

# Sectoral Focus

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# Sectoral Focus

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# Article 26: Estimating the Cost of Farm Machinery Accidents

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In explaining the relatively unfamiliar concepts used in health and safety economics, this article reports results of a survey carried out on 293 farms in Northern Ireland. Based on this survey, the authors produced a conservative estimate of the Value of Statistical Life (VSL) arising from a farm machinery accident in Northern Ireland to be in the range of £1.5 - £2million.

## WHAT IS THE VALUE OF STATISTICAL LIFE?

The Value of a Statistical Life (VSL) is now a widely accepted monetary measure of the benefit of preventing one anonymous death. As Jones Lee (1989) explains, 'all individuals are afforded an equal improvement in safety which reduces the expected number of lives lost during the forthcoming period by precisely one. Such a safety improvement is said to involve the avoidance of one 'statistical death' or the saving of one 'statistical life'.' In other words, in a population of 1 million, a regulation that reduced the risk to each individual by 1 in 1 million would be reported to save one statistical life.

The theoretical definition of the VSL is the population mean of the marginal rates of substitution of wealth for risk of death. This marginal rate of substitution is obtained by dividing the amount an individual is willing to pay (WTP) by the level of reduction in risk. For example, if everyone in a population was willing to pay £100 to reduce a risk of death by 1 in 10,000, the VSL would be £1million.

## REVEALED VERSUS STATED PREFERENCE METHODS OF ELICITING A VSL

Having established what the Value of Statistical Life is and how it is calculated, an important consideration is how to obtain the values that individuals are willing to pay to reduce a risk of death.

There are two methods of obtaining willingness to pay values for reduction in risk:

- Observe the behaviour of affected individuals in risk situations (revealed preference);
- Directly ask affected individuals how they would hypothetically behave in risk situations (stated preference).

## REVEALED PREFERENCE METHODS

There are two main types of revealed preference studies: 'Wage Compensating Differential' studies and 'product market' studies. Wage Compensating Differential studies work from the basis that individuals must be compensated to take risky jobs in the form of higher wages. Different jobs will have different risks and will require different levels of compensation. In this way, it is possible to determine the marginal values of risk from associated wage rates. Workers are assumed to have perfect information about the risk entailed in a job and to have the ability to change jobs.

Despite the advantage of this method in that relevant data on wage rates, job risk, etc. is readily available there has been much criticism of this approach. Leigh (1995) queries the quality of such labour market data and observes that this method does not lend itself well to occupations such as agriculture, which is not typical in terms of earnings; farmer incomes can be extremely inconsistent and mostly farmers are self employed entrepreneurs, not participants in the labour market. In addition, this approach fails to fully account for job characteristics and individuals' preferences (Garen, 1988; Shogren & Stamland, 2002).

Product Market Studies are based on the premise that by observing market behaviour, consumers

indirectly reveal their preferences. This approach has been extensively used through observation of voluntary expenditure (either financial or time related) for a variety of resources that could help avoidance of everyday risks including use of the subway under roads, seat belts and smoke detectors (Melinek, 1974; Dardis, 1980; Gerking & Stanley, 1986).

As before, this type of revealed preference study is associated with a number of difficulties which reduce its appeal. For example,

- this technique can only be applied where a product is available;
  - it may be difficult to isolate or obtain accurate information about the product;
  - not everyone buys the product, limiting the ability to reflect a societal value;
  - it cannot be assumed that those who do not purchase are not willing to pay anything;
  - the cost of the product may not be related to average willingness to pay since the price of the product may simply be too expensive to produce.
- (Fisher et al, 1989; Shogren & Stamland, 2005)

### **STATED PREFERENCE METHODS**

Stated preference methods, which generally rely on surveys to obtain information, are commonly used to value non-market goods that do not have a 'price', such as health or safety.

Contingent valuation is one of the most widely used stated preference methods, particularly in environment, transport and health related areas. In the context of safety, the method usually elicits an affected individual's willingness to pay (WTP) for treatment that provides a quick recovery and the willingness to accept (WTA) compensation for

sustaining non-fatal injuries. The method has more success when used to value non-fatal rather than fatal accidents because of the larger probabilities associated with minor injuries compared to fatal injuries. It is expected that WTA will overestimate the true value a respondent places on an injury, whilst WTP will underestimate the true value, as shown in Carthy et al (1999). Therefore, WTA and WTP are averaged to elicit the magnitude of the marginal rate of substitution of wealth for a non-fatal injury, which provides the benefit value for preventing a non-fatal injury used for cost-benefit analysis of accident prevention policies.

In selecting the most appropriate method of elicitation, the stated preference method (in this case the contingent valuation method) is favoured primarily because it can obtain a more accurate policy estimate that includes the value of pain, grief and suffering and does not exclude groups of people such as those who are self-employed or who do not work.

### **NORTHERN IRELAND FARMER'S WTA AND WTP FOR A NON-FATAL INJURY**

Using this approach, a stated preference survey carried out on 293 farms in Northern Ireland by the authors, elicited WTP and WTA values for preventing non-fatal farm machinery accidents to farmers. Basing results on the marginal rate of substitution of wealth for a non-fatal injury, estimates for the values of statistical injuries were directly elicited. These estimates were £1,100 for an injury of severity portrayed by F, £2,500 for an injury of severity W, and £12,500 for an injury of severity portrayed by X. Descriptions of the related severity of injuries are detailed below.

Description of the severity associated with the non-fatal injuries considered

**Table 1**

	IMMEDIATE EFFECTS	AFTER EFFECTS	LONG TERM EFFECTS
Injury F	Seen as hospital outpatient	<ul style="list-style-type: none"> <li>• Slight-mod pain for 2-7 days</li> <li>• Some pain for several weeks</li> <li>• Some limitation to normal activities for several weeks</li> </ul>	None
Injury W	In Hospital <ul style="list-style-type: none"> <li>• 2-7 days</li> <li>• Slight to moderate pain</li> </ul>	After Hospital <ul style="list-style-type: none"> <li>• Some pain/discomfort for several weeks</li> <li>• Some restrictions to work and/or leisure activities for several weeks/months</li> </ul>	After 3-4 months, return to normal health with no permanent disability
Injury X	In Hospital <ul style="list-style-type: none"> <li>• 1-4 weeks</li> <li>• Slight to moderate pain</li> </ul>	After Hospital <ul style="list-style-type: none"> <li>• Some pain/discomfort, gradually reducing</li> <li>• Some restriction to work and leisure activities, steadily improving</li> </ul>	After 1-3 years, return to normal health with no permanent disability

Source: Oxford Economic Papers

**PROBLEMS WITH LOW PROBABILITY RISKS**

Due to larger probabilities associated with minor injuries, the risk levels involved are easier for respondents to comprehend. In addition, familiarity with the less severe injuries increases the feasibility of using contingent valuation methodology (CVM) for minor non-fatal injuries. Small probabilities typically associated with fatal accidents can lead to problems when applying CVM to directly elicit values for a statistical life.

Beattie et al (1998) found significant problems with using the CVM monetary to valuing fatal transport accidents in Great Britain. Their results were scope insensitive, which they felt was largely caused by respondents' inability to comprehend the magnitude of the risk reduction. Scope insensitivity occurs when WTP fails to increase with the magnitude of risk reduction at an approximately proportional rate (Jones Lee, 1974).

Given the difficulties respondents face in trading off money and small reductions in risk resulting in a scope insensitive value, an alternative to the contingent valuation method of eliciting the Value of Statistical Life, was investigated by Carthy et al (1999). This study used an approach, which "chained" CVM and Modified Standard Gamble responses to indirectly obtain an estimated value of statistical life. This approach was favoured because the task was broken down into a series of steps which respondents found more manageable.

**THE MODIFIED STANDARD GAMBLE AND NORTHERN IRELAND FARMER'S VSL**

The Modified Standard Gamble (MSG) question draws out a value for fatal accidents through a trade-off between risk of death and risk of injury. In this way, respondents are not required to directly compare risk of death with wealth, which as previously reported has proved too arduous a

task resulting in values largely insensitive to the scope of the risk.

A Modified Standard Gamble question is typically presented as a choice between two hospital treatments. For example, respondents are asked to suppose that they have experienced an injury, which results in death unless treated. Two treatments are available:

- If successful, the respondent will experience a given injury but if unsuccessful, the respondent will die immediately with a given probability.
- If successful, the respondent will experience normal health but if unsuccessful, the respondent will die immediately with probability  $\pi$ .

The respondent must decide the probability level  $\pi$ , for which they are indifferent between which treatment they choose. This result from the Modified Standard Gamble can be chained to or multiplied by the marginal rate of substitution of wealth for the non-fatal injury obtained from the direct contingent valuation question to elicit the marginal rate of substitution of wealth for death. As previously described, the population mean of marginal rates of substitution of wealth for death provides the Value of Statistical Life.

Adopting this technique, the authors of this report produced a conservative estimate of a farm machinery VSL in Northern Ireland to be in the range of £1.5 - £2million. Carthy et al (1999), which employs the same methodologies, reported a VSL for a road death in Great Britain to be the region of £1-1.6million. The difference in these values is understandable given that:

- farmers have access to more capital so are less

constrained by budget than other members of the general public;

- farmers are more risk averse to the certainty of time off work as it will have a direct impact on the profitability of the farm and will cause greater inconvenience
- there is a discrepancy in time since these studies were conducted.

### **HOW VSL IS USEFUL FOR CBA IN HEALTH AND SAFETY EXPENDITURE**

Cost Benefit Analysis (CBA) is a conceptual framework for the evaluation of investment projects in the public sector. It considers costs and benefits that are not captured by conventional markets, in order to assess the desirability of a project. Under CBA, a project should be accepted if the costs of implementing the project outweigh the value of benefits derived from implementing the project, therefore, CBA can provide an answer to the question, "how much is worth investing in this project?"

