
Electrical Trades and Installation	2,500	88	5,784	202
Plumbing	1,407	49	3,255	114
Heating and Ventilation	867	30	2,002	70
Air Conditioning and Refrigeration	442	15	1,001	35
Northern Ireland				
Electrical Trades and Installation	1,364	48	3,155	110
Plumbing	533	19	1,235	43
Heating and Ventilation	327	11	760	27
Air Conditioning and Refrigeration	168	6	380	13
Scotland				
Electrical Trades and Installation	2,795	98	6,468	226
Plumbing	1,219	43	2,820	99
Heating and Ventilation	750	26	1,736	61
Air Conditioning and Refrigeration	383	13	868	30
Wales				
Electrical Trades and Installation	692	24	1,602	56
Plumbing	590	21	1,366	48
Heating and Ventilation	362	13	841	29
Air Conditioning and Refrigeration	184	7	420	15

10 Conclusion

Building services engineering consultants expect a significant drop in work over the next two years due to postponement or cancellation of projects affected by the recession.

Based on this, SummitSkills has estimated the impact this will have on the contracting industry. Approximate calculations indicate there could be job losses of between 67,000 and 154,000 across the building services engineering sector. Within these figures, there is potential for between 2,300 and 5,400 apprentices to be made redundant.

As a result of this research, SummitSkills has identified four key areas to work on with its stakeholders with the aim of reducing the impact of the recession on the sector. These four work areas will explore ways to:

1. Redeploy and maintain the training of redundant apprentices
2. Support employers to develop the skills of existing workers in new building services market areas
3. Support the education and training delivery infrastructure
4. Maintain the stream of new entrants in preparation for the sector coming out of recession

Work on these areas are already underway but will continue throughout 2009 in order to minimise potential disruption to the sector's workforce and its skills levels.

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