Construction Skills Network

Northern Ireland

Labour Market Intelligence 2006

experian®
DAVIS LANGDON Management Consulting
constructionskills

Contents

Appendices

This document provides labour market intelligence for Northern Ireland and also includes national UK data. Similar reports have been produced for the nine English regions and for Wales and Scotland. These reports are all available upon request from ConstructionSkills.

A glossary of terms used in this document is provided in Appendix I. Supplementary information is available on the ConstructionSkills website at:

www.constructionskills.net

Extra resources for members of the Construction Skills Network are available at:

www.constructionskills.net/csn/membersarea

1 The headlines

- Across the UK, total employment in the construction industry is expected to rise by approximately 250,000 to 2.8 million during the forecast period (2006–2010).
- Total employment in the Northern Ireland construction industry is expected to increase by approximately 13% during the forecast period.
- The average annual employment requirement for SIC 45[*] (Construction) is 2,590 between 2006 and 2010 in Northern Ireland. A small Average Annual Requirement in Architects & Technical Engineers (SIC 74.2[*]), over the same period means that the annual requirement for both SIC 45 and 74.2 combined increases to just 2,620.
- The greatest Average Annual Requirement in Northern Ireland will come from Wood Trades, with 730 employees needed annually between 2006 and 2010. Nationally, the greatest requirement also comes from Wood Trades (11,090).
- Construction output in Northern Ireland has fallen in the first part of the decade to stand at just over £2bn in 2004 (in 2000 prices). Data for the first three quarters of 2005 suggest that the outturn for the year as a whole may be a little higher at around £2.1bn, perhaps as much as 5% up on the previous year.
- In Northern Ireland, construction output is forecast to grow year-on-year to 2010 by an average annual rate of 4.4%, a much better performance than in the first part of the decade.
- Construction output growth will be largely driven by the public sectors in Northern Ireland, with social housing, infrastructure and public non-residential activity forecast to increase by over 5% year-on-year. Rises in private sector output are expected to be somewhat less robust, but all sub-sectors, including repair and maintenance (R&M) are predicted to make a contribution to growth over the forecast period.
- Growth in economic activity in Northern Ireland continued in 2005, and is projected to be above the UK average. Growth prospects for the Province remain strong, with Gross Value Added (GVA) forecast to rise by 3% in 2006, which is above the national average.

[*] For definition and a list of SIC Codes covered by ConstructionSkills see Appendices I & IV

2 Introduction

Background

CITB-ConstructionSkills, CIC and CITB(NI) are working in partnership as the Sector Skills Council (SSC) for Construction. The **Construction Skills Network**, launched in 2005, represents a radical change in the way that ConstructionSkills will collect and produce information on the future employment and training needs of the industry. The model generates forecasts of recruitment and training requirements within the industry for a range of trades and will provide a crucial foundation on which to plan for future skills needs and target investment.

The Construction Skills Network functions at both national and regional levels, comprising a National Group, 12 Observatory groups, a redesigned model and a Technical Reference Group. The Observatories consist of key stakeholders invited from industry, government, education and other SSCs who can contribute local knowledge of the industry and views on training, skills, recruitment, qualifications and policy. An Observatory group currently operates in each of the nine English regions and also in Wales, Scotland and Northern Ireland (note that in the context of the model, Wales, Scotland and Northern Ireland are hereafter referred to as “regions”). The input of the members of the Construction Skills Network is fundamental to the forecasting process and the contributions made to date have been invaluable.

The new model for Northern Ireland

This year the employment forecasts for Northern Ireland have been produced by the Construction Skills Network Model. As a consequence, there have been some significant changes to the forecasts for Northern Ireland compared to previous model outputs. These are largely accounted for by two major improvements to the model. Firstly, more robust data from the ConstructionSkills Employer Panel Consultation research has been entered into the model. This new research has revealed detailed information on the likely numbers of workers entering the construction industry from other industries that will require training. Secondly, preliminary research has been undertaken into estimating labour coefficients for sub-sectors of the industry. These coefficients give a more robust estimate of the numbers of workers by trade/occupation required to produce a given level of output than was previously possible.

The model approach

The new model approach relies on a combination of primary research and views from the Construction Skills Network to facilitate it. National UK data were used as the basis for the main assumptions that augment the model, which was then adjusted with the assistance of the Observatories and National Group.

Each “region” has a separate model (although all models are inter-related due to labour movements) and, in addition, there is one national UK model that acts as a constraint to the “regional” models and enables best use to be made of the most robust data (which is available at the national level). Each model considers the skilled trades within the industry as well as the professionals.

The models work by forecasting demand and supply of skilled workers separately. The difference between demand and supply forms the employment requirement.

The forecast **total employment** levels are derived from expectations about construction output and productivity. Essentially this is based on the question "How many people will be needed to produce forecast output, given the assumptions made about productivity?".

The **Average Annual Requirement** is a gross requirement which takes into account the dynamic factors that influence all of the flows into and out of construction employment**,** such as movement to and from other industries, migration, sickness, and retirement. Young trainees are not included in the

flows. Therefore, the Average Annual Requirement provides an indication of the number of new employees that would need to be recruited into construction each year in order to realise forecast output. How the Average Annual Requirement is fulfilled can range from training the indigenous population to recruiting already skilled labour from overseas and will vary across the UK. At present the model does not separately forecast the numbers requiring “top-up” training although data are being collected and these figures should be included in future publications.

Demand is based upon the results of discussion groups comprising industry experts, an econometric model of construction output and a set of integrated models relating to wider “regional” economic performance. The model is dynamic and reflects the general UK economic climate at any point in time. To generate the labour demand, the model makes use of a set of specific statistics for each major type of work (labour coefficients) that determine the employment, by trade, needed to produce the predicted levels of construction output.

The labour supply for each type of trade or profession is based upon the previous years’ supply (the total stock of employment) combined with flows into and out of the labour market.

The key leakages (outflows) that need to be considered are:

- transfers to other industries
- international/domestic OUT migration
- permanent retirements (including permanently sick)
- outflow to temporarily sick and home duties.