In terms of health and safety expenditure, the Value of Statistical Life can inform policy makers concerned about the true cost of fatal accidents or illnesses or the value of benefits from reducing the number of fatal accidents or illnesses by providing a point estimate for ultimate policy use to help assess the real cost.

As Viscusi & Gayer (2002) state, 'Because government policies reduce the risks of death rather than eliminate certain death for identified individuals, the correct benefit value is society's willingness to pay for the reduction in risk.'

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# Article 27: Northern Ireland's Engineering Performance

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## INTRODUCTION

Article 24 in the previous DETI Economic Bulletin highlighted the significant change that Northern Ireland's manufacturing sector has undergone over the past decade. While manufacturing has been in sectoral decline within developed and developing countries worldwide, some sub-sectors within manufacturing have fared relatively better than others. Northern Ireland's engineering & allied industries sector has been an important source of employment, investment and overall economic development within Northern Ireland over the last decade. This Article briefly assesses the significance of this sector to the Northern Ireland economy and highlights performance over the period 1995-2005, which has been characterised by three distinct phases of boom, recession and recovery. The issues and events that have impacted upon the sector are highlighted followed by an assessment of the current challenges and future prospects.

## DEFINING ENGINEERING & ALLIED INDUSTRIES

Engineering and Allied Industries (Engineering) consists of three sub-sectors of manufacturing:

### Manufacture of Machinery and Equipment Not Elsewhere Classified (DK)

This sub-sector includes the manufacture of machinery in other sectors such as mining, agriculture, food, textiles, paper and also includes manufacture of weapons and ammunition, engines, pumps, machine tools and some domestic appliances. Firms which fall within this sub-sector in Northern Ireland include Thales Air Defence and Nacco Materials Handling.

### Manufacture of Electrical and Optical Equipment (DL)

Firms in this sub-sector manufacture electrical

machinery (such as electric motors, generators, wires, batteries, lighting), optical equipment (such as medical and surgical equipment, electronic instruments, photographic equipment, watches), computers, office equipment and communication equipment. Seagate, Nortel and FG Wilson are all classified within this sub-sector.

### Manufacture of Transport Equipment (DM)

The manufacture of motor vehicles, trailers & caravans, trains, aircraft & spacecraft, motorcycles and bicycles are all included in this sub-sector. Also included is the building and repair of ships and boats. Some major transport firms in Northern Ireland include Shorts Bombardier, Wrightbus and Harland & Wolff.

## I. Engineering's Significance to the Northern Ireland Economy

The sector is highly significant to the Northern Ireland economy in terms of employment, output (GVA & exports), R&D expenditure and inward investment (FDI).

**Employment** - The engineering sector accounted for 29.6% (25,820) of all manufacturing employee jobs and 3.7% of all jobs in the Northern Ireland economy in September 2005. The equivalent proportions are broadly comparable with the UK figures (30.2% and 3.5% respectively). The engineering sector also provides relatively high wage employment when compared to the Northern Ireland manufacturing average.

**Gross Value Added** - Engineering GVA was £1.1bn in Northern Ireland in 2003, representing 30.0% of manufacturing GVA and 5.1% of total Northern Ireland GVA.

**Exports** - The engineering industries accounted

for 22.0% of total manufacturing sales and 26.0% of sales outside Northern Ireland in 2004/05. However, when looking at exports (sales outside the UK) this figure rises to 45.6%, showing the export-orientated nature of engineering.

**Business Expenditure on R&D (BERD)** - In 2004, over one-half (54.2%) of manufacturing BERD and over one-third (36.1%) of Northern Ireland total BERD was undertaken by the engineering sector.

**FDI** - In 2004/05, engineering inward investment was £25.7m, or 18.1% of total manufacturing FDI. However, due to the volatile nature of FDI this figure changes greatly with each year; for example, engineering FDI was 69.3% of manufacturing FDI in 2003/04. In general, over the past decade,

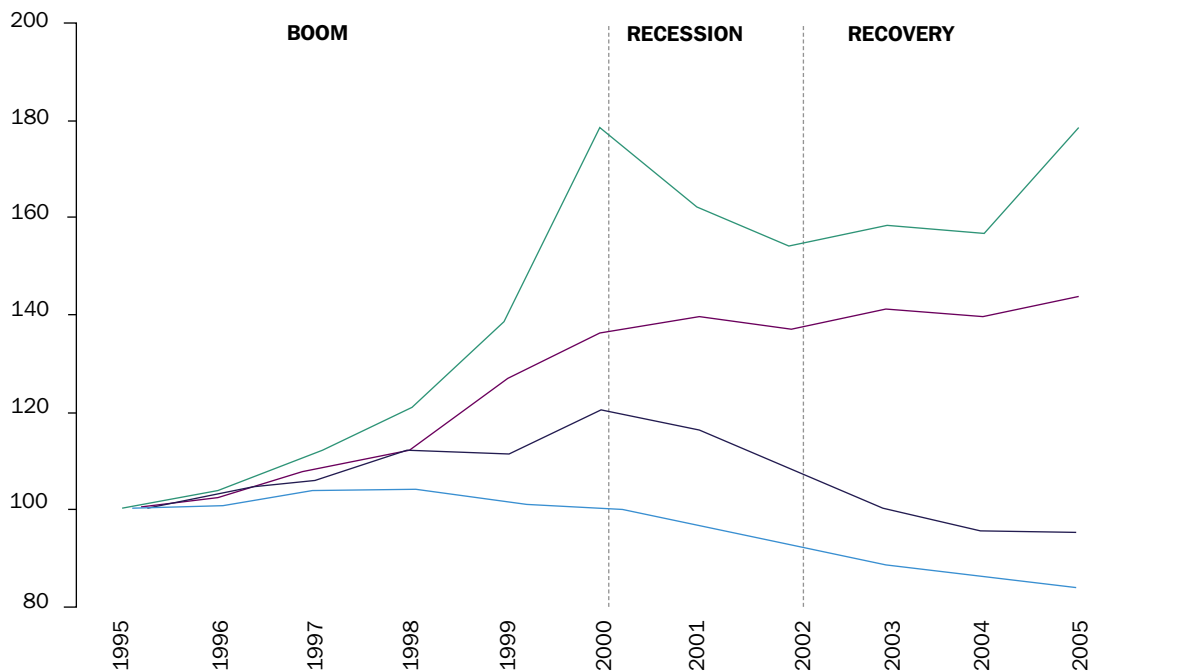
engineering investment has represented a large proportion of both total and manufacturing FDI.

## II. Engineering over the Last Decade

Over the past year, employment in the manufacturing sector has continued the general downward trend observed in recent years. In September 2005 there were 87,100 employee jobs in the manufacturing sector in Northern Ireland - a decrease of 16.2% (16,870 jobs) on September 1995. A similar trend has also been observed in the UK, with 24.5% (305,000) fewer manufacturing employee jobs in 2005 than in 1995. Despite the number of employee jobs decreasing, the increasing productivity in the remaining manufacturing jobs has resulted in continued output growth.

Northern Ireland Output and Employment in Manufacturing and Engineering  
Index 1995=100

**Figure 1**



Note: Figures are from Q3 of each year  
Source: DETI Index of Production

The proportion of engineering jobs increased from 26.3% of manufacturing employee jobs in 1995 to 29.6% in 2005; this is a reflection of the general shift away from the more labour intensive textile industries towards higher value added manufacturing such as engineering and pharmaceuticals.

As shown in Figure 1, the performance of the engineering sector over the past decade in Northern Ireland has been characterised by three distinct phases of:

- Boom - increasing output and employment;
- Recession - a sharp decline in output and employment;
- Recovery - increasing output (after a period of stabilisation) but decreasing employment.

### **BOOM**

Throughout the mid to late 1990s engineering was a strong source of employment growth in Northern Ireland and the UK. At its peak, engineering accounted for 32,610 employee jobs in Northern Ireland (2000) and 1,324,000 in the UK (1998). Over the period 1995-2000, employment in Northern Ireland's engineering sector increased by 19%. This rise was mainly driven by growth within the electrical and optical equipment (+51%) and transport equipment (+8%) sub-sectors. Northern Ireland engineering output and GVA also showed robust growth of 78.0% and 54.4% respectively.

The high levels of employment growth in engineering in the mid to late 1990s should be placed in the context of total manufacturing employment (see Figure 1). Although manufacturing employee jobs increased slightly from 1995-97, the general trend over the past few decades has been one of decline. Manufacturing

employee jobs decreased by 4,050 between 1997 and 2000; this compares with an increase of 3,610 in engineering over the same period.

This period of expansion in the engineering sector coincided with a buoyant global economy driven by an expanding US economy. Between 1995 and 2000 real GDP growth in the US economy averaged 3.8% per annum. The US labour market was strong during this period, with employment increasing by 11.7m (9.4%) and the unemployment rate falling from 5.6% to 3.9% between September 1995 and 2000.

Northern Ireland's engineering sector benefited from the global economic upturn in terms of inward investment and increased trade. Over the five year period 1995/96-2000/01, Northern Ireland attracted almost £1.5bn of engineering FDI. This represented 72.7% of manufacturing FDI and almost two-thirds (65.6%) of total FDI for this period. Engineering exports also increased as a result of increasing demand from the booming US economy, more than doubling (+105.0%) in real terms over the period 1995/96 to 2000/01.

### **RECESSION**

The rapid expansion of Northern Ireland's engineering sector during the late 1990s was followed by a sharp downturn in the sector in 2000-2002. Engineering output fell dramatically over this period and employment began to decline. By September 2002, the engineering sector in Northern Ireland had 3,190 (9.8%) fewer employee jobs than in September 2000 and 145,000 less (11.5%) in the UK.

Northern Ireland's engineering output decreased by 9.0% between 2000 (Q3) - 2001 (Q3) and by a further 4.9% the following year. While Northern

Ireland's engineering sector sustained growth above the Northern Ireland GVA growth rate during 1995-2000, GVA in the engineering sectors contracted for three consecutive years from 2001.

