

The background is a solid blue color with a series of concentric, semi-transparent circles and cylinders that create a sense of depth and movement. The circles are centered on the right side of the image, and the cylinders are positioned in front of them, appearing to rise from the circles. The overall effect is a modern, minimalist design.

Competitiveness
(Including Productivity)

Competitiveness (Including Productivity)

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Article 6: Trade and Exports: Northern Ireland Manufacturing Businesses Competing Internationally

Nicola McEvoy - Statistics Research Branch - Department of Enterprise, Trade and Investment

The Manufacturing Sales and Exports Survey is conducted by Statistics Research Branch in the Department of Enterprise, Trade and Investment. Results from the survey clearly provide evidence of the importance of international customers to the Northern Ireland Manufacturing sector. Sales made by manufacturing businesses in Northern Ireland to international customers (exports) account for around a third of all manufacturing sales.

Whilst Great Britain (GB) is an extremely important destination for sales from Northern Ireland businesses, accounting for approximately 42.7% of all sales and representing the largest external market, this article will focus on the importance of exports to the Northern Ireland economy and the Manufacturing sub sectors which export their goods.

The value of exports has doubled in constant prices over the 10 year period 1994/95 to 2004/05. As a proportion of total sales exports have increased over the 10-year period from around a quarter

(25.2%) of sales in 1994/95 to its highest proportion in 2004/05 when just over a third (33.8%) of manufacturing sales were made to customers in international markets. External sales as a proportion of total sales, reached a peak in 2001/02 with almost four-fifths (78.8%) of all sales made by Northern Ireland manufacturing businesses destined for external markets.

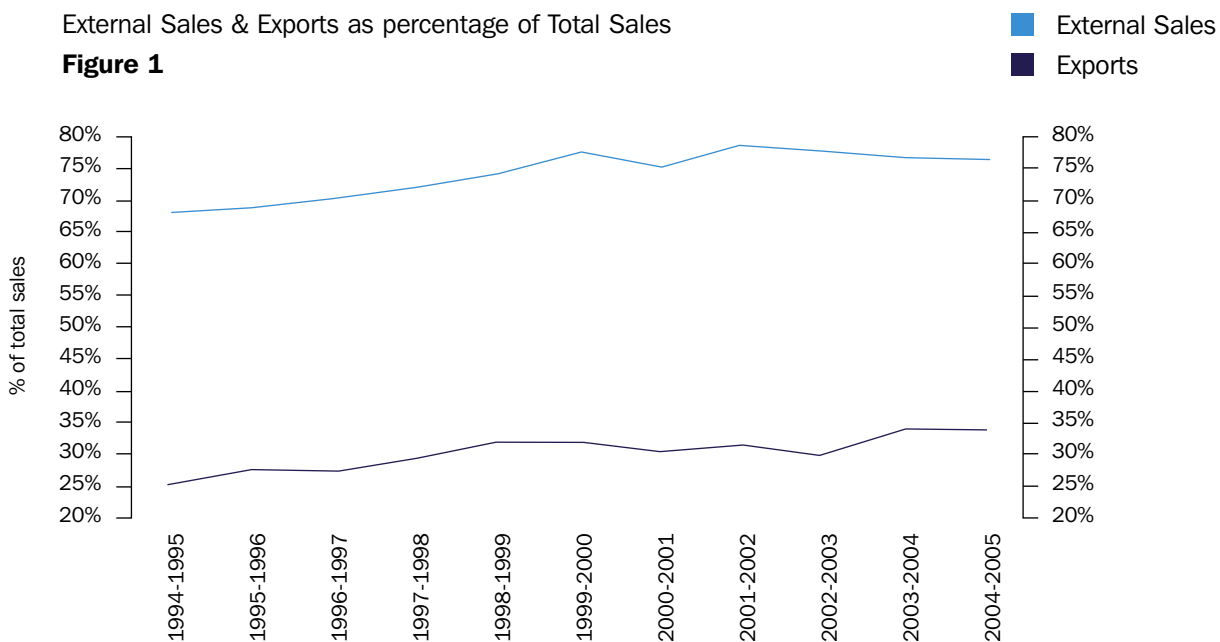
Table 1 and Figure 1, below, provide information on the Sales, External Sales and Exports made by Northern Ireland Manufacturing businesses over the last 10 years, 1994/95 -2004/05.

WHICH MANUFACTURING SUBSECTORS ARE DRIVING THE INCREASE IN EXPORTS?

Export sales account for almost a third of all sales made by manufacturing businesses in Northern Ireland. Such sales have more than doubled over the 10 year period (1994/95 to 2004/05) but which manufacturing industries contribute to this increasing level of exports?

External Sales & Exports as percentage of Total Sales

Figure 1



Source: Northern Ireland Manufacturing Sales and Exports Survey, DETI

Total Sales, External Sales and Exports made by Northern Ireland Manufacturing Businesses
1994-95 to 2004-05 (constant prices)

Table 1

	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05
Total Sales	£8,911m (100%)	£9,407 (100%)	£9,808 (100%)	£10,150 (100%)	£10,602 (100%)	£12,614 (100%)	£13,456 (100%)	£13,198 (100%)	£12,936 (100%)	£13,312 (100%)	£13,298 (100%)
External Sales	£6,040m (67.8%)	£6,461 (68.7%)	£6,887 (70.2%)	£7,302 (71.9%)	£7,843 (74.0%)	£9,757 (77.4%)	£10,101 (75.1%)	£10,406 (78.8%)	£10,077 (77.9%)	£10,217 (76.8%)	£10,182 (76.6%)
Exports	£2,246m (25.2%)	£2,552m (27.1%)	£2,671m (27.2%)	£2,929m (28.9%)	£3,366m (31.7%)	£3,974m (31.5%)	£4,050m (30.1%)	£4,063m (30.8%)	£3,783m (29.2%)	£4,430m (33.3%)	£4,495m (33.8%)

Source: Northern Ireland Manufacturing Sales and Exports Survey - DETI

Table 2, shows the level of exports for each of the Manufacturing subsectors over the last decade. Information is provided in constant price terms to remove the effects of inflation.