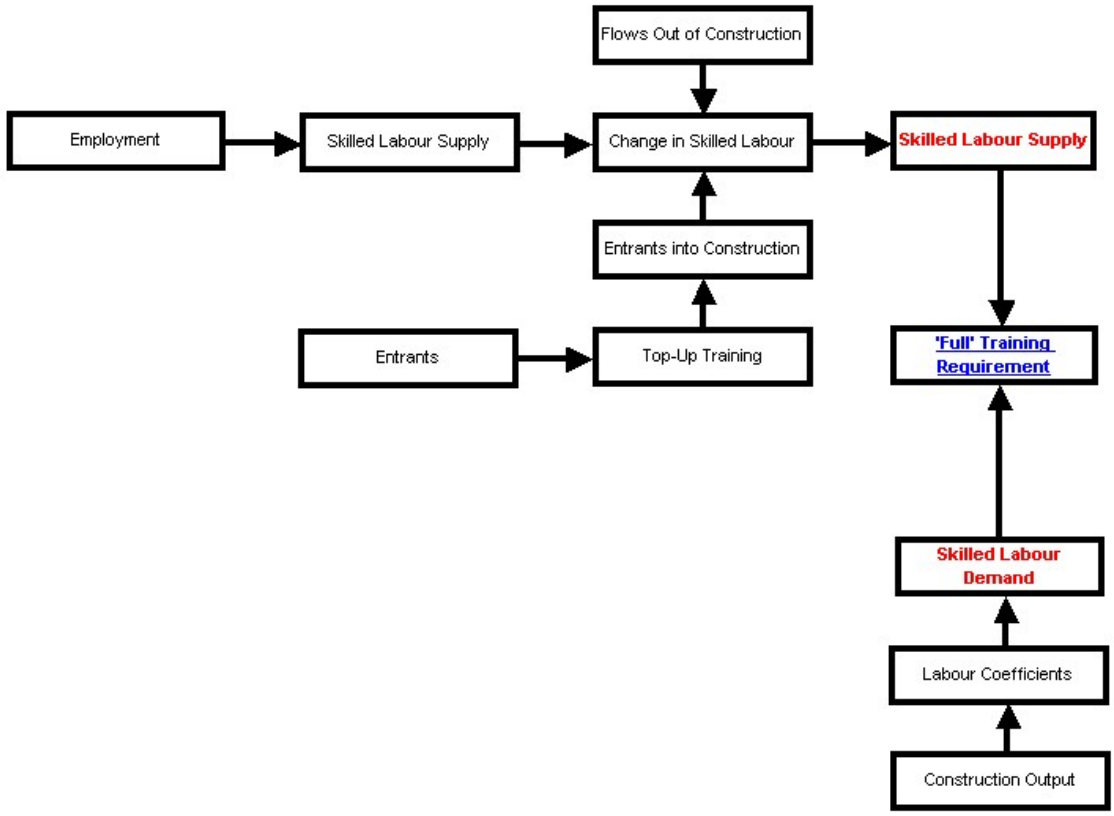
The main reason for outflow is likely to be transfer to other industries.

Flows into the labour market include:

- transfers in from other industries
- international/domestic IN migration
- inflow from temporarily sick and home duties.

New entrants (e.g. young trainees/apprentices/students attached to formal training programmes) are not included in the flows of the labour market but are derived from the forecasted Average Annual Requirement for employment. The most significant inflow is likely to be from other industries. A summary of the model components is shown in Figure 1.

Figure 1
Model flowchart



The flows into the market are not merely the counterbalancing figures for the flows out of the market, because those people flowing into the market are likely to require some form of training. It is likely that this training will merely be to top-up their skills, rather than full training. The model recognises two distinct types of training as an input: Top-up training and Full training.

3 The current situation

Economic overview

In 2005, GVA for Northern Ireland is estimated at £22.9bn in 2002 prices. This accounts for 2.3% of UK GVA, making Northern Ireland the smallest of all UK "regions". Over the forecast period transport and communications is expected to be the fastest growing sector, with an annual average growth rate of 8%.

With approximately 1.7m* inhabitants, only 2.8% of the total UK population live in Northern Ireland. GVA per capita, providing an indication of the Province's standard of living, is below the UK average, at £13,482 compared to £17,258 nationally. Official estimates for average gross weekly earnings in Autumn 2005 were estimated at £399 in Northern Ireland, compared to £466 nationally.

Economic performance and expectations

Table 1 shows the forecasted figures for GVA, total employment, unemployment and real household disposable income in Northern Ireland for the years 2005 to 2010.

- Steady economic expansion seen in the early part of the century continued in 2004 and is likely to continue over the forecast period. GVA rose by 2.8% in 2004, just below the 3% national growth. A strong performance compared to the UK as a whole is likely to develop in 2005 and should be a characteristic that lasts throughout the forecast period. To 2010, Northern Ireland's economy is forecast to grow by 17.1%, above a forecast of 14% nationally. Year-on-year growth is forecast to accelerate slightly in 2006 and 2007, although rates will settle at a similar level seen in recent years in the latter part of the period. Strong growth in financial and business services, and distribution, hotels and catering, and sustained growth in manufacturing will have an effect, as will expansion in transport and communications.
- Employment grew quite strongly in the Province in 2004 and 2005, at well over 1% in both years. However, despite the strong GVA growth going forward, employment growth is expected to slow to an average of 0.7% per year from 2006 to 2010. Nevertheless, this is still a better growth rate than the national average.
- Real household disposable income growth in Northern Ireland will maintain a higher rate than the national average over the forecast period. With steady year-on-year increases expected, averaging 2.6% per year, the growth in household real income in Northern Ireland is among the highest in the UK.