A series of global events contributed to the decline in engineering over this period:

### **1) Dot-com crash in 2000**

The dot-com boom in the mid to late 1990's led to rapid growth in the electrical and optical equipment sector, with investment in ICT and related sectors growing at high levels each year during this period. However, in 2000 the tech bubble burst and many of these firms ceased trading. US investment growth in ICT began to tail off in 2000 and was negative during 2001, whilst ICT investment growth in other nations also slowed down. The net job gains of the previous six years were reversed in one year<sup>1</sup>.

The lack of investment, and fall off in demand for ICT related products had a global impact on these sectors. As a result, there was a steep fall in Northern Ireland employment in electrical and optical equipment (which had been the main driver of engineering employment growth between 1995 and 2000) with employee jobs falling by 2,850 (22.8%) from 2000-2002.

### **2) Terrorist attacks on the World Trade Centre in 2001**

Part of the economic impact of the terrorist attacks was a sudden fall in demand for travel and tourism. Having been positive in every year since 1991, global passenger traffic fell by 0.9% in 2001 as a result<sup>2</sup>. Airlines throughout the world responded by cutting jobs and reducing capacity. This had a negative impact on the aerospace industry in Northern Ireland, leading to a 17.8%

decrease in employment (-2,320 jobs) within the transport equipment sector in the two years following September 2001. Northern Ireland output in the transport equipment sector fell by 8.8% between 2001 (Q3) - 2002 (Q3).

### **3) Global slowdown 2000 - 2002**

A combination of the above shocks, along with other factors such as the end of the boom experienced through the 1990s, led to a global recession in the early 2000s. OECD countries real GDP growth fell from 3.9% in 2000 to 1.1% in 2001, whilst US real GDP growth slowed from 3.7% to 0.8%. Both exports and imports decreased from 2000 to 2001 in the OECD countries and US, and outflows of FDI from the OECD countries almost halved.

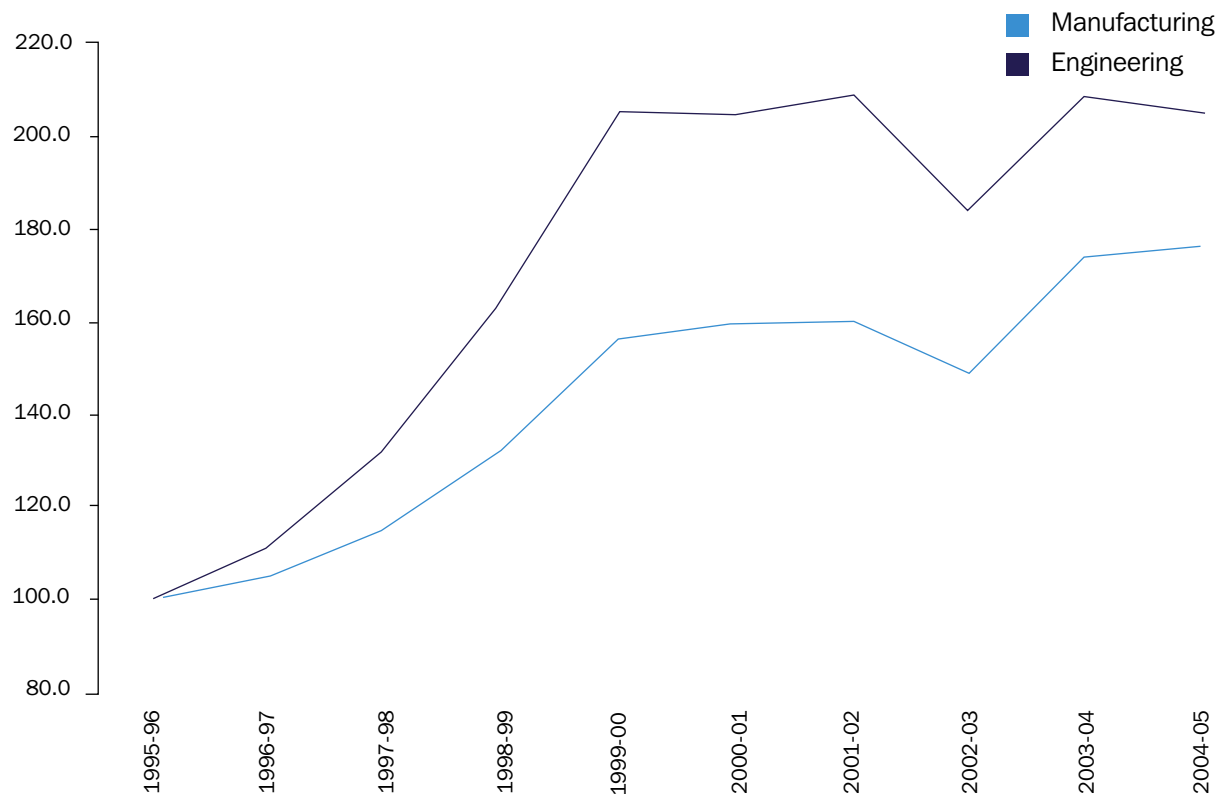
The global downturn was accompanied by a sharp decline in investment and trade which impacted on the engineering sector in Northern Ireland. The level of total FDI coming into Northern Ireland fell year on year from 1999/2000 to 2003/04, with engineering FDI falling from £243.3m in 1999/2000 to £20.7m in 2001/02 - a fall of 91.5%. Figure 2 clearly shows the impact the recession had on exports; engineering exports fell slightly in real terms in 2000/01 from 1999/2000 and experienced a sharp drop in 2002/03. Manufacturing exports followed a similar trend to engineering, although with less pronounced growth and a slightly less severe decline.

Following the downturn and pressure on profit margins, engineering firms in Northern Ireland spent less on R&D in 2002 than in 2001, decreasing expenditure by 22.6% in one year.

## Northern Ireland Manufacturing and Engineering Exports (Constant Prices)

Index 1995/96 = 100

**Figure 2**



Source: DETI Northern Ireland Manufacturing Sales & Exports Survey

### RECOVERY

Since the recession in the early 2000s, conditions in the global economy have improved. In 2004, OECD real GDP growth was 3.3% and US growth was 4.2%. Real GDP growth in 2005 was estimated at 2.7% in the OECD countries and 3.6% in the US, down on 2004 but significantly above growth during the recession years. Levels of trade increased significantly in 2004 and 2005, and US FDI in the engineering industries is increasing once again. Therefore, the world economy appears to be in a more robust position to sustain an engineering recovery.

However it is possibly too soon to describe the engineering sector as being in full recovery mode, with the latest evidence providing some mixed signals.

On the positive side:

- Following four years of decline, engineering output in Northern Ireland increased by 13.7% between 2004 (Q3) and 2005 (Q3), and is now above the level it was in Q3 2000.
- Northern Ireland's engineering exports have recovered from the decline in 2002/03. In real

terms, engineering exports increased by 13.2% and, although decreasing slightly in 2004/05, remain at a comparable level with 1999/2000.

On the negative side:

- Engineering employment has continued to fall over the year to 2005 (Q3), albeit at a much slower rate than in the previous four years. The number of engineering employee jobs is now lower than ten years ago. Furthermore, the engineering sector has been experiencing a faster rate of decline than manufacturing as a whole over the last 5 years.
- BERD in engineering firms has continued declining since 2002, with expenditure falling by 46.0% from 2002 to 2004. Much of the decline in BERD in Northern Ireland in recent years has been down to a relatively small number of large firms spending less on R&D. Intramural BERD in firms with 500+ employees was under half the 2001 level in 2004, however both small and medium sized enterprises have increased their R&D expenditure over this period.

### **III. Challenges & Future Prospects**

An engineering recovery in today's global economy faces a number of different challenges that were not apparent during the boom years of 1995-2000.

The current global recovery has been accompanied by more intense global competition, (notably from Eastern Europe, China and India) alongside a rising cost base. This explains why the current recovery is characterised by increasing output and falling employment.

China and India have emerged as the world's two fastest growing economies, both having

populations over 1 billion and hourly labour costs less than one-twentieth of the UK. While Northern Ireland's low value added sectors have experienced the direct impact of low cost competition from China and India all sectors within manufacturing have been affected indirectly. China and India's rapid economic development has been resource intensive and has led to higher oil and steel prices, indirectly driving up the cost base of all Northern Ireland manufacturers.

Northern Ireland businesses have been facing ever increasing cost pressures in recent years, in particular rising energy prices and the phasing out of industrial derating. In the context of increased global competition this impacts on the competitiveness of firms in Northern Ireland by squeezing profit margins and may explain the falling levels of investment in R&D.

### **CONCLUSION**

Over the past 10 years, Northern Ireland's engineering sector has experienced both strong growth and rapid decline. This chapter has highlighted that no country can insulate itself from global economic developments.

A strong global economy (driven by the US) led to an expansion of Northern Ireland's engineering sector in the mid to late 1990s through FDI inflows and increased trade. However, the dot-com crash in 2000, the terrorist attacks in 2001 and the global recession which followed all contributed to a large downturn in the sector through the early 2000s.

The engineering sector today in Northern Ireland is one of lower employment but higher output and productivity than 10 years ago. Given the challenges faced by businesses, future success

for the sector is likely to be in terms of further productivity improvements rather than employment growth. While the global recovery provides a welcome boost for Northern Ireland's engineering sector it must be placed within a new context. Northern Ireland's engineering firms are facing relentless pressure on profit margins due to more intense global competition and a rising business cost base. Going forward, the main challenge will be to shift up the value chain to compete on the basis of unique and innovative activity rather than cost. However, as this article has highlighted, Northern Ireland's declining levels of BERD suggest that many firms may be concentrating more on short term survival as opposed to long-term investment.