The level of exports made by manufacturing companies has changed somewhat over the last decade in terms of the sectoral breakdown of exports. The most recent estimates from the Manufacturing Sales and Export Survey show manufacturing exports (2004/05) to be highest within the Manufacture of Electrical and Optical Equipment sector which accounts for just over a fifth (21.4% or £963 million) of total NI exports (£4.5 billion). In contrast, 10 years ago, the Electrical and Optical Equipment sector accounted for just 13.0% (£292 million) of total exports (£2.2 billion).

Ten years ago, the Textiles and Leather sector accounted for almost a tenth (9.5%) of manufacturing exports from Northern Ireland which equated to a ranking of six in 1994/95. In contrast, the sector now accounts for just 3.3% of total exports and has a rank position of ninth in 2004/05.

Table 3, provides information on the changes in exports in constant price terms over a range of time periods.

The Electrical and Optical Equipment sector has greatly contributed to the two-fold increase in the value of Northern Ireland manufacturing exports with such exports increasing by 229.9% or £671m over the period. Other key Manufacturing subsectors driving the increase include: Transport Equipment (135.4%); Rubber and Plastics (200.9%) and Food, Drink and Tobacco (49.2%) manufacturers who have collectively increased sales by £882m over the period (£347m; £280m and £255m respectively). The largest percentage increases over the 10 year period have been in the Other Manufacturing (552.9%) and Basic Metals (377.9%) sectors with export sales now worth £178m and £247m respectively. The biggest losers over the ten year period have been the Textiles and Leather manufacturers who are estimated to have experienced a decline in sales of 31.0% or £66m.

Over the five year period, 1999/00 to 2004/05, a large decline in export sales is evident within the Transport Equipment sector where such sales have

Manufacturing subsector exports 1994/95 - 2004/05 (constant prices)

Table 2

Manufacturing subsector	1994-95 (£m)	1995-96 (£m)	1996-97 (£m)	1997-98 (£m)	1998-99 (£m)	1999-00 (£m)	2000-01 (£m)	2001-02 (£m)	2002-03 (£m)	2003-04 (£m)	2004-05 (£m)
Food, Drink & Tobacco	£519	£548	£486	£457	£507	£607	£620	£618	£659	£785	£774
Textiles & Leather	£213	£239	£236	£255	£245	£219	£214	£154	£177	£176	£147
Wood & Wood Products	£28	£29	£34	£41	£49	£71	£78	£65	£78	£90	£113
Paper & Printing	£73	£76	£95	£111	£112	£102	£106	£94	£113	£128	£89
Chemicals & Man-Made Fibres	£302	£335	£336	£320	£299	£292	£319	£332	£314	£339	£329
Rubber & Plastics	£139	£192	£194	£206	£241	£279	£270	£308	£238	£337	£420
Other Non-Metallic Mineral Products	£42	£43	£52	£57	£69	£83	£79	£101	£108	£129	£147
Basic Metals & Fabricated Metal Products	£52	£51	£83	£112	£140	£160	£206	£191	£162	£202	£247
Other Machinery & Equipment	£303	£345	£285	£282	£293	£289	£345	£392	£355	£416	£487
Electrical & Optical Equipment	£292	£360	£456	£510	£657	£863	£1,109	£1,199	£919	£1,028	£963
Transport Equipment	£256	£296	£374	£535	£708	£902	£598	£499	£559	£640	£603
Other Manufacturing Not Elsewhere Classified	£27	£38	£40	£45	£44	£107	£107	£110	£103	£160	£178
Total Manufacturing	£2,246	£2,552	£2,671	£2,929	£3,366	£3,974	£4,050	£4,063	£3,783	£4,430	£4,495

Source: Northern Ireland Manufacturing Sales and Export Survey, DETI

fallen by 33.1% or £299m over the period. Notable increases in export sales are reported in the Other Machinery and Equipment sector (£198m or 68.6%) and the Food, Drink and Tobacco sector (£167m or 27.5%).

However, a much lower level of growth has been evident over the most recent year (2003/04 to 2004/05). With overall exports increasing by just 1.5% over the year in real terms, compared to a

17.1% increase on the previous year (2002/03 to 2003/04). Declines in export sales have been estimated in a number of key sectors, such as, Electrical and Optical Equipment (-£65m), Paper and Printing (-£39m) and the Transport Equipment sector (-£36m).

Northern Ireland's export growth has been somewhat greater than that experienced in the UK as a whole. Figures produced by the Statistics

Manufacturing subsector exports, changes over 10 years, 5 years and 1 year (constant prices)

Table 3

MANUFACTURING SUBSECTOR	1994/95 TO 2004/05 (CHANGE OVER TEN YEARS)		1999/00 TO 2004/05 (CHANGE OVER FIVE YEARS)		2003/04 TO 2004/05 (CHANGE OVER ONE YEAR)	
	% CHANGE	ACTUAL CHANGE	% CHANGE	ACTUAL CHANGE	% CHANGE	ACTUAL CHANGE
Food, Drink & Tobacco	49.2%	£255m	27.5%	£167m	-1.4%	-£11m
Textiles & Leather	-31.0%	-£66m	-33.0%	-£72m	-16.7%	-£30m
Wood & Wood Products	306.6%	£85m	58.6%	£42m	25.6%	£23m
Paper & Printing	21.3%	£16m	-13.2%	-£13m	-30.6%	-£39m
Chemicals & Man-Made Fibres	8.7%	£26m	12.5%	£37m	-3.0%	-£10m
Rubber & Plastics	200.9%	£280m	50.4%	£141m	24.5%	£83m
Other Non-Metallic Mineral Products	251.2%	£105m	77.7%	£64m	14.3%	£18m
Basic Metals & Fabricated Metal Products	377.9%	£195m	54.3%	£87m	22.0%	£45m
Other Machinery & Equipment	60.7%	£184m	68.6%	£198m	17.1%	£71m
Electrical & Optical Equipment	229.9%	£671m	11.6%	£100m	-6.3%	-£65m
Transport Equipment	135.4%	£347m	-33.1%	-£299m	-5.7%	-£36m
Other Manufacturing Not Elsewhere Classified	552.9%	£151m	66.2%	£71m	11.2%	£18m
Total Manufacturing	100.2%	£2,249m	13.1%	£521m	1.5%	£65m

Source: Northern Ireland Manufacturing Sales and Export Survey, DETI

and Analysis of Trade Unit of HM Revenue and Customs (HMRC), provide estimates of the total value of exports in goods and although not completely comparable with the MSES, do give a broad indication of the level of exports within manufacturing, across the UK. HMRC figures show that UK exports of goods have risen by 13.9% over the 5 year period, 1999 to 2004 whilst the Northern Ireland rate of growth in exports has been approximately double that.