Table 1
Macroeconomic forecasts for Northern Ireland

EXPERIAN BUSINESS STRATEGIES FORECASTS FOR NORTHERN IRELAND						
						% change (except unemployment)
	2005	2006	2007	2008	2009	2010
Gross Value Added	3.0	3.6	3.3	3.1	3.0	3.0
Total employment	1.5	0.7	0.9	0.8	0.6	0.5
Unemployment rate (ILO)	5.0	5.1	5.0	4.8	4.8	4.9
Real household disposable income	3.4	2.4	2.4	2.6	2.8	2.9

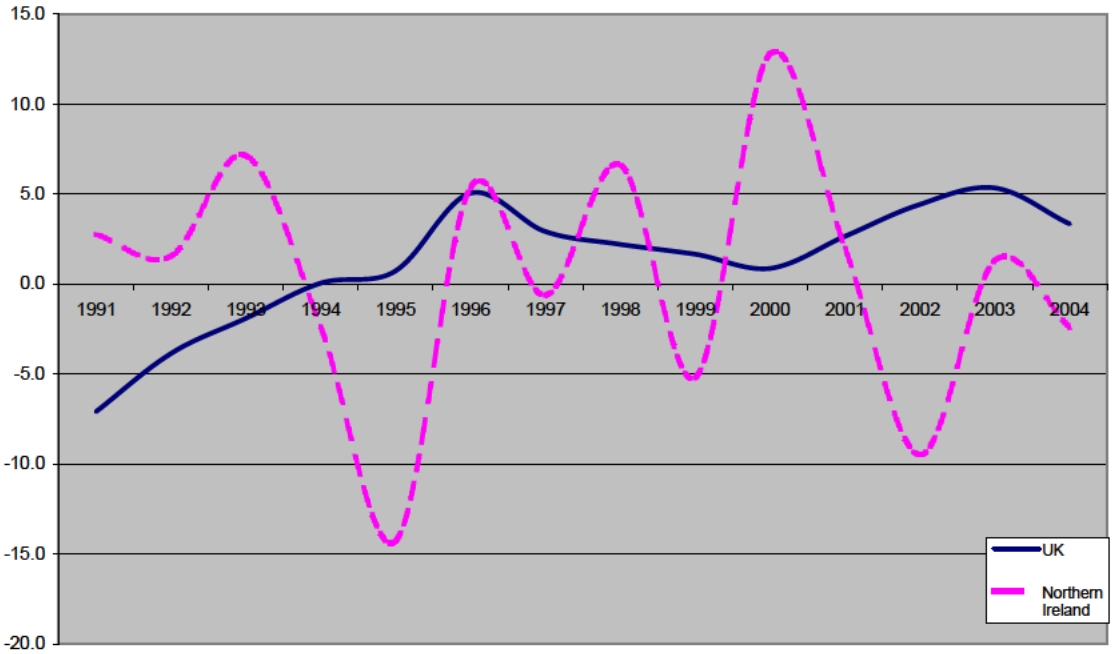
Source: Experian.

* Population figures, in millions, rounded to the nearest one hundred thousand. Taken from the Northern Ireland Statistics and Research Agency (NISRA). Mid-2002 figures.

Construction output in Northern Ireland – Historical overview

- A comparison of construction output between Northern Ireland and the UK is summarised in Figure 2.
- The first half of the decade was not a particularly good one for construction, with total output declining by 9% over the period 2000 to 2004.
- The public housing sub-sector saw robust growth in 2001 and 2002. In 2004, output in the sub-sector fell back to below its 2000 level. The trend in private housing output was downward throughout the period.
- The new non-residential sub-sectors fared even worse than the residential ones, with public non-residential, private industrial and commercial output heavily down on their 2000 levels.
- The R&M sub-sectors fared much better, with output up by 16% overall in the period 2000 to 2004, with infrastructure R&M activity particularly robust.
- Output in the first three quarters of 2005 was up 5% in real terms compared with the same period of 2004, to reach £1.59bn. However, there was considerable variation within the main sub-sectors making up the industry. New housing, infrastructure and the non-residential R&M sub-sectors experienced considerable increases in activity. In contrast, the industrial, commercial, housing R&M and infrastructure R&M sub-sectors showed a slight downturn.

Figure 2
Construction output percentage change: UK vs. Northern Ireland



Notes: Output data for the English regions, Wales, and Scotland are supplied by the Department of Trade and Industry (DTI) on a current price basis. Thus national deflators produced by the DTI have been used to deflate to a 2000 constant price basis, i.e. the effects of inflation have been stripped out. Northern Ireland data are provided by DFP at a constant price basis and were subject to revisions in 2005 in line with revisions to national deflators produced by DTI.

Source: DTI, Department of Finance and Personnel Northern Ireland (DFPNI), Experian.

Note: All figures relating to output in the first three quarters of 2005 are the latest data recently published by the Department of Finance and Personnel.

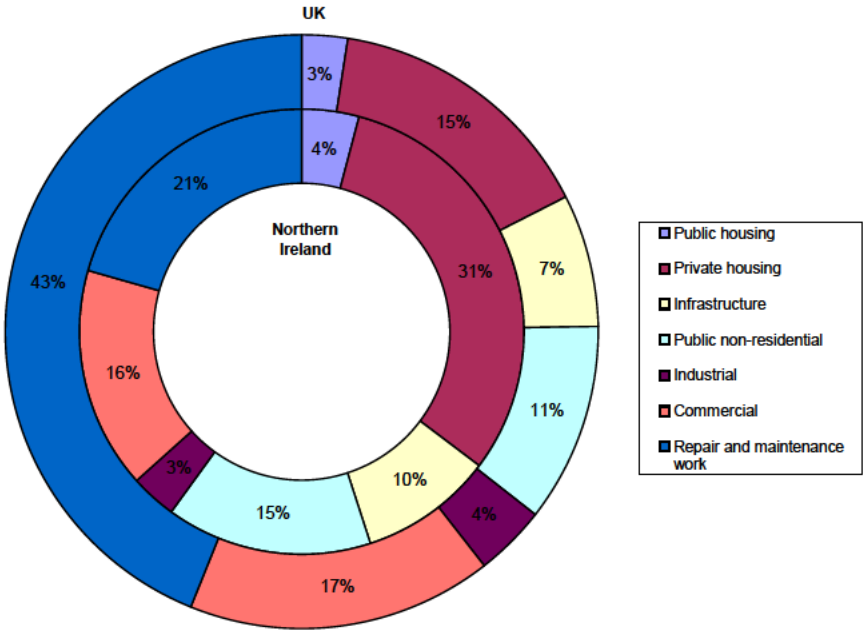
Structure of the construction industry

Figure 3 shows the sectoral structure of the Northern Ireland construction industry, compared with the UK as a whole.