<sup>1</sup> Baudchon, Helene "The Aftermath of the New Economy: A Case Study of Five OECD Countries".

<sup>2</sup> Airports Council International (2002) "Economic Impact of September 11 on Airports".

# Article 28: Future Role of the Manufacturing Sector in Northern Ireland

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## INTRODUCTION

Pricewaterhousecoopers Ltd (PWC) and Regional Forecasts Ltd (RFL) were commissioned by DETI to undertake research into the future role of manufacturing in Northern Ireland. The research, and DETI's policy response, were published in March 2005. This article summarises the research findings and policy response, and outlines some of the key initiatives being undertaken to strengthen the future prospects for the sector.

## THE PWC/RFL RESEARCH

Commissioned as part of the 2002-2005 DETI Corporate Plan the assessment of the potential role of the Manufacturing sector in Northern Ireland sought to identify/forecast where opportunities and threats might exist over the next 10 years in the sector. The study was set against a background where manufacturing employment had declined by 50% over the past 20 years. The approach to the research was evidence-based and outward-looking, and sought, inter alia, to:

- survey Manufacturing sector development in Northern Ireland compared to the UK and other EU regions (in particular, ROI) and the US, involving examination of its contribution to the economy (in terms of employment, R&D/innovation activity, exports, output and gross value added (GVA)) and productivity levels;
- identify global trends in manufacturing and review the demand-side and supply-side drivers of those trends;
- project future trends for Manufacturing sector development in 10 years' time (2014), detailed at sub-sector level; and
- assess the future implications for the Northern Ireland economy as a whole in terms of job quality and income levels.

Forecasts for the period 2004-2014 were developed using a regional forecast model, as well as a macro-economic forecast model for both the UK and world economies.

In summary, the PWC/RFL research revealed the following:

## COMPARISON OF MANUFACTURING DEVELOPMENT IN NI VIS A VIS OTHER REGIONS

Manufacturing employment has declined by half over the past 20 years compared to the positive growth in Service sector employment. Manufacturing output has, however, performed considerably better growing by over 40% between 1996 and 2001.

## NUMBER OF MANUFACTURING FIRMS

Within these overall trends the number of manufacturing firms has grown, although there is a smaller proportion of larger firms.

## JOB CREATION

Outside of the declining textile and clothing sector, Northern Ireland's manufacturing record is very good, with job creation in a number of sectors; at least 2000 manufacturing jobs have been created on average each year since 1998. Moreover, manufacturing has continued to provide a valuable source of employment in areas of high unemployment, and there has been a catch-up of labour productivity.

## GLOBAL TRENDS

Many of the advanced western economies are facing the same problem as Northern Ireland in managing the change from declining manufacturing industries to a new technology-based, knowledge-intensive Manufacturing sector. While this does not mean that any businesses

making low tech products for local markets should be written off, it is nevertheless important to recognise that manufacturing industry throughout developed economies is going through a period of rapid change which needed to be managed as efficiently and effectively as possible.

### **PROJECTION OF FUTURE TRENDS**

The forecast is that the Manufacturing sector as a whole is likely to contract in employment terms over the next 10 years, with just over 18,000 jobs (including self-employed) lost, to a total of 72,500 by 2014. Not all sectors will be impacted equally with the most cost sensitive export sectors, such as metals and transport equipment, most acutely affected. The research identified a number of key sectors, or markets with the potential for future growth, including biotechnology, environmentally sustainable products, including recycling activities and those linked to renewable energy and health-related products.

### **PWC'S POLICY OBSERVATIONS**

PWC concluded that the role of manufacturing is changing, and will change further. Key factors of this new role will include the importance of innovation and design; outsourcing of parts of the manufacturing process; development of products with niche markets and high added value; importance of knowledge-based products and processes; reduced role of inward investment, or FDI, in creating new manufacturing employment; increased importance of sustainable products and processes; and increased output but with less employment.

### **THE PWC/RFL RECOMMENDATIONS**

The PWC/RFL report proposed a number of manufacturing competitiveness actions, and associated recommendations, designed to

strengthen the Manufacturing sector, and help it make the transformation needed to compete in a global environment. The recommended actions did not represent a new strategy as such, but rather constituted building on what was already being done. The actions were largely based on the "seven pillars" of the UK Manufacturing sector, and embraced issues such as investment, including the future regime for State Aids, science and innovation, best practice, skills and education, infrastructure and the development of an over-arching communications strategy for the sector. Annex A provides a summary of the recommendations.

### **DETI POLICY RESPONSE**

By and large DETI/Invest Northern Ireland accepted much of the underlying rationale provided by PWC/RFL, and a detailed response was provided to each specific recommendation. Chief amongst the actions to be taken in response to the recommendations included:

### **INVESTMENT AND COMPETITIVENESS**

Within the overall framework of the Economic Vision (February 2005), and the DETI/Invest Northern Ireland Corporate Plans (2005-08), Invest Northern Ireland will continue to encourage investment in individual firms, products and processes (within the constraints of EU state aid rates) which embrace competitiveness in global markets. At the same time Invest Northern Ireland will seek to identify cost-effective ways of facilitating the process of change in small, traditional, family-owned businesses through improved mentoring and training. DETI/Invest Northern Ireland will also continue to play their role in seeking to reduce the costs facing local manufacturing industry through appropriate representations to the UK Government and the EU Commission.

## **SECTORAL STRATEGIES/CONSULTATION WITH SECTORIAL REPRESENTATIVE BODIES**

Invest Northern Ireland will continue to strengthen and develop existing initiatives designed to support Northern Ireland's main Manufacturing sub-sectors and encourage the growth of emerging sectors. It will also continue to consult with those bodies representing particular sub-sectors about the future of their sectors, and how in particular competitiveness of individual companies can be enhanced in global and local markets.

## **SCIENCE AND INNOVATION**

DETI/Invest Northern Ireland will build on the strengths of Northern Ireland's knowledge-based economy through a number of new initiatives designed to promote innovation, including:

- the establishment of a new Regional Science Industry Council (RSIC) or equivalent. This will be an expert panel whose aim will be to develop a more effective and productive relationship between industry and the Northern Ireland R&D and science/technology base;
- the use of the new Skills and Science Fund to fund the establishment of RSIC, and to exploit a number of niche technologies in which Northern Ireland has the skills, people and institutions to be internationally competitive (ICTs, Life Sciences, aerospace, nanotechnologies, and agrifood);
- development of a new framework for innovation to replace the existing Regional Innovation Strategy and Action Plan which will have been completed by September 2006. The new framework will maintain the momentum of achievements and address the challenges for the future. Within this context evaluations of Invest Northern Ireland's major schemes to promote R&D - Start, Centres of Excellence

and Proof of Concept Funds - will also be undertaken.

## **SKILLS**

Working in conjunction with DEL, DETI/Invest Northern Ireland will continue to examine issues surrounding the skilling of those in the Manufacturing sector, learning from the experience and expertise of FDI companies located in Northern Ireland. Of particular importance in this context will be the Sector Skills Agreement being drawn up in consultation with the Science, Engineering, Manufacturing and Technology Association (SEMTA) which will be used to help the DEL Skills Task Force determine what are the priority skills for Northern Ireland manufacturing, and how Government and the sector can play their respective parts in meeting these.

## **COMMUNICATIONS STRATEGY**

DETI/Invest Northern Ireland agreed that there was a need to increase the awareness and understanding of issues relevant to the future of manufacturing in Northern Ireland, and to develop and share a more positive attitude to the sector throughout the business and education sectors. DETI/Invest Northern Ireland intend to meet with relevant interests and other key stakeholders such as the Economic Development Forum to consider how this recommendation might be best taken forward.

## **CONCLUSION**

DETI/Invest Northern Ireland strongly believe that there is an important future for the manufacturing industry in Northern Ireland, albeit different from before. Manufacturing will remain a crucial contributor to our overall economic prosperity, and despite some erosion of employment which is likely to continue, the overall prognosis for

the sector is very positive. Notwithstanding this positive prognosis, there will be a need for many companies to move up the value chain in order to head off competition from lower cost economies such as China and India.

The actions and initiatives outlined in the DETI policy response were designed to help the sector face the major challenges ahead. A detailed manufacturing action plan has been drawn up, and a mid-term review of this outline of work will be undertaken by DETI before the end of 2006/07.

## **ANNEX A**

### **PWC/RFL RECOMMENDATIONS**

Invest Northern Ireland, in collaboration with sectoral representative bodies, should continue to pursue their various sectoral strategies.

Invest Northern Ireland should continue to meet with relevant industry bodies to discuss ways of facilitating the process of change in small traditional family-owned manufacturing businesses.

DETI should conduct a full economic impact assessment of the effects of changes in selective financial assistance in the light of the outcome of post 2006 negotiations on state aids.

Local manufacturing firms should consult with their sectoral body or Invest Northern Ireland and develop a clear business strategy for investing in products and processes which enhance competitiveness in global markets.

The existing Regional Innovation Strategy should include a renewed focus on innovation at all stages of the business process.

Consideration should be given to establishing an

initiative to allow local manufacturing businesses to better explore best practice technology and innovation.

Consideration should be given by the Manufacturing sectoral bodies to raising the awareness of the opportunities that outsourcing provides.

Manufacturing sectoral bodies should be encouraged to develop proposals for enhancing and strengthening “outward and forward-looking” networking opportunities between firms.

All firms should seek to benchmark their business against best practice in all aspects of the business process.

DETI should provide ongoing input to the outworking of the DEL Skills Strategy for the manufacturing sector.

The needs of the Manufacturing sector should be clearly reflected in the latest transport investment plans.

Government should develop a programme of action for a communication plan to promote the key message that manufacturing has a future.