As Northern Ireland businesses continue to operate in a fiercely competitive global marketplace, results from the Manufacturing Sales and Export Survey (MSES) clearly show that Northern Ireland businesses are performing well and achieving a high level of exports and export growth, though there has been a slower rate of growth in the most recent year.

Article 7: Exporting Northern Ireland Services

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INTRODUCTION

The ability of businesses to compete internationally is recognised as vital to stimulating growth within an economy. The importance of exports, as an additional source of revenue, is evident within the Manufacturing sector, where around a third of industry sales are generated from sales to international customers (exports).

The increased importance of the Service sector has resulted in a greater desire for knowledge regarding the sector, and whilst comprehensive figures are available on the level of exports within the Manufacturing sector, until recently no comparable information existed for the Service sector.

At the end of 2005, Statistics Research Branch, DETI, published a short report on a new survey, the Exporting Northern Ireland Services (ENIS) Study, which has been introduced to further understand and estimate the value of exporting Northern Ireland services.

This article outlines some of the key results from the pilot study and provides information on the main areas of importance.

IMPORTANCE OF THE SERVICE SECTOR TO NORTHERN IRELAND ECONOMY

Over the last two decades, the dominance of the Manufacturing industry in the Northern Ireland economy has declined whilst the size of the Services industry has experienced continued growth. This shift is particularly apparent in the changing levels of employment across the two sectors. Estimates from the Quarterly Employment Survey show that Manufacturing employee jobs have decreased by approximately 19% over the last two decades whilst the Service sector has increased by around 62%.

The Service sector is also important in terms of revenue, estimates from the 2004 Northern Ireland Annual Business Inquiry estimate the sector to account for approximately 55.8% of total turnover and 57.7% of Gross Value Added¹ (GVA) in 2004. The level of GVA reported in the Service sector has increased by some 10.8% over the period 2003 to 2004 whilst a more modest increase of 3.0% is estimated within the Manufacturing sector, over the same period.

In recognition of the importance of the Service sector to the Northern Ireland economy, Regional Forecasts (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. This research, commissioned in the context of the 2002-2005 DETI Corporate Plan, sought to identify/forecast where future expansion/development would occur, and where growth opportunities might exist. Article 30 "Future of the Services Sector: Policy Developments", summarises the research findings and outlines some of the research and policy developments (including the Exporting Northern Ireland Services Study) which have subsequently taken place.

WHAT IS A SERVICE EXPORT AND WHY ARE SUCH EXPORTS SO IMPORTANT?

A company is described as exporting a service if they are paid for their services by a "non-resident" customer.

Advancements in technology and communications are such that certain services are becoming easier to export, for example, architectural design services can be provided by a small Northern Ireland company to almost any country in the world without any need for the architect to leave

their desk. The benefits of e-mail and other telecommunications pose massive opportunities to companies, allowing them to expand their business to markets across the world without the need for additional capital etc. in other countries. This is especially true in light of Northern Ireland's position as the leading broadband region in Europe with 100% broadband access. Companies such as MJM Group, which supplies goods and services to international clients, have benefited from these advancements in communications. Hugo Wilson, CEO, MJM Group, commented "It would have been impossible to have achieved our export growth without broadband internet access".

The Economic Vision for Northern Ireland clearly states the importance of export activity to ensure continued and sustained economic growth. The Vision states that the competitiveness of Northern Ireland companies can be linked to their confidence in looking to opportunities to trade in the global market place, achieving high levels of exports and strategic alliances.

The United Nations Conference on Trade and Development (UNCTAD) found that the presence or absence of sophisticated business and professional services to be a key differentiator between developed and developing countries.

To ensure continued growth within the economy, Service firms are being encouraged to look beyond the domestic economy. Some of the economic benefits of service exports, as noted by the International Trade Centre, include:

- Growth - by accessing export markets, speciality service firms can develop enough demand to grow and innovate;
- Reduced imports - if Northern Ireland

businesses can provide world-class services domestically, this reduces the likelihood that service inputs will need to be imported by local firms;

- Environmental benefits - service firms create "clean" jobs without the requirement of massive start-up capital;
- Reduced "brain drain" - service firms create jobs for skilled university graduates, thus helping to stem the brain drain.

WHICH INDUSTRIES IN NORTHERN IRELAND ARE MOST LIKELY TO EXPORT THEIR SERVICES?

Almost any industry has the ability to generate export revenues through the provision of a service; service exports are not limited to the Services industry. Companies classified outside the Services industry may also have the ability to trade in a service, for example, a manufacturing company may offer a design element as a service.

Due to the size of the Services industry and the ability of companies outside the industry to export, the measurement of activity is particularly complex. For these reasons, the Exporting Northern Ireland Services (ENIS) pilot study focused on a small group of industries, which based on previous research, were believed to have the highest potential to export. This group, deemed the "High Export Potential" Group, is made up of the following Standard Industrial Classification (SIC) codes:

- Computer & Related Activities (SIC 72);
- Research & Development (SIC 73);
- Business Management & Consultancy (SIC 74.14);
- Architectural & Engineering (SIC 74.2);
- Technical Testing & Analysis (SIC 74.3);
- Advertising (SIC 74.4);

- Creative Entertainment (SIC 92.1-92.3).

Comprehensive estimates of the value of exports made by companies within the “High Export Potential” Group are now available for 2003. Results for 2004 will be available in June 2006 and will provide further evidence of the performance of “High Export Potential” companies and will show whether growth has taken place over the year.

WHAT ARE THE LEVELS OF SERVICE EXPORTS IN NORTHERN IRELAND?

Results from the Exporting Northern Ireland Services (ENIS) study, collected via the International Trade in Services (ITIS) survey show that, in 2003, firms classified within the High Export Potential Group employing 10 or more people, exported services valued at

£126.4million. The Computer Industry contributed the highest level of exports, accounting for approximately two-thirds (64.1%) of the total services exported by the High Potential Group. Table 1, below, provides further information on the value of exports made by each of the categories within the High Export Potential Group.