The structure of the Province's construction industry differs substantially from that of the UK. The most obvious difference is the very small size of the R&M sub-sector in Northern Ireland when compared with that of the UK. According to the Department of Trade and Industry, there are no significant anomalies in definition between the data recorded for Great Britain and for Northern Ireland, so this can be attributable to a structural difference.

In contrast, the private housing sub-sector is proportionally twice as large in Northern Ireland as it is in the UK. Public non-residential activity also takes a bigger share of work in Northern Ireland than in the UK as a whole.

Figure 3
Construction output by main sub-sector: UK vs. Northern Ireland, 2004



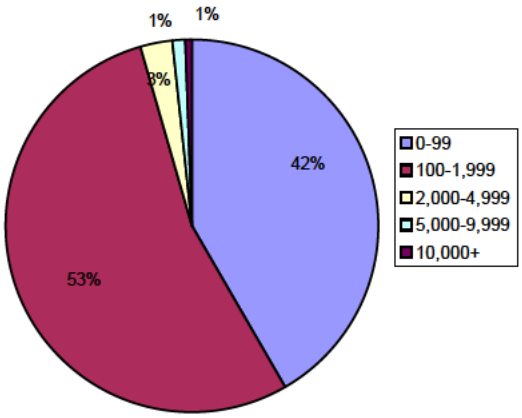
Source: DTI, DFPNI, Experian.

Figure 4 shows the structure of the construction industry in Northern Ireland in terms of the size of the businesses that comprise it.

As illustrated in Figure 4, small companies dominate the make-up of the construction sector in Northern Ireland, which is broadly in line with the UK as a whole. Less than 2% of all construction firms in Northern Ireland have an annual turnover of more than £5m, with the largest amount of private contractors (about 54%) realising turnover figures of between £100,000 and £1m.

Figure 4
Percentage of construction companies by size, 2004

Turnover (£000)	Q2 2005	%
0-99	3730	41 6
100-1,999	4855	54.1
2,000-4,999	250	2.8
5,000-9,999	90	1.0
10,000+	50	0.6
Total	8975	100



Source: Northern Ireland Construction Bulletin - 1 April to 30 June, 2005

Construction employment

Figure 5 shows the percentage share of total employment[1] taken up by each occupation within Northern Ireland, against the UK industry as a whole.

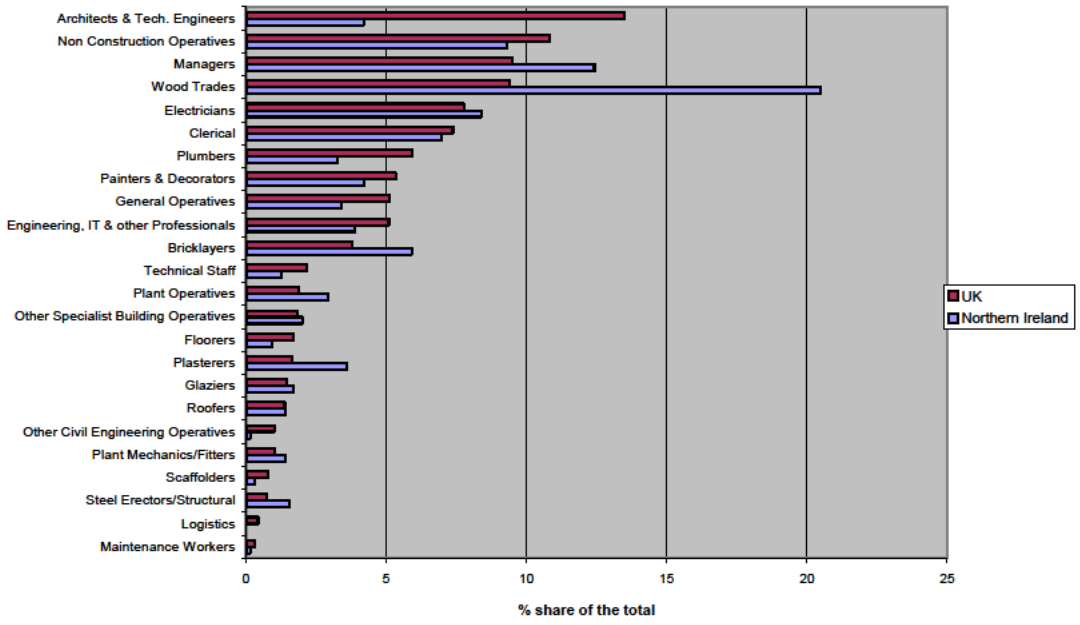
As indicated, Northern Ireland follows the national trend, but for a few distinctive differences. Nationally, Architects & Technical Engineers (which includes all SIC 74.2 occupations) is the largest occupational group, accounting for nearly 14% of the total, while the requirement in Northern Ireland is less than 5%.

Non-construction Operatives is the second largest group nationally, accounting for 11%. Northern Ireland requires proportionally less employment in Non-construction Operatives, with only 9% of the total.

By far the largest occupational group in the Province is Wood Trades with over 20% share of the total.

Proportionally less Painters & Decorators, Plumbers[2] and General Operatives, to name but a few, are required in Northern Ireland than in the UK. The share of employment in Maintenance Workers and Logistics occupations was marginal.

Figure 5
Employment by occupation, UK vs. Northern Ireland: 2005



Source: Construction Skills Network Model, 2006.