# Article 29: Business Services in Northern Ireland

Claire Redmond - Economics Branch - Department of Enterprise, Trade and Investment

## INTRODUCTION

The DETI commissioned 'Future of Private Services in Northern Ireland' report was released by Regional Forecasts Ltd and the former Northern Ireland Economic Research Centre (NIERC) in December 2005, alongside the DETI's Policy Response to the report. Within this report the business service activities were identified as one area of the Northern Ireland economy which is underdeveloped relative to the United Kingdom (UK). The report concluded that Northern Ireland needs to increase its representation in the high wage tradable business services. A number of policy developments associated with the Services sector in particular business services are discussed within Article 30 'Future of the Services Sector: Policy Developments' within this Bulletin.

This article aims to look at the business services sector in greater detail as it becomes an increasingly important sector within Northern Ireland and offers considerable export potential. Following the latest EU accession, alongside the rise of China and India, Northern Ireland will find it even more challenging to compete in terms of cost. In order to maintain and improve competitiveness Northern Ireland will need to focus on innovative higher value added products and services including business services.

This article provides a brief summary on private services in Northern Ireland; however the main focus centres upon the trends and performance of business services and its relative sub-sectors. Northern Ireland's performance relative to the UK regions is highlighted where data allows, otherwise Northern Ireland is benchmarked relative to the UK.

## PRIVATE SERVICES IN NORTHERN IRELAND - AN OVERVIEW

While Northern Ireland's public sector is the dominant influence on the local economy, Northern Ireland private services are accounting for an increasing share of the economy. This follows the global trends observed in other developed economies. Latest available figures highlight that private services account for 44.8% of Gross Value Added (2003), 43.7% of employee jobs (2005) and 68.4% of new business start-ups (2004). However this compares unfavourably with the UK where private services account for 61.9% of Gross Value Added (GVA), 55.3% of employee jobs and 74.9% of new business start-ups for the same periods.

Private services contain a broad spectrum of activities ranging from low value added activities (e.g. dry cleaning) to high value added tradable services (e.g. market research, software development & consultancy activities). The majority of high value added tradable services are identified within the business services sector.

## THE EXPANSION OF BUSINESS SERVICES IN ADVANCED ECONOMIES

In recent years the phenomenon of globalisation has been accompanied by increased global competition. The Northern Ireland economy like other developed economies is experiencing intense competition, particularly within manufacturing from lower cost competitors such as China, India and Eastern Europe. Thus, in order to grow, advanced economies have to look towards higher value added sectors within manufacturing but increasingly in the Services sectors, such as the business services sector. It is clear that there has been a notable shift within advanced economies from industrial based

sectors such as manufacturing to more service based sectors such as financial and business services.

A good indicator of this shift towards Service sectors and business services in particular, is the proportion of employment within the sector. Within the high income economies of Canada, Australia and Norway business services account for a greater proportion of employment whilst poorer economies such as Portugal, Turkey, Hungary and Spain tend to have lower proportions of employment within business services, and tend to rely more on manufacturing and agriculture.

### **BUSINESS SERVICES IN NORTHERN IRELAND**

The Business Services sector contains the majority of what are known as ‘tradable services’ i.e. those sectors identified as having the highest potential to trade in services internationally, as

Global trends in Business Sector

**Table 1**

	<b>PROPORTION OF CIVILIAN EMPLOYMENT IN BUSINESS SERVICES 2003 (%)</b>
Australia	12.2
Canada	11.9
Finland	8.9
Germany	9.0
Italy	7.9
Norway	10.2
Portugal	5.1
Spain	8.3
Turkey	2.4
Hungary	6.9
United Kingdom	11.2

Source: OECD STAN Database, 2004

outlined in the pilot Exporting Northern Ireland Services study (ENIS) December 2005 (Article 7). Tradable Services includes the following 8 sectors; computer & related activities; research & development; market research; business management & consultancy; architectural & engineering; technical testing & analysis; advertising and; creative entertainment. All of these, with the exception of creative entertainment are within the business services category and 5 are specifically in the other business services sub-sector.

In the Future of Private Services in Northern Ireland report, employment in private services is predicted to expand by 53,000 additional jobs over the period 2003-13. The majority of this growth is predicted to be concentrated within the business services category most specifically within the other business services sub-sector where employment is forecast to increase 26.1% by 2013.

While the economic forecasts for Northern Ireland business services provide grounds for optimism, the remainder of the chapter focuses on the performance of business services over the last decade. This performance is assessed by looking at a number of key economic variables, including - output, exports, employment, business start-ups and FDI. Northern Ireland’s performance is benchmarked against the UK regions where data is available.

### **OUTPUT**

Northern Ireland is under-represented within the private services in comparison to the UK regions in terms of contribution to GVA. Most of this under-representation has been identified to be within the business services sub-sectors.

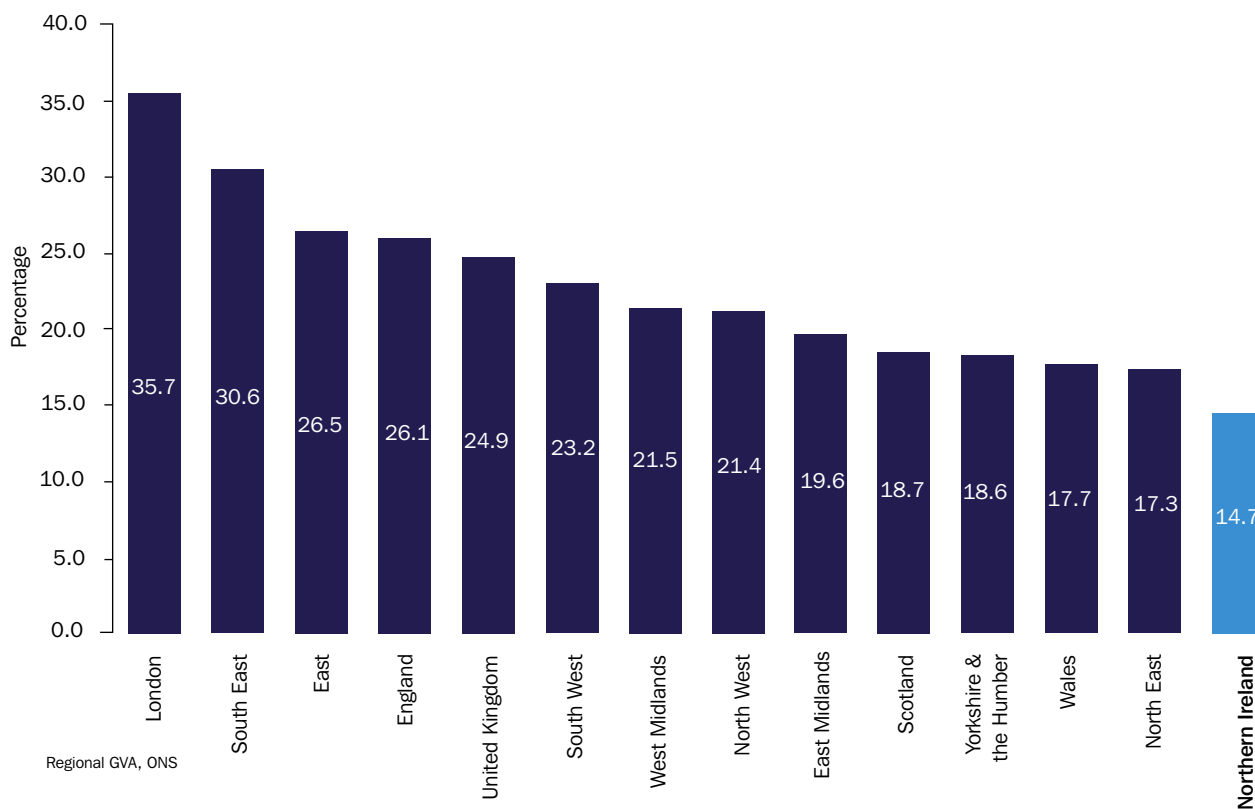
In terms of GVA generated across total private services, Northern Ireland generated only 44.8% of GVA in 2003, which compares unfavourably to all other UK regions in terms of its proportion of GVA in private services. London (85.1%) and the South East (66.9%) have the greatest proportions of total GVA in private services. While Wales (47.7%) and the North West (48.2%) are the only UK regions, alongside Northern Ireland to have private services sectors which account for less than half of total GVA.

The comparison is even starker when focussing on the high value added business services sector. In 2003 Northern Ireland's business services accounted for just 14.7% of Northern Ireland's

total GVA as compared to 24.9% for the UK as a whole. Figure 1 highlights that Northern Ireland lags considerably behind all of the UK regions within this sector. Again London's business services account for the highest proportion of GVA at 35.7%, the South East follows with 30.6%, while the North East is just above Northern Ireland with 17.3%. Overall Northern Ireland is 73.4% of the UK average in terms of its proportion of GVA in private services and is 59.0% of the UK average in terms of its proportion of GVA in business services. However it is of interest to note that over the last decade Northern Ireland's business services sector, as a proportion of total GVA, has grown from 9.6% in 1993 to 14.7% in 2003.