Invest Northern Ireland client companies were key contributors to the overall value of exports in 2003. Such companies accounted for more than three-quarters (77.2% or £97.6 million) of the total exports made within the High Export Potential Group. Client companies were particularly dominant within the Research and Development and Computer and Related Activities industries, accounting for 98.0% and 95.3% of exports, respectively.

Value of Exports made by High Export Potential companies in 2003

Table 1

SECTOR	£ MILLION	% OF TOTAL
Computer & Related Activities	£81.1m	64.1%
Architectural & Engineering Activities and Technical Testing & Analysis ¹	£28.2m	22.3%
Business & Management Consultancy Activities	£7.5m	5.9%
Research & Development	£6.4m	5.1%
Advertising	£1.4m	1.1%
Creative Entertainment	£1.0m	0.8%
Market Research	£0.9m	0.7%
Total	£126.4m*	100%

¹These industries have been combined to avoid disclosure

*Figures may not add back to the totals due to rounding

Source: Exporting Northern Ireland Services 2003

FUTURE MEASUREMENT OF SERVICE EXPORTS

The 2003 pilot survey has shown that it is feasible to comprehensively measure the value of tradeable services for the High Export Potential Group of businesses, via the statutory ITIS survey. Exports in these sectors will continue to be measured on an annual basis and the value of exports measured for 2003 (£126.4 million) will act as a benchmark for future surveys. Results for the 2004 survey are due to be published in June 2006 and will provide information on the levels of growth over the year within the High Export Potential sector.

The challenge still remains to build upon the information now available and expand coverage in order that other sectors, outside the high potential group, may be accurately estimated. Plans to further develop the study include a series of initiatives whereby information collected in surveys, such as, the Northern Ireland Annual Business Inquiry and the Sales and Export Survey, will be used to monitor patterns and to identify companies which trade in services. Evidence of a substantial growth in new sectors will be used to develop the ITIS survey sample and information from the combined sources will be released via future reports.

CONCLUSION

The importance of the ENIS research and the requirement for information on the growth of

service exports is only likely to increase in future years. The NIERC/RFL research report on the "Future of Private Services in Northern Ireland" clearly set out the importance of Private Services to the Northern Ireland economy, stating that the future growth of the Northern Ireland economy lies in the development of the tradeable services sector. Recommendations made in this report included, working with sub-sectors within financial and business services to identify potential markets in GB and the ROI and establishing an Invest Northern Ireland Professional Services Unit. In 2004/05, 31% of companies participating in the 11 multi sector trade missions undertaken, were categorised as tradeable services. Evidence of the benefits arising from such trade missions are tangible, with a number of tradeable services companies having reported significant new business arising from their participation. The Professional Services Unit also puts a great emphasis on working alongside professional service companies and promoting the export of services.

The 2003 ENIS results are not only vital in stimulating the debate regarding service exports but also for monitoring future performance against. Future results will be crucial in steering government thinking on the direction which policy needs to move to ensure the growth of services and the capacity of Northern Ireland businesses to compete in a global marketplace.

NOTES

¹ Gross Value Added - the total value of business income once expenditure on external goods and services has been accounted for.

Article 8: Comparing Northern Ireland Productivity

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INTRODUCTION

This article examines the Northern Ireland position relative to the UK regions by broad industry sector and the ROI where possible using Regional Accounts based measures of Gross Value Added (GVA) per workforce job and workforce hour worked. The Government's long-term economic objective is to achieve high and stable rates of economic growth and employment as outlined in the Economic Vision for Northern Ireland. Increasing productivity is the driving force behind this, and the route to increased prosperity. Economic growth is driven by a combination of employment growth and productivity growth and this in turn means increasing both the value of goods and services as well as the efficiency with which they can be produced. The UK and Northern Ireland has successfully generated more employment and this has resulted in extremely low rates and levels of unemployment over the last decade. At November - January 2006 the Northern Ireland unemployment rate of 4.0% was below the UK average of 5.0%. The UK and UK regions have begun to make progress in narrowing the longstanding productivity gap with key competitors. Making the move to a more productive economy is a long-term process and when assessing productivity it is useful to look for changes in the underlying components of productivity growth, as well as examining the headline productivity figure. In addition to examining overall workforce jobs and hours worked, the article also considers sectoral productivity using hours worked measures produced as part of internal research carried out by DETI Statistics Research Branch.

MEASURING PRODUCTIVITY

Labour productivity can be measured as output per worker or alternatively as output

per workforce hour worked. Both methods will provide a measure of productivity but the hours version has advantages over the per worker measure. The hours measure is a better indicator as individuals work different work patterns in different countries and will be less affected by changes in employment composition. For example, if there is a move to increased part-time working, employment numbers could increase but the total hours worked in the economy may not alter. A per worker measure of productivity in this scenario would decrease and the per hour measure would accurately suggest that productivity had remained unchanged. This article examines Northern Ireland productivity in terms of both GVA per employed worker and hours worked in order to reflect both aspects and also refers to GDP for EU and ROI comparisons. The article will also focus on the GVA per job and per hour worked by broad sector groups for Northern Ireland, UK and UK regions as part of internal research carried out by DETI Statistics Research Branch.

HOW NI COMPARES

LABOUR PRODUCTIVITY IN EUROPE

Gross Domestic Product (GDP) per person employed is intended to give an overall impression of the productivity of national economies expressed in relation to the European Union (EU-25) average. If the index of a country is higher than 100, this country's level of GDP per person employed is higher than the EU average and vice versa. Basic figures for Europe from EUROSTAT are expressed in Purchasing Power Standards (PPS), i.e. a common currency that eliminates the differences in price levels between countries allowing meaningful comparisons of GDP between countries. Relative to EU 25, the labour productivity per person employed in the UK moved from a position of 99.8% in 1996 to 106.9% in

2004, and then to a forecast of 106.7% in 2005. In comparison, the Republic of Ireland (RoI) was 114.5% of EU 25 in 1996, and increases at a greater rate to 129.3% in 2005. This can be largely attributed to the RoI having a much greater rate of increase in GDP per worker than the UK over these years. However, it is not possible to compare regional performance using GDP on a Purchasing Power Parity (PPP) basis and ONS use Gross Value Added (GVA) based measures for illustrating productivity comparisons. GVA provides a measure of the value of all goods and services

produced less the value of any goods or services used in their creation and differs from GDP in that it excludes taxes on products such as Value Added Tax (VAT).