[1] Employment data in the Construction Skills Network Model refer to Full-time equivalent employment – defined as the sum of full-time employees and self-employed plus 0.4 multiplied by the number of part-time employees.
That is, FTE employment = Full-time employed + Self-employed + (0.4 x Part-time employed).

[2] For the ConstructionSkills and SummitSkills sector footprints see Appendix IV

4 The outlook for construction

Construction output – forecasts

The construction industry in Northern Ireland is expected to fare better over the next five years than it has done during the previous five. The industry in the Province is predicted to see annual average growth* in construction output of 4.4% from 2006 to 2010. The annual growth rates for the industry are shown in Table 2.

One of the main data sets available in GB, namely new orders for construction, does not exist for Northern Ireland. Thus, the forecasts presented here are based on an analysis of the *Investment Strategy for Northern Ireland 2005/2015*, published by the Strategic Investment Board, and the health, or otherwise, of the macroeconomic environment.

According to the Investment Strategy for Northern Ireland, public investment could total £14.3bn over the next 10 years, with nearly £4bn of expenditure already confirmed for the 2006 to 2008 period. The main beneficiaries of this will be schools (£3bn), health and social services (£2.9bn), transport (£2.25bn), and social housing (£2bn). This investment programme underpins the buoyant forecasts for the social housing, infrastructure and public non-residential sub-sectors, with average annual increases in output of 7%, 5% and 7%, respectively.

The outlook for the private sectors also looks rosy, with the Northern Ireland economy likely to out-perform the UK as a whole in the period to 2010. Particularly strong growth is expected in the financial and business services, distribution, hotels and catering, manufacturing, and transport and communications sectors. This scenario should bode well for office, retail and leisure construction, leading to reasonably robust growth in the private commercial sector overall, while industrial building should be buoyed by the relative strength of the manufacturing sector in the Province. Growth rates in the private sector are unlikely to keep up with those in the public sector, but they will still range from an average annual rate of 2.5% for private housing to 4.4% for private commercial over the forecast period (2006–10).

Table 2
Northern Ireland construction output by sub-sector, 2004–2010

	Annual % change						
	2004	2005	2006	2007	2008	2009	2010
Public housing	-7%	3%	3%	3%	6%	4%	4%
Private housing	1%	3%	3%	3%	6%	4%	4%
Infrastructure	-11%	3%	3%	3%	6%	4%	4%
Public non-housing	-3%	3%	3%	3%	6%	4%	4%
Industrial	-21%	3%	3%	3%	6%	4%	4%
Commercial	11%	3%	3%	3%	6%	4%	4%
All new work	**-1%**	**3%**	**3%**	**3%**	**6%**	**4%**	**4%**
R&M	-8%	4%	2%	8%	-2%	7%	6%
Total Work	**-2%**	**3%**	**3%**	**4%**	**5%**	**5%**	**5%**

Source: Experian.

* The annual average growth in construction output is not simply an average of the percentages shown in Tables 2 or 3. It is a Compound Average Growth Rate, i.e. it is the rate at which output would grow each year if it increased steadily year-on-year over the forecast period. It is calculated by taking the nth root of the total percentage growth rate, where n is the number of years in the period being considered.

Table 3 shows total construction output and employment over the period 1998–2010. Real construction output in Northern Ireland is set to be 26% higher in 2010 than in 2004, mainly driven by the strength of public investment, although all sectors will make a contribution to this growth. Over the same period, the forecast increase for the UK is lower, at 14%. Total employment is likely to increase by 19.1% during the period 1998-2010. This forecast increase is mainly derived demand created by the expected increase in output.

Table 3
Total construction output and employment, Northern Ireland: 1998–2010

	Year	Total Output Growth Rate %	Total Output £m 2001 prices	Total Employment (direct and indirect) 000s
Actual	1998	6.6	2074	52
	1999	-5.2	1966	56
	2000	12.8	2217	64
	2001	2.0	2262	71
	2002	-9.5	2047	66
	2003	1.3	2074	73
	2004	-2.4	2024	74
Forecast	2005	3.2	2088	76
	2006	2.7	2144	78
	2007	3.6	2222	82
	2008	4.6	2324	83
	2009	4.9	2437	86
	2010	4.5	2547	88

Source: Experian, Construction Skills Network Model, 2006.

5 Construction industry employment requirements

Table 4 and Figure 6 show total employment levels and Average Annual Requirements for the UK and for Northern Ireland.

The tables include data relating to Plumbers and Electricians[*]. As part of SIC 45, Plumbers and Electricians working in contracting are an integral part of the construction process. However, it is recognised by ConstructionSkills that SummitSkills has responsibility for these occupations across a range of SIC Codes (SIC 45.31 and 45.33). Thus, outputs from the Construction Skills Network Model relating to these two occupations have been passed to SummitSkills for their analysis but have been included here for completeness.

The figures for the Average Annual Requirement are based upon the net balance of inflows and outflows, and cover replacement and expansion of the industry.

The national UK forecasts

The average annual gross employment requirement across the UK over the period 2006 to 2010 is estimated at 87,000, including all occupations in SIC 74.2 and in SIC 45 with the exception of Non-construction Operatives (Table 4). Non-construction Operatives captures all of the other elements involved in construction as defined by SIC 74.2 and SIC 45, outside of the main occupations listed in the following charts and tables. The Average Annual Requirement for Non-construction Operatives is not shown because the activities covered by this group are too diverse.

Total employment is forecast to rise by 246,760 to 2.8 million between 2006 and 2010.