Business Services as share of total GVA by UK Region (2003)

**Figure 1**



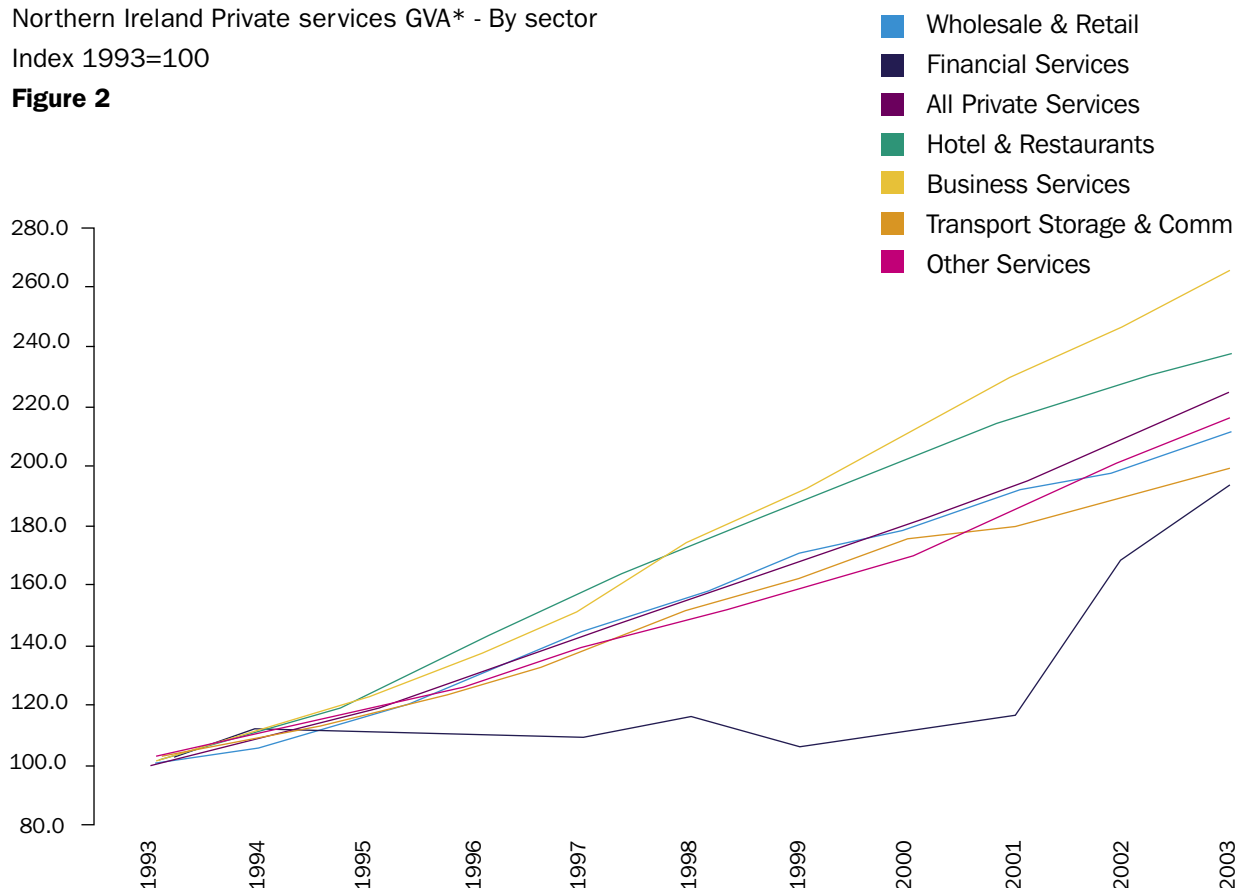
Whilst Northern Ireland is under-represented in terms of proportions of GVA in business services, Northern Ireland's growth rate in business services has been consistently above all other UK regions over the last decade. While it is recognised that Northern Ireland is coming from a lower base than the UK, business services in Northern Ireland increased by 165.2% over the decade outperforming the UK's increase of 133.1%. The next best performing region, the South East, increased by 152.5% over the same period while the North East (+85.7%) recorded the lowest rate of growth.

Focusing in on Northern Ireland, Figure 2 highlights steady growth in GVA across all private services; however the business services sector recorded the strongest growth, over the period 1993-2003, outperforming the private services growth of 124.7%.

Within the past year an experimental Northern Ireland Index of Services has been produced which allows analysis of the movement in turnover of the services industries since Q1 2002. Whilst the Index of Services development is ongoing and in an experimental status both in Northern

Northern Ireland Private services GVA\* - By sector  
Index 1993=100

**Figure 2**



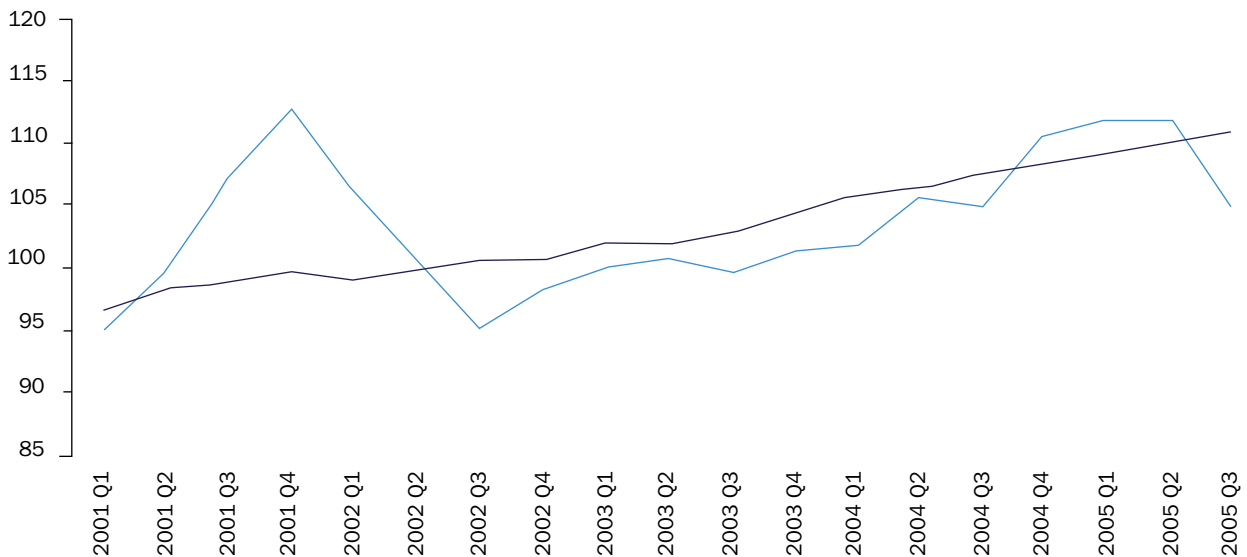
Source: Author's Calculations based on Regional Accounts.

\* The SIC classifications used in the definition of Private Services contain mainly private sector activity, however some public sector activity may be included.

Index of Services - Business Services and Finance

**Figure 3**

■ Northern Ireland  
■ United Kingdom



Source: Index of services, DETI

Ireland and UK, it does provide the most up to date measure of the Service sector and provides another indicator of output alongside GVA.

Figure 3 highlights how the growth in business services and finance, which is the second largest contributor to the Index of Services, accounting for 32%, compares to the UK<sup>1</sup>. It is evident that over the last year business services growth has slowed, and is slightly below that of the UK. This trend gives some cause for concern as this sector contains a range of high value added sub - sectors, which offer significant potential for Northern Ireland’s future economic growth. Further details relating to the IOS can be found within Article 3 ‘Structure and Growth’ in this Bulletin.

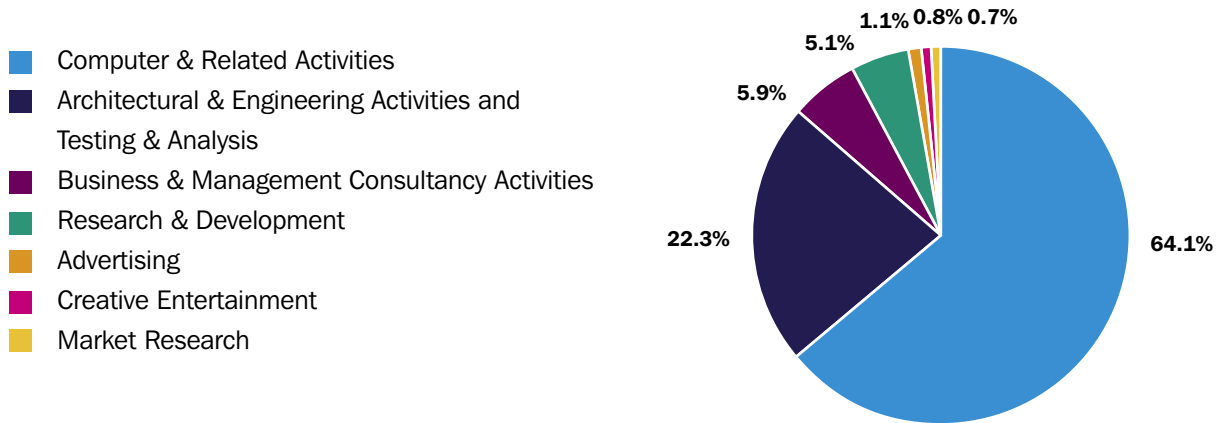
**EXPORTS**

The growing importance of business services is also reflected in export data. The recently introduced experimental Exporting Northern Ireland Services study provides, for the first time, an estimate of the value of exporting services. The results of this pilot survey estimated that in 2003 those firms classified within the high export potential group, exported services valued at £126.4million.

On looking at the sectors contained within the high export group, the computer industry contributed the greatest amount to exports, and accounted for approximately 64.1% (£81.1million) of total services exported by the high potential group (as seen in Figure 4). Market research contributed the least (0.7%) to overall total exports in the group.

Proportion of exports made by industries within the tradable services group, 2003 (% of Total)

**Figure 4**



Source: Exporting Northern Ireland services Study (experimental) 2003, DETI

Overall those classified within business services i.e. all sectors excluding creative entertainment contributed 99.2% to total exports. Within business services it is the 'Other Business Services' sub category which includes the majority of tradable services i.e. market research, business management & consultancy, architectural & engineering, technical testing & analysis and advertising sub sectors which made up 30% of total exports. A further detailed analysis on the results of this survey can be found within Article 7 'Exporting Northern Ireland Services'.

#### **EMPLOYMENT**

The scale of Northern Ireland's under-development within business services is also reflected within employment. Northern Ireland has the second lowest proportion of total employment in business services out of the UK regions; Wales has the

lowest (9.1%) and London the highest (24.3%). However, Northern Ireland has moved from being the lowest region in 1995 to the second lowest in 2005 with the proportion of Northern Ireland's workforce employed within business services, increasing from 5.6% in 1995 to 9.6% in 2005.