The most up to date data from both the Central Statistical Office (CSO), the Organisation for Economic Co-operation and Development (OECD) and the Office of National Statistics (ONS) indicate that at 2002 the UK GDP per employment was 86% of the RoI and Northern Ireland GVA per job** was 87% of the corresponding UK figure.

UK GDP per employment* as a percentage of the Republic of Ireland GDP per employment

Table 1

	1998	1999	2000	2001	2002
GDP per person in employment	86.8%	86.9%	92.6%	89.2%	85.7%

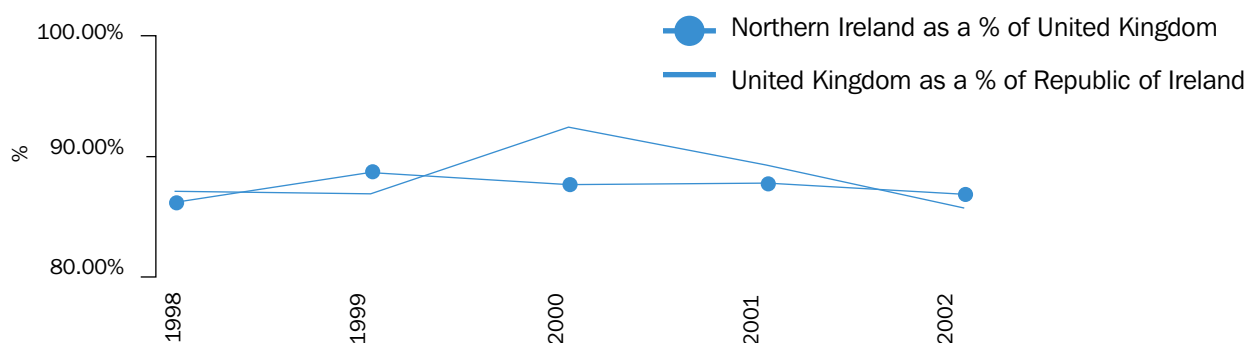
* Employment includes Employee jobs and the Self employed

** Jobs includes Employee jobs, Self-employed, Government Support Trainees and the Armed Forces

Source: Central Statistical Office (CSO) Cork, OECD and ONS

Northern Ireland GVA per Job as a percentage of UK GVA per job and UK GDP per employment as a percentage of the RoI GDP per employment over time

Figure 1



Source: OECD, ONS and Statistics Research Branch, Department of Enterprise, Trade and Investment DETI

Figure 1 shows that the UK GDP per employment as a percentage of the RoI has been decreasing since 2000 and stands at approximately 86% of the 2002 RoI level and that Northern Ireland GVA per Job as a percentage of the UK equivalent has remained fairly constant at approximately 87% over the same period.

PRODUCTIVITY MEASURES BY REGIONS

In 2004, for both GVA per filled job and GVA per hour worked, three regions were greater than the UK average. These were London, the East and the South East. The region with the lowest productivity

was Northern Ireland, with indices of 85.8 for GVA per filled job, where the UK average is indexed as 100. Table 2 shows that as a percentage of the UK, Northern Ireland GVA per filled job decreased from 89.2% in 1998 to 85.8% in 2004 relative to the UK as a whole. The lower percentages indicate that Northern Ireland is falling further behind the UK average, but not necessarily falling in absolute terms over the period. The largest decreases in GVA per filled job over the six year period to 2004 occurred in Wales (-4.0%) and Northern Ireland (-3.8%) whereas the largest increases occurred in the East Midlands (+3.0%) and West Midlands (+2.2%).

Gross Valued Added per filled job for all industries by UK region (UK = 100)

Table 2

	1998	1999	2000	2001	2002	2003	2004
UK	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North East	91.2†	92.9	93.6	94.9	92.5	91.7	92.2
North West	94.4†	93.5	93.9	93.7	92.0	91.7	91.4
Yorkshire and the Humber	92.3†	92.8	92.2	92.4	92.6	91.8	90.2
East Midlands	94.7†	93.3	94.7	96.5	97.3	97.3	97.5
West Midlands	92.6†	93.1	94.1	94.5	93.9	93.9	94.6
East	99.6†	97.8	97.9	98.2	97.4	99.5	100.9
London	123.0†	122.9	122.4	122.1	123.6	123.5	124.7
South East	103.4†	104.7	105.2	104.7	104.0	104.9	104.2
South West	92.8†	93.9	95.1	94.3	93.4	93.7	92.8
England	100.8†	100.9	101.0	101.3	101.3	101.3	101.3
Wales	93.4†	91.6	91.4	91.8	91.0	90.0	89.7
Scotland	98.2†	98.8	98.3	95.0	95.6	96.0	96.8
Northern Ireland	89.2†	88.4	88.4	88.0	87.0	86.2	85.8

† indicates that data are new or have been revised. The period marked is the earliest in the table to have been revised. For the first time the regional productivity tables GVA per filled job and GVA per hour worked have been calculated using the smoothed regional GVA figures as published in the Regional Accounts. First Release on 21 December 2005. Regional jobs and hours worked series have also been revised. This has led to revisions from the earliest periods
Source: ONS

Table 3 compares the GVA per hour worked in the UK regions over the period 1998-2004. Northern Ireland had the lowest GVA per hour worked of all the UK regions for each year from 1998 onwards. At 2004 the GVA per hour worked in Northern Ireland was 81.9% of that in the UK compared with 118.8% for London which was the highest of all the UK regions. The largest decreases in

GVA per hour worked over the six year period to 2004 occurred in Northern Ireland (-7.2%) and the North West (-2.7%) whereas the largest increases occurred in the East Midlands (+3.7%) and West Midlands (+3.3%). Only three regions, London, the South East and the East were greater than the UK average.

Gross Value Added per Workforce Hour worked for All Industries by UK Region (UK = 100)

Table 3

	1998	1999	2000	2001	2002	2003	2004
UK	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North East	94.6†	95.7	94.9	98.1	94.9	93.9	93.6
North West	95.1†	94.6	94.0	94.2	93.0	92.5	92.5
Yorkshire and the Humber	93.4†	94.1	94.1	94.7	93.0	92.2	91.4
East Midlands	95.0†	93.9	94.8	96.6	97.1	96.8	98.5
West Midlands	91.0†	93.6	93.5	94.5	93.7	93.8	94.0
East	100.6†	98.7	98.6	97.9	98.6	100.8	101.2
London	119.1†	116.6	117.6	116.1	117.5	116.7	118.8
South East	104.1†	105.4	106.3	106.0	105.2	107.2	105.5
South West	94.3†	95.8	98.1	96.5	95.9	97.0	95.1
England	100.8†	100.8	101.0	101.2	101.2	101.3	101.3
Wales	92.7†	93.0	93.3	92.3	92.0	90.6	90.7
Scotland	98.8†	99.2	98.2	95.8	96.4	96.8	98.1
Northern Ireland	88.3†	86.7	85.8	87.6	85.7	83.3	81.9

† indicates that data are new or have been revised. The period marked is the earliest in the table to have been revised.