- At 11,090 Wood Trades is likely to have the highest Average Annual Requirement going forward (Table 5).
- Three out of the four occupations with the highest Average Annual Requirement from 2006 to 2010 are focused on management and organisation, namely Managers, Architects & Technical Engineers (SIC 74.2) and Clerical (Table 5).
- The Average Annual Requirement for Electricians, Plumbers, Engineering, IT & Other Professionals and Bricklayers is also expected to be high (Table 5).
- At the other end of the scale, the Average Annual Requirement for Scaffolders and Logistics is significantly lower at just 900 and 580, respectively (Table 5).
- Nationally, the professionals working within architectural and engineering activities and related technical consultancy (SIC 74.2) (Architects & Technical Engineers) take the largest share of total employment with an estimated 340,450 employed in 2006, rising to 354,270 by 2010. Second in line is Managers with 235,400 in 2006, increasing to 258,520 by 2010. Particularly strong demand for Wood Trades between 2006 and 2010 should make this the second largest occupation in employment terms by 2010 (Table 5 and Figure 7).
- Whilst the forecasts for an increase in total employment for **Maintenance Workers** are shown in Table 5, the Average Annual Requirement has been excluded. The model is currently forecasting a low requirement for this group compared to other occupations. Further research is being undertaken on the factors influencing this result and the Average Annual Requirement will be published when this work has been completed.

Please note that all of the Average Annual Requirements presented in this section are employment requirements and not necessarily full training requirements. Recruiting from other industries with a similar skills base or employing skilled migrant labour could mean the actual full training requirement is lower.

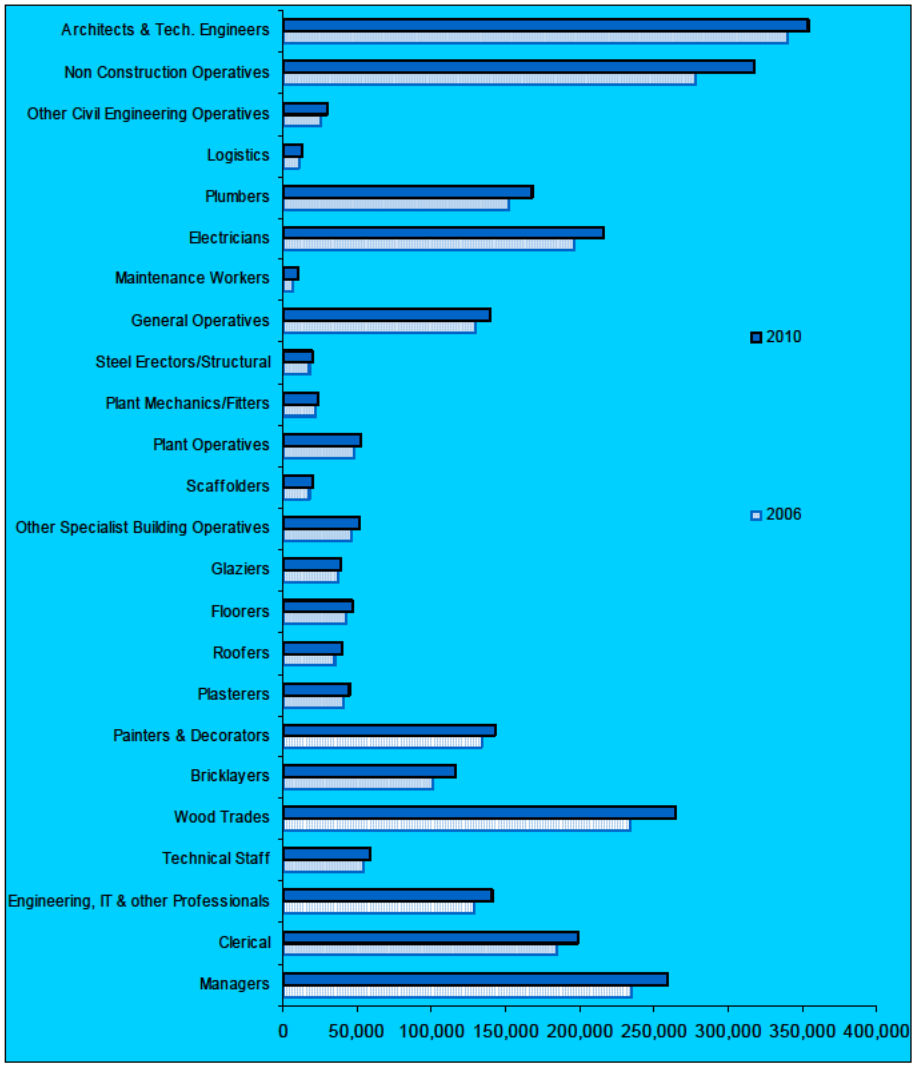
[*] For the ConstructionSkills and SummitSkills sector footprints see Appendix IV

Table 4
UK
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	235,400	258,520	10,530
Clerical	185,270	198,600	8,610
Engineering, IT & other Professionals	129,320	140,890	4,790
Technical Staff	54,280	59,260	3,260
Wood Trades	233,790	265,290	11,090
Bricklayers	101,290	116,220	4,730
Painters & Decorators	133,640	143,430	3,620
Plasterers	41,060	44,930	1,780
Roofers	35,110	39,720	1,750
Floorers	42,670	46,840	1,510
Glaziers	36,660	38,660	990
Other Specialist Building Operatives	46,250	51,520	2,370
Scaffolders	17,700	19,870	900
Plant Operatives	48,200	52,750	1,780
Plant Mechanics/Fitters	22,200	24,060	1,920
Steel Erectors/Structural	17,570	19,760	1,150
General Operatives	130,320	139,950	1,510
Maintenance Workers	6,750	9,550	*
Electricians	196,400	216,240	8,130
Plumbers	152,450	167,810	5,330
Logistics	10,980	12,600	580
Other Civil Engineering Operatives	26,240	30,110	1,390
Non Construction Operatives	277,900	317,810	
Total (SIC 45)	2,181,450	2,414,390	77,720
Architects & Technical Engineers	340,450	354,270	9,280
Total (SIC 45 & 74.2)	2,521,900	2,768,660	87,000

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to the nearest ten and may not sum to the total.
** See text for note on Maintenance Workers*

Figure 6
UK
Total employment by occupation: 2006–2010



Source: Construction Skills Network Model, 2006; Experian.
Note: No bar indicates less than 1,000.