Overall, the sector represents a significantly smaller share of total employment relative to the UK. Currently only 9.6% of total employment is attributable to business services in Northern Ireland compared to 16.0% in the UK overall. In terms of the sub sectors that make up business services; other business services accounts for 7.5% of total employment which is 4.0 percentage points less than the UK. Northern Ireland is also 1.0 percentage point below the UK in computer and related activities and 0.9 percentage points below the UK in real estate as shown in Table 2

Proportions of total employee jobs in Business Services

**Table 2**

SECTOR	PROPORTION OF EMPLOYEE JOBS IN BUSINESS SERVICES OUT OF TOTAL EMPLOYMENT (%) NI	PROPORTION OF EMPLOYEE JOBS IN BUSINESS SERVICES OUT OF TOTAL EMPLOYMENT (%) UK
Real Estate Activities	0.7	1.6
Renting of Machinery & Equipment	0.3	0.6
Computer & Related Activities	0.9	1.9
Research & Development	0.2	0.4
Other Business Services	7.5	11.5
Total Business Services	9.6	16.0

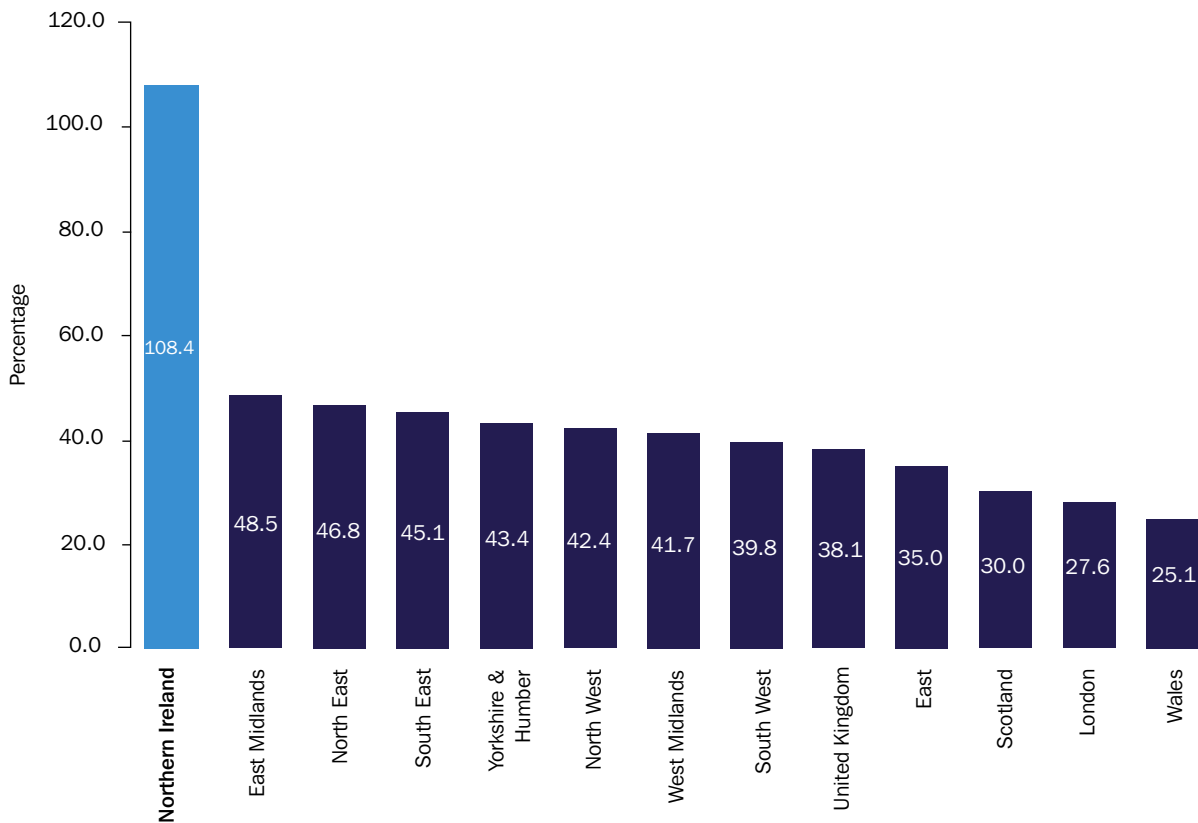
Source: Quarterly Employment Survey, DETI

Note: Figures are for September of each year

The SIC classifications used in the definition of Private Services contain mainly private sector activity; however some public sector activity may be included

Business Services employment growth by UK region (1995-2005)

**Figure 5**



Source: Quarterly employment survey, DETI and employee jobs figures, ONS

Note: Figures are for September of each year

Despite Northern Ireland having a low proportion of its employment within business services, growth in Northern Ireland business services over the decade was the strongest of all the UK regions as highlighted in Figure 5. Northern Ireland's business services increased by 108.4% over the decade which is more than double the growth rate of the next best performing region - the East Midlands (+48.5%); while Wales recorded the slowest growth in business services (+25.4%) of the UK regions. All the regions with the exception of Scotland and Wales followed a similar pattern, whereby growth in private services employment was largely a result of strong growth within the business services sector. Overall the UK average growth in business services employment was 38.1% which is 70.3 percentage points below Northern Ireland's business services growth over the decade. However it is recognised that Northern Ireland has started from a much lower

base and is still under-represented in terms of business sector employment.

Table 3 shows that within Northern Ireland, growth within the business services sub sectors was largely fuelled by increasing employment in the 'other business services' category where 26,950 additional jobs were created in the past decade. The 'other business services sector' is the largest contributor to total business services employment accounting for 77.9% of all business services. This classification includes market research, consultancy, architecture, and advertising services, which are notably higher value added sectors. A noticeable growth area under business services has been computer services, where employment increased by 351.4% (4,850) over the period. The importance of this growth is underlined by the fact that the computer & related activities sub sector contains high-salaried

### Business Services employee jobs

**Table 3**

SECTOR	EMPLOYMENT 2005	PROPORTION OF TOTAL BUSINESS SERVICES (%) 2005	CHANGE IN EMPLOYMENT 1995 - 2005 (%)
Real Estate Activities	4,730	7.1%	66.5%
Renting of Machinery & Equipment	2,090	3.1%	39.3%
Computer & Related Activities	6,230	9.4%	351.4%
Research & Development	1,680	2.5%	27.3%
Other Business Services	51,870	77.9%	108.1%
Total Business Services	66,590	100.0%	108.4%
Total Private Services	301,790		44.7%

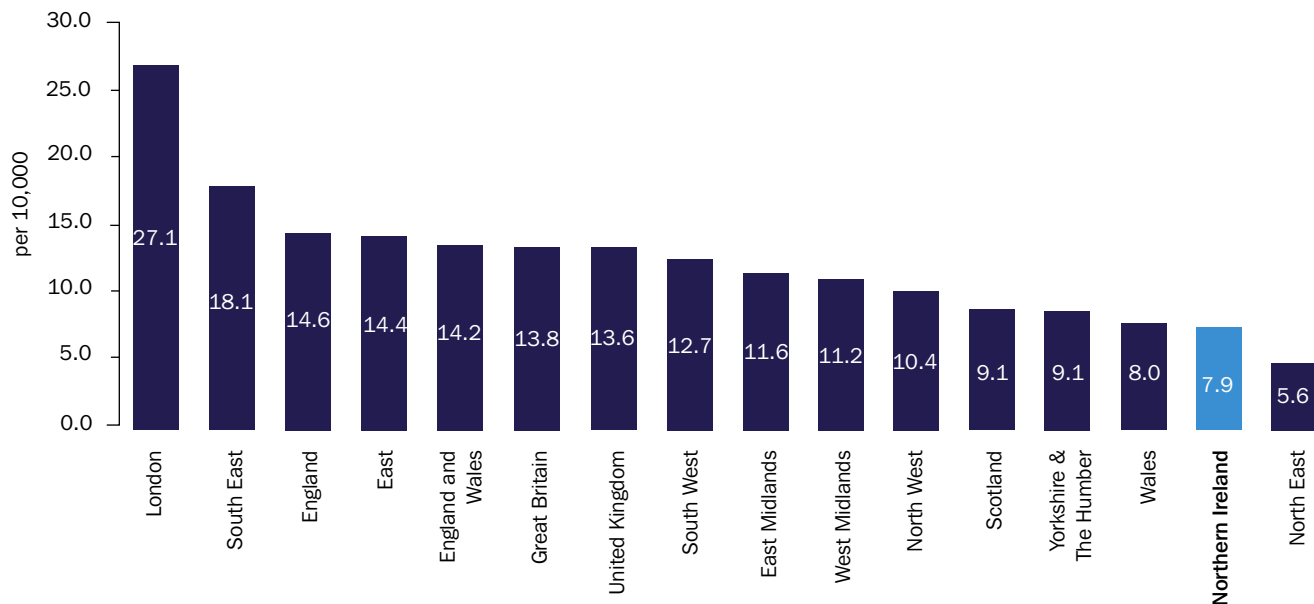
Source: Quarterly Employment Survey, DETI

Note: Figures are for September of each year and may not sum due to rounding.

The SIC classifications used in the definition of Private Services contain mainly private sector activity; however some public sector activity may be included

VAT registrations per 10,000 adults in the Business Services sector (2004).

**Figure 6**



Source: SBS, Vat Registrations and de-registrations

employment. The average mean gross weekly earnings within this sector is almost one third higher (31.1%) than the Northern Ireland average. The research & development (R&D) sector recorded the lowest rate of growth over the period (+27.3%) creating just 360 jobs over the decade. It is clear that the business services sector contains a number of high wage, high value added and tradable sectors and is a valuable sector in terms of its ability to strengthen Northern Ireland's economic development and will thus contribute most to the future growth of the Northern Ireland economy.