For the first time the regional productivity tables GVA per filled job and GVA per hour worked have been calculated using the smoothed regional GVA figures as published in the Regional Accounts First Release on 21 December 2005. Regional jobs and hours worked series have also been revised.

This has led to revisions from the earliest periods

Source: ONS

Gross Value Added per Workforce Hour worked for Production Industries (Sections C-E) by UK Region (UK = 100)

Table 4

	1996	1997	1998	1999	2000	2001	2002	2003
North East	99.5	97.3	102.6	100.6	99.1	105.2	100.7	98.3
North West	105.4	105.3	100.9	100.3	99.6	103.1	101.4	99.8
Yorkshire & Humberside	95.8	95.1	93.0	90.5	93.9	94.6	97.7	95.5
East Midlands	93.7	93.5	90.9	89.2	88.2	89.6	92.0	92.3
West Midlands	83.9	83.1	83.6	83.2	83.7	86.4	86.3	85.1
East of England	98.1	101.1	98.7	100.2	97.3	93.7	94.7	95.9
London	119.1	123.2	124.6	127.3	124.3	122.2	128.7	127.9
South East	108.3	107.7	109.6	109.2	108.9	107.7	105.3	109.4
South West	97.6	95.5	101.7	104.5	109.1	99.2	98.7	102.6
Wales	100.4	104.1	102.2	101.5	102.4	98.1	98.7	94.3
Scotland	108.4	107.5	108.6	110.0	107.0	107.7	105.4	106.3
Northern Ireland	92.5	91.6	93.9	93.8	97.3	106.3	99.5	100.6

Source: Statistics Research Branch, Department of Enterprise, Trade and Investment

REGIONAL PRODUCTIVITY BY INDUSTRIAL SECTORS

Data relating to productivity measures by broad industrial sectors by region and sub sections in manufacturing for Northern Ireland are not National Statistics but result from analysis carried out as part of internal research by DETI -Statistics Research Branch. The regional productivity series produced by ONS does not provide constrained GVA per hour worked estimates below the headline figures. As such, the following tables differ from National statistics regional productivity series (Table 3) in that they are not constrained to the UK National estimates to allow for greater examination of industrial sectors. This information and the subsequent GVA job figures are experimental in nature.

At 2003 Northern Ireland had basically the same GVA per Workforce hour worked in the production industries (Mining & Quarrying, Manufacturing and Electricity, Gas and Water Supply) as the UK as a whole compared with London (127.9%) which was the highest of all the UK regions. This suggests there has been an improvement in the production industries over the period from 1996 with the GVA per Workforce hour worked in the production industries for Northern Ireland rising from 92.5% of the UK in 1996 to 100.6% in 2003 and peaking at 106.3% in 2001. Northern Ireland had the fifth highest GVA per Workforce hour worked in the production industries compared to a rank of 11th in 1996.

At 2003 Northern Ireland (78.0) had the lowest

Gross Value Added per Workforce Hour worked for Services (Section G-K and O) by UK Region (UK = 100)

Table 5

	1996	1997	1998	1999	2000	2001	2002	2003
North East	94.1	92.6	89.1	90.0	88.1	91.5	87.8	86.2
North West	90.3	91.4	89.0	90.2	88.7	89.7	86.5	85.5
Yorkshire & Humberside	88.1	87.7	87.3	90.0	90.5	91.7	88.6	89.2
East Midlands	92.7	90.5	91.8	91.0	92.3	93.9	92.2	90.7
West Midlands	86.8	88.7	87.6	91.1	90.7	92.5	90.9	91.7
East of England	112.1	109.9	111.6	114.4	113.4	114.0	114.9	112.9
London	112.5	111.7	110.4	106.2	105.5	104.5	110.6	112.2
South East	111.6	112.3	118.2	116.0	117.6	116.7	113.1	115.1
South West	91.6	92.8	91.1	92.0	94.5	93.5	93.8	93.3
Wales	91.1	89.1	88.6	91.0	88.8	88.2	91.4	88.1
Scotland	94.4	94.2	92.7	92.8	93.1	89.9	91.3	93.0
Northern Ireland	88.2	91.4	86.5	85.0	81.8	86.3	83.7	78.0

Source: Statistics Research Branch, Department of Enterprise, Trade and Investment, Northern Ireland and ONS

GVA per Workforce hour worked in the service sector industry of all the UK regions and was 37 percentage points below the South East (115.1) which had the highest GVA per Workforce hour worked in the service sector industry of all the regions. The South East, East of England and London held the top three spots in terms of GVA per workforce hour worked in the service sector of all the UK regions. The Northern Ireland GVA per workforce hour worked in the service sector has decreased from 88.2 in 1996 to 78.0 in 2003 and shows the largest change of all the UK regions. The North East decreased by 8 percentage points and the West Midlands increased by the most 5 percentage points over the same period.

total workforce hours over time is outstripping that in the UK from around 2001 onwards. Northern Ireland is working longer hours over time compared to the UK average but the overall productivity of GVA per Workforce hour worked still remains below the UK average and is actually decreasing relative to the UK for each year from 2001 onwards.