The employment forecasts for Northern Ireland

Table 5 and Figure 7 outline the forecast employment and Average Annual Requirement for 24 occupations within the Northern Ireland construction industry between 2006 and 2010.

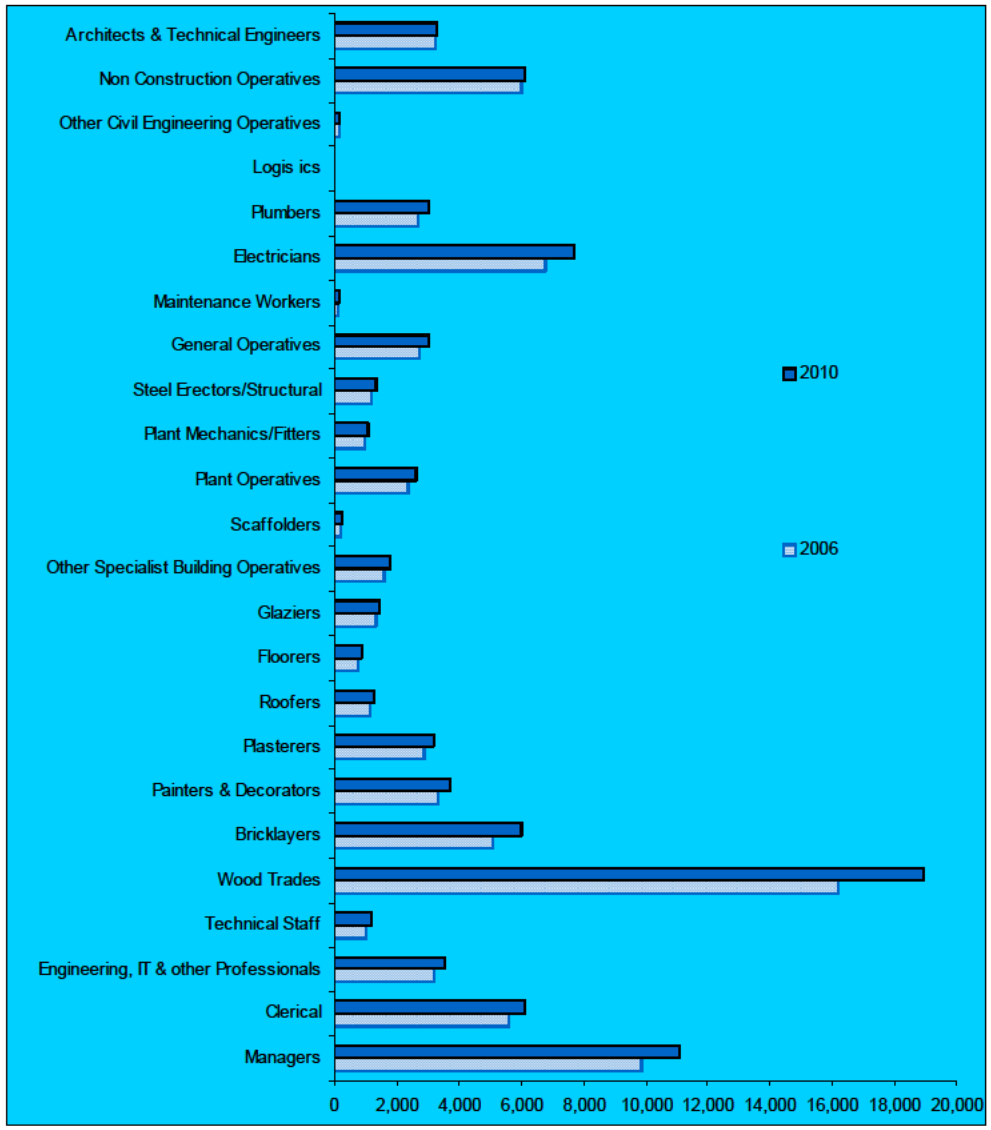
- By 2010 total employment in the Northern Ireland construction industry is forecast to be just over 88,100, a 13% increase from 2006.
- The employment requirement in Northern Ireland is forecast at 2,620 across both SIC 45 and SIC 74.2 in order to meet an estimated increase of 9,790 in total construction employment between 2006 and 2010.
- The greatest Average Annual Requirement, in line with the UK as a whole, will come from Wood Trades, with an estimated requirement of 730. Employment in Wood Trades is forecast to rise by 17% over the forecast period to 18,920.
- The Average Annual Requirements for Maintenance Workers, Scaffolders, Logistics and Other Civil Engineering Operatives are small, all requiring less than 10 new workers per year to fulfill estimated needs.
- In contrast to the national trend, the Average Annual Requirement for Architects & Technical Engineers (SIC 74.2) in Northern Ireland is one of the lowest (at just 30), whereas on a national scale this group has the third largest requirement.

Table 5
Northern Ireland
Total employment and Average Annual Requirement by occupation: 2006–2010

	Employment		Average Annual Requirement
	2006	2010	2006-2010
Managers	9,860	11,130	340
Clerical	5,580	6,110	200
Engineering, IT & other Professionals	3,180	3,570	110
Technical Staff	1,040	1,170	60
Wood Trades	16,190	18,920	730
Bricklayers	5,070	6,030	260
Painters & Decorators	3,350	3,710	90
Plasterers	2,860	3,210	120
Roofers	1,110	1,290	60
Floorers	770	870	20
Glaziers	1,320	1,440	30
Other Specialist Building Operatives	1,590	1,820	70
Scaffolders	220	250	<10
Plant Operatives	2,340	2,610	50
Plant Mechanics/Fitters	970	1,090	20
Steel Erectors/Structural	1,170	1,350	50
General Operatives	2,740	3,040	30
Maintenance Workers	90	130	<10
Electricians	6,790	7,700	250
Plumbers	2,670	3,040	100
Logistics	50	60	<10
Other Civil Engineering Operatives	130	150	<10
Non Construction Operatives	6,000	6,140	
Total (SIC 45)	75,090	84,830	2,590
Architects & Technical Engineers	3,220	3,270	30
Total (SIC 45 & 74.2)	78,310	88,100	2,620

Source: Construction Skills Network Model, 2006; Experian.
Note: Numbers are rounded to the nearest ten and may not sum to the total.