### **ENTERPRISE AND INVESTMENT**

Although, Northern Ireland is under-represented in business services (in particular the 'other business services' sub sector) it is noted that the sector accounts for an increasing share of

business starts. The proportion of business start-ups in business services in Northern Ireland increased from 17.5% in 1994 to 28.0% in 2004 of total VAT registrations. Despite this increasing representation, at 7.9 registrations per 10,000 adults, Northern Ireland has the second lowest rate of new company formation amongst all the UK regions and less than half the rate of the UK average (18.0), within this sector. The North East has the lowest rate of business services company formation as illustrated in Figure 6.

The growing importance of business services is also reflected within Invest Northern Ireland's support for inward investment. There has been a distinct change in the emphasis of Invest Northern Ireland Foreign Direct Investment (FDI) support away from manufacturing to services over the past decade. Services now account for more than

half (52%) of total assistance in 2004/05 as compared with just 5% a decade ago. In contrast manufacturing makes up 48% of total assistance in 2004/05 compared to 95% a decade ago. This trend is expected to continue.

## **CONCLUSION**

As outlined in the 'Economic Vision' for Northern Ireland, the private sector (especially private sector services) is under-developed in Northern Ireland, when compared with all other UK regions, which leads to an over reliance on the public sector and a constraint on private sector growth. In light of a declining manufacturing sector, it is vital for Northern Ireland's future economic prosperity that high value added, export intensive sectors such as tradable services are developed. The expansion of the business services sector which contains a high number of such tradable services will be an important driver of private sector growth.

Overall, Northern Ireland is under-developed in terms of private services in comparison with the UK & the UK regions, and most significantly in the businesses services sector - with the exception

of Wales. It is also apparent that the 'other business services' sub sector also accounts for a very small proportion of total employment in Northern Ireland. This is worrying as this sub sector contains the majority of activities that have the greatest export potential and have the highest value added.

While challenges remain, Northern Ireland has witnessed significant improvements over the last decade with employment and output (GVA) growth within business services outstripping the UK & its regions. The increasing number of business starts and inward investment within the business services sector offers further grounds for optimism.

In terms of economic development and wealth creation the business services sector will be key to growth, in particular activities within the 'other business services' sub sector that are high value added, highly skilled and tradable. As such this sector has the potential to make a significant contribution to the future growth of the Northern Ireland economy.

<sup>1</sup> Regional figures are not available

# Article 30: Future of the Services Sector: Policy Developments

Mike Maxwell - Policy Evaluation and Development Unit, Department of Enterprise, Trade and Investment

## INTRODUCTION

Regional Forecasts Ltd (RFL), and the former Northern Ireland Economic Research Centre (NIERC), were commissioned by DETI to undertake research into the future of private services in Northern Ireland. The research, and DETI's policy response, were published in December 2005. This article summarises the research findings and the policy response, and outlines some of the research and policy developments which have subsequently taken place.

## THE RFL/NIERC RESEARCH

Commissioned in the context of the 2002-2005 DETI Corporate Plan the assessment of the role of private services in Northern Ireland over the next 10 years sought to identify/forecast where future expansion/development would occur, and where growth opportunities might exist in the sector.

Within this overall aim for the research four sub-objectives were identified, viz:

- comparison of private services development in Northern Ireland with that in the rest of the UK (and if possible other EU economies and the US) including contribution to the economy in terms of output, employment and Gross Value Added (GVA), and productivity;
- identification of sub-sectors currently under-developed in Northern Ireland;
- projection of future trends for private services in Northern Ireland, including 2013 forecasts for employment, output, GVA and productivity; and
- assessment of future implications for the Northern Ireland economy as a whole in terms of job quality and income levels.

In summary, the NIERC/RFL research revealed the following:

### • Comparison of Private Services development in Northern Ireland vis-à-vis other regions.

Private services remain greatly under-represented in the Northern Ireland economy (40% of full-time equivalent employment compared with 53% in GB and 34% GVA in Northern Ireland compared with 47% in GB).

### • Sub-sectors currently under-developed in NI.

The largest degree of under-representation in a single major sector is in Financial and Business Services sector; Northern Ireland has only half as many employees in this sector as the average for GB. Northern Ireland is not, however, unique in this context, as a number of other regions with low GVA per capita also have small private services sectors.

### • Projection of Future Trends

The overall forecast was for 53,000 additional jobs to be created by 2013 in private services in Northern Ireland, which is expected to account for most of the total of additional jobs in Northern Ireland over the period. A significant proportion of these will be in the financial and business services sector. Notwithstanding this growth, Northern Ireland will still be significantly under-represented in these activities in 10 years' time.

### • Future Implications for the NI Economy

The research concluded that there was considerable scope for Northern Ireland to develop larger specialisms in some of the private services sub-sectors, but that this would be difficult and would probably require some form of Government intervention.

## THE RFL/NIERC RECOMMENDATIONS

RFL/NIERC produced 13 recommendations for Government policy to reduce Northern Ireland's under-representation in a range of tradeable

services sectors in addition to software and network services, where the report acknowledged that Northern Ireland had well-developed sector strategies. The research report noted that future research was required on specific local sub-sectors where scope might exist for development. The recommendations included the establishment of a Professional Services Unit within Invest Northern Ireland to promote services sectors other than network services and software; and a number of other proposals aimed at boosting the tradeability of the local business and financial services sector. A summary of the recommendations is at Annex A.

#### **DETI POLICY RESPONSE**

The DETI policy response dealt with each recommendation in detail. Of particular significance was the decision by Invest Northern Ireland to establish the recommended Professional Services Unit to review the local business and financial sub-sectors identified in the report, and to determine more accurately growth opportunities, and associated resource allocation. Progress on this activity is reported below. A full copy of the policy response can be accessed at [www.detingov.uk](http://www.detingov.uk)

The publication of the private services report and policy response also coincided with the publication of the DETI Exporting Northern Ireland Services (ENIS) Study. This experimental survey provided for the first time estimates of Northern Ireland's international trade in services (previously only estimates of manufacturing were available). The main value of the survey was that it provided an independent base against which performance could be benchmarked in the export of services internationally vis-à-vis other regions, and help the setting of appropriate targets for improving performance in this area. Article 7 in this bulletin looks at the results of the survey in greater detail.

#### **RECENT POLICY DEVELOPMENTS IN THE SERVICES SECTOR**

The RFL/NIERC report identified a number of private services sub-sectors which appeared to offer potential for growth. These comprised:

- retail
- transport
- financial services
- business services (computer services, legal and accounting services, market research, recruitment and consultancy activities, architectural engineering, industrial cleaning, packaging activities, technical testing and analysis and real estate)
- “other” services (waste disposal, entertainment, sports and culture, charities, other services).

The Invest Northern Ireland Professional Services Unit conducted further research into these sectors, both in the form of desk research and in consultation with appropriate stakeholders. A focus on export potential removed a number of the more traditional services sectors, e.g. retail, and concentrated research on added value services which could deliver high value added jobs and export sales. Information used to select the sub-sectors with greatest potential for growth included:

- a review of available published data to determine market size, segmentation, share and forecasts;
- NI, UK, RoI, European and global data;
- data available from relevant trade associations; and
- individual consultations to build sectoral data.

On the basis of this research, and using a number of “environmental” factors such as Northern Ireland's existing strength and capacity in the sub-sector and skills requirement and availability, Invest Northern Ireland identified a small number

of 'niche' sub-sectors on which they would concentrate their activity. Initial sectors proposed included:

- professional services, especially construction and engineering;
- IT services;
- healthcare (private services); and
- education services

These niche areas are considered to align well with Northern Ireland's distinctive and self-sustaining competitive advantages.

The next stage will be to form four Working Groups to explore how these identified niche areas can be strengthened. The role of the Working Groups will be to study impediments to the growth of these sectors, and to recommend appropriate strategies to develop and exploit perceived advantages that Northern Ireland may have in these areas. In parallel to the activities of the Working Groups further research and consultation will be undertaken into other sectors and sub-sectors identified as presenting exploitable opportunities from which additional niche areas may emerge.

## **CONCLUSION**

In summary, DETI/Invest Northern Ireland recognise the changing structure of the Northern Ireland economy with the increased contribution of the private tradeable services sector to creating employment and wealth which the RFL/NIERC the report highlighted. DETI/Invest Northern Ireland is responding to this opportunity through an increased focus on identifying niche sub-sectors and targeting programmes on private services companies, both at an individual level and through trade and industry bodies. Specific targets will also be set aimed at increasing the level of exports from the Services sector. In this context, the initial results from the experimental ENIS

study has helped to create a benchmark against which progress can be measured, and appropriate targets set.

## **ANNEX A**

### **RFL/NIERC RECOMMENDATIONS**

Government should promote privatisation of appropriate organisations still in the public sector, and identify those public services which could be devolved to local companies with ability and ambition to export these services.

- Government should determine the nature and extent of demand for financial and business services, including potential to replace external suppliers of sophisticated services.
- Government should identify potential export markets for local financial and business services in GB and the RoI.
- Government's Procurement Directorate should revise its regulatory framework to make it easier for small businesses in the services sector to win Government contracts.
- Government should lobby for relaxation of EU state aid rules to ensure that service sector firms are not disadvantaged in terms of assistance per job.
- Invest Northern Ireland should clarify eligibility for assistance to the Service sector.
- Invest Northern Ireland should establish a Professional Services Unit.
- Invest Northern Ireland should create a specific programme of financial support for the Services sector.
- Invest Northern Ireland should introduce a scheme to entice potential entrepreneurs with relevant experience to return to Northern Ireland.
- Invest Northern Ireland should establish a specialised E-commerce Unit.
- Invest Northern Ireland should provide support for R&D in the professional and creative services.