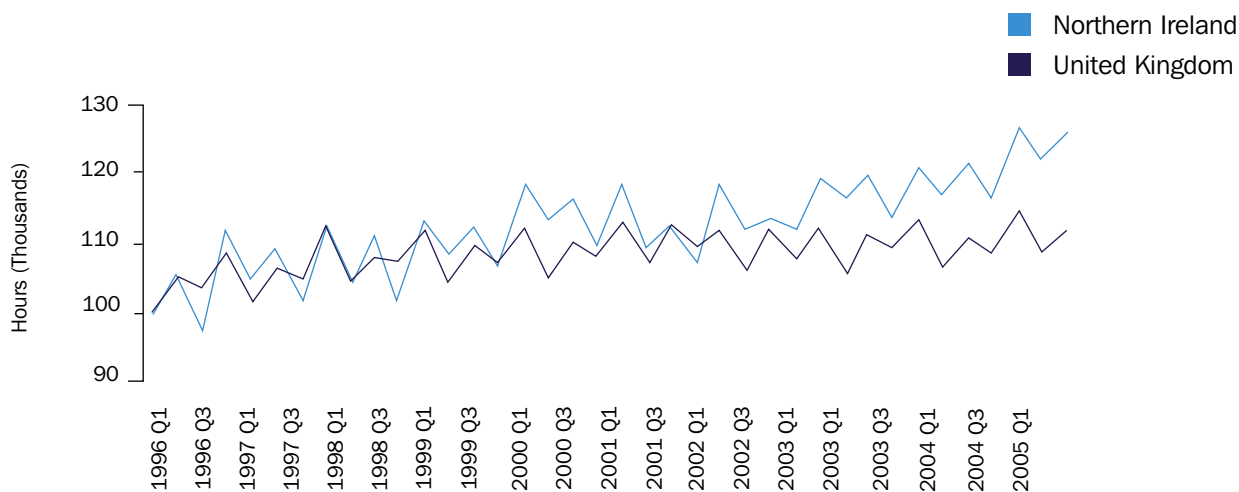
NI PRODUCTIVITY BY BROAD INDUSTRIAL SECTION BETWEEN 1996 AND 2003

The next section looks at GVA per workforce job as it lends it self to disaggregation down to the broad industrial sections and the sub section levels within manufacturing.

Figure 2 shows that the growth in Northern Ireland As can be seen from Table 6, the total GVA in

Total Workforce Hours (All Sectors) for Northern Ireland and UK over time (Q1 1996=100)

Figure 2



Source:ONS

Northern Ireland Headline Gross Value Added by industry groups, current basic prices 1996 - 2003

Table 6 (Millions)

	ALL SECTORS	MANUFACTURING	SERVICES	OTHER CLASSES
1996	15,413	3,117	10,290	2,256
1997	16,283	3,351	11,011	2,158
1998	17,274	3,524	11,800	2,230
1999	18,077	3,704	12,498	2,137
2000	18,918	3,810	13,242	2,199
2001	19,817	3,820	14,032	2,311
2002	20,825	3,728	15,022	2,519
2003	21,952	3,713	16,038	2,715
Change				
1996-2003	42.4%	19.1%	55.9%	20.3%

Other classes incorporates Agriculture, hunting, forestry & fishing, mining and quarrying, electricity gas and water supply, construction and private households employing staff.

Source: Statistics Research Branch, Department of Enterprise, Trade and Investment, Northern Ireland and ONS

Northern Ireland Workforce Jobs¹ by industry groups, 1996 - 2003

Table 7

	ALL SECTORS	MANUFACTURING	SERVICES	OTHER CLASSES
1996	719,300	113,400	505,200	100,700
1997	736,500	117,600	517,600	101,300
1998	742,000	118,700	523,100	100,300
1999	758,500	115,600	538,300	104,500
2000	771,400	110,800	553,400	107,200
2001	779,500	108,100	564,700	106,700
2002	789,000	105,300	573,100	110,600
2003	802,900	98,700	590,600	113,600
Change				
1996-2003	11.6%	-13.0%	16.9%	12.9%

¹ Workforce jobs are calculated by summing employee jobs, self-employment jobs from the Labour Force Survey, HM Forces and government supported trainees and are based on Annual averages

Source: Statistics Research Branch, Department of Enterprise, Trade and Investment

Northern Ireland Gross Value Added per Workforce Jobs by industry groups, 1996 - 2003

Table 8

	ALL SECTORS (£)	MANUFACTURING (£)	SERVICES (£)	OTHER CLASSES (£)
1996	21,429	27,487	20,368	22,408
1997	22,108	28,489	21,272	21,307
1998	23,280	29,695	22,559	22,239
1999	23,834	32,029	23,217	20,450
2000	24,526	34,383	23,930	20,520
2001	25,423	35,329	24,849	21,661
2002	26,394	35,413	26,210	22,773
2003	27,340	37,631	27,154	23,894
Change				
1996-2003	27.6%	36.9%	33.3%	6.7%

Source: Statistics Research Branch, Department of Enterprise, Trade and Investment

Northern Ireland has increased by 42.4% between 1996 and 2003.

The composition of the Northern Ireland GVA has changed over the period with Services increasing from 67% of the economy in 1996 to 73% in 2003, manufacturing falling from 20% to 17% and Other Classes also falling from 15% to 12% over the same period.

Table 7 illustrates both the growth and the changing profile of employment in Northern Ireland since 1996. The total number of workforce jobs has increased by 83,600 between 1996 and 2003 representing an increase of 11.6%. Over the same period, workforce jobs in the service sector increased to 590,600, an increase of nearly 17% whereas workforce jobs in the manufacturing sector decreased by 14,700 (-13.0%). The increase in employment in the service sector particularly in female and part-time jobs is an important feature of the Northern Ireland economy.

The annual data for GVA by broad industrial sectors shown in Table 6 is divided by the number of workforce jobs in each of the three broad industrial sectors including the overall sector in the relevant year shown in Table 7. This procedure produces a series of GVA per workforce job in each of the three broad sectors for the years 1996 through to 2003 and is shown in Table 8. The overall GVA per workforce job increased in real terms by just over 27% between 1996 and 2003. This indicates an average productivity growth across the Northern Ireland economy of more than 3.5% annually over the seven year period. The increase in productivity gains in the manufacturing sector mainly reflects the decreasing workforce job level rather than rising net output in the sector, although the GVA in manufacturing has increased

by 19% between 1996 and 2003. Furthermore, the increase in the productivity level for the other classes has remained quite low over the same period.

Table 9 disaggregates the contribution of changes in workforce jobs and changes in GVA per workforce job to productivity growth in each of the broad industrial sectors for the years since 1996. Table 9 shows that GVA in Manufacturing increased by 36.9% between 1996 and 2003. However, the number of workforce jobs in the sector declined continuously from 1998 and by 13% between 1996 and 2003. As a result, by 2003 the manufacturing sector in Northern Ireland was producing 119.1% of its 1996 level of GVA with just 87.0% of the 1996 workforce jobs.