Figure 7
Northern Ireland
Total employment by occupation: 2006–2010



Source: Construction Skills Network Model, 2006; Experian.
Note: No bar indicates less than 1,000.

Appendix I – Glossary of terms

Demand – construction **output,** vacancies, and a set of **labour coefficients** to translate demand for workers to labour requirements by trade. Demand is calculated using DTI and DFP output data. Vacancy data are usually taken from the National Employers Skills Survey (NESS) from the Department for Education and Skills (DfES).

GDP – Gross Domestic Product – total market value of all final goods and services produced. A measure of national income. GDP = **GVA** + taxes on products – subsidies on products

GVA – Gross Value Added – total output minus the value of inputs used in the production process. GVA measures the contribution of the economy as a difference between gross output and intermediate outputs.

Labour coefficients – the labour inputs required for various types of construction activity. The number of workers of each occupation/trade to produce £1m of output in each sub-sector.

LFS – Labour Force Survey – a UK household sample survey which collects information on employment, unemployment, flows between sectors and training, from around 53,000 households each quarter (>100,000 people).

LMI – Labour Market Information – data that are quantitative (numerical) or qualitative (insights and perceptions) on workers, employers, wages, conditions of work, etc.

LMI – Labour Market Intelligence – labour market information analysed.

Macroeconomics – the study of an economy on a national level, including total employment, investment, imports, exports, production and consumption.

ONS – Office for National Statistics – official statistics on economy, population and society at national UK and local level.

Output – total value of all goods and services produced in an economy.

Productivity – output per employee

SIC Codes – Standard Industrial Classification Codes – from the UK Standard Industrial Classification of Economic Activities produced by the **ONS**.

ConstructionSkills is responsible for SIC 45 Construction and SIC 74.2 Architectural and Engineering activities and related technical consultancy.

ConstructionSkills shares an interest with SummitSkills in SIC 45.31 Installation of wiring and fittings and SIC 45.33 Plumbing. AssetSkills has a peripheral interest in SIC 74.2.

SOC Codes – Standard Occupational Classification Codes

Supply – the total stock of employment in a period of time plus the flows into and out of the labour market. Supply is usually calculated from **LFS** data.

Appendix II – Note on Logistics and Other Civil Engineering Operatives

In this initial run of the Construction Skills Network Model, the categories Logistics and Other Civil Engineering Operatives are derived from the category Other Civil Engineering Operatives to take account of the different employment requirements within each category.

Logistics consists of labour within construction that deals with transportation, handling and storage.

Other Civil Engineering Operatives consists of workers within construction that deals directly with construction work itself, for instance labourers and operatives in road and rail construction. This is a part of ongoing research.

Appendix III – Data sources – Construction Skills Network Model

- Accession Monitoring Report – Home Office
- Analysis of Construction Industry Employment using the British Household Panel Survey – CITB-ConstructionSkills
- British Household Panel Survey – Institute for Social and Economic Research (University of Essex)
- Building the Future: Skills Training in Construction and Building Services Engineering
- Construction Apprentices' Survey – CITB-ConstructionSkills
- Construction Forecasts – Experian
- Construction Skills Foresight Report – CITB-ConstructionSkills
- Construction Skills Report – Learning & Skills Councils (England)
- Construction Statistics Annual – DTI
- Employer Panel Consultation – CITB-ConstructionSkills
- Employers' Skills Needs Survey – CITB-ConstructionSkills
- Foresight, Regional construction forecasts – Experian
- Investment Strategy for Northern Ireland – Strategic Investment Board
- Labour Force Survey – ONS
- International Passenger Survey – ONS
- Measuring the Competitiveness of UK Construction – DTI
- National Employer Skills Survey – LSC, SSDA, & DfES
- Northern Ireland Census of Employment
- Northern Ireland Construction Bulletin – DFPNI
- Occupational Skills Survey 2003 – CITB-ConstructionSkills
- Quarterly output and New orders bulletin – DTI
- Skills Needs Analysis – ConstructionSkills
- Trainee Numbers Survey 2004/05 – CITB-ConstructionSkills
- Travel Trends – ONS
- Workforce Mobility and Skills in the UK Construction Sector – ConstructionSkills, ECITB, SEEDA, DTI

Appendix IV – Footprints for Built Environment SSCs

The table summarises the SIC codes covered by ConstructionSkills.

	SIC Code	Description
ConstructionSkills	45.1	Site preparation
	45.2	Building of complete construction or parts; civil engineering
	45.3	Building installations (except 45.31 and 45.33 which are covered by SummitSkills)
	45.4	Building completion
	45.5	Renting of construction or demolition equipment with operator
	74.2*	Architectural and engineering activities and related technical consultancy

** AssetSkills has a peripheral interest in SIC 74.2*

The sector footprints for the other SSCs covering the Built Environment:

SummitSkills
Footprint **–** Plumbing, Heating, Ventilation, Air Conditioning, Refrigeration and Electrotechnical.
Coverage – Building Services Engineering.

AssetSkills
Footprint – Property Services, Housing, Facilities Management, Cleaning
Coverage – Property, Housing and Land Managers, Chartered Surveyors, Estimators, Valuers, Home Inspectors, Estate Agents and Auctioneers (property and chattels), Caretakers, Mobile and Machine Operatives, Window Cleaners, Road Sweepers, Cleaners, Domestics, Facilities Managers.

Energy & Utility Skills
Footprint – Electricity, Gas (including gas installers), Water and Waste Management
Coverage – Electricity generation and distribution; Gas transmission, distribution and appliance installation and maintenance; Water collection, purification and distribution; Waste water collection and processing; Waste Management.

At national level, ConstructionSkills and SummitSkills are in discussions to determine the most appropriate way of working together on forecasting employment requirements for trades/occupations where there is overlap between the two SSCs.

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