Hence, productivity increased by 36.9% over the seven year period with the fall in the numbers of workforce jobs employed in the manufacturing sector being the main reason for the recorded productivity gain.

In the service sector, GVA increased by 55.9% between 1996 and 2003. However, the workforce jobs required to generate this GVA increase rose by 16.9%. As a result, the GVA per workforce job increased by 33.3% over the period and this is equivalent to a rate of productivity growth of 4.2% per annum. The service sector includes wholesale, retail, distribution, transport, communication, financial services, public administration, defence and health and education. Employment expansion has been fastest in the service sector and this has correlated with a high productivity growth compared with the jobs decline in manufacturing. However, the highest productivity growth has occurred in manufacturing where there has been an employment retraction. Overall, GVA has increased by 42.4% while employment has

Contributors to Northern Ireland Productivity Growth by Sector, 1996 - 2003

Table 9

	ALL SECTORS	MANUFACTURING	SERVICES	OTHER CLASSES
GVA growth	42.4%	19.1%	55.9%	20.3%
Jobs Growth	11.6%	-13.0%	16.9%	12.9%
Productivity Gain	27.6%	36.9%	33.3%	6.7%

Source: Statistics Research Branch, Department of Enterprise, Trade and Investment, Northern Ireland and ONS

Northern Ireland Gross Value Added per Workforce Job (£) for Manufacturing and Manufacturing Subsections (DA - DM) ranked by Contribution to Total Manufacturing GVA at 2003

Table 10

	1998	1999	2000	2001	2002	2003
D: Manufacturing	29,695	32,029	34,383	35,329	35,413	37,631
DA: Manufacture of Food Products; Beverage and Tobacco	42,401	47,016	50,325	51,525	48,442	48,598
DL: Manufacture of Electrical and Optical Equipment	29,362	36,360	37,269	36,736	38,118	40,334
DM: Manufacture of Transport Equipment	30,913	32,568	34,163	33,116	32,987	34,806
DK: Manufacture of Machinery and equipments not elsewhere classified	27,459	26,113	28,859	31,466	35,185	38,860
DE: Manufacture of Pulp, Paper and Paper Products Publishing and Printing	33,237	34,969	38,677	38,349	38,600	41,589
DH: Manufacture of Rubber and Plastic Products	25,521	25,781	27,716	29,055	30,214	31,111
DG: Manufacture of Chemicals, Chemical Products and Man-made Fibre	58,835	63,225	63,866	62,079	57,807	61,299
DB: Manufacture of Textiles and Textile Products	16,046	16,881	18,622	20,476	19,877	23,228
DI: Manufacture of other Non-metallic products	29,643	28,294	28,831	30,346	33,021	36,021
DJ: Manufacture of Basic Metals and Fabricated Metal Products	28,462	27,853	28,721	27,635	26,564	26,439
DN: Manufacture not elsewhere classified	24,040	24,362	26,742	28,061	28,019	28,534
DD: Manufacture of Wood and Wood Products	23,924	23,633	24,093	25,185	29,320	32,122
DF: Manufacture of Coke, Refined Petroleum and Nuclear Fuels	55,249	58,860	69,280	72,376	73,288	71,472
DC: Manufacture of Leather and Leather Products	13,311	15,586	21,275	19,180	20,086	22,407

Source: Statistics Research Branch, Department of Enterprise, Trade and Investment

increased by 11.6% between 1996 and 2003 with a corresponding increase in productivity of 27.6%. GVA per workforce job for each year from 1996 onwards is highest in the manufacturing sector. GVA per workforce job at 2003 in services is only 72% of the manufacturing sector and this has fallen from 74% in 1996.

SUB SECTION ANALYSIS OF NORTHERN IRELAND MANUFACTURING

Internal research conducted by DETI has indicated that the GVA increase of 5.4% and the workforce jobs decrease of 16.9% over the five year period to 2003 in manufacturing has resulted in a GVA per workforce job increase of nearly 27% over the same period. The GVA per workforce job in manufacturing at 2003 stands at nearly £38,000.

Table 10 shows the GVA per workforce job for the sub sections within manufacturing, DA to DM inclusive for the period 1998 to 2003. The top three GVA per workforce job sub sections within manufacturing make up nearly half of the overall Manufacturing GVA at 2003 whereas the top ten sub sections account for just over 93%.

DF: Manufacture of Coke, Refined Petroleum and Nuclear Fuels has the highest GVA per workforce job of any manufacturing sub section for each year from 1998 onwards but ranks the second lowest in terms of contribution to overall Manufacturing GVA at 2003 and the lowest contribution of workforce jobs. The most marked increase in productivity occurred in the Manufacture of Coke, Refined Petroleum and Nuclear Fuels which increased by nearly 30% over the five year period to 2003 and decreased by 2.5% over the year. The increase in GVA per workforce job in DB: Manufacture of Textiles and Textile Products over the five year period has been attributed to a proportionally high fall in jobs (60%) compared

with a GVA decreased of nearly 50%. This has resulted in a GVA per workforce job increase for Manufacture of Textiles and Textile Products of some 45% from 1998 to 2003. Despite this large increase the GVA per workforce job for DB has either been the lowest or second lowest GVA per workforce job of all the manufacturing sub sections for each year from 1998 onwards. All the manufacturing sub sections have increased over the five year period except for DJ: Manufacture of Basic Metals and Fabricated Metal Products which decreased by 7.1%. The top two largest changes in GVA per workforce job over the year and the five year period to 2003 occurred in DC: Manufacture of Leather and Leather Products and DB: Manufacture of Textiles and Textile Products.

CONCLUSION

Differences between Northern Ireland and UK productivity rates also reflect the higher growth rates in hours worked and employee jobs, as well as differences in the composition of the local economy compared to other countries and regions of the UK. Productivity in Northern Ireland has been decreasing each year from 2000 onwards in terms of GVA per filled job and from 2001 onwards in relation to GVA per workforce hour worked relative to the UK as a whole. Northern Ireland is continuing to work longer hours on average and the gap between Northern Ireland and UK total hours worked per quarter is widening from 2001 onwards. Despite the increased growth in total hours worked in Northern Ireland the productivity of Northern Ireland relative to the UK is continuing to fall indicating that the GVA in Northern Ireland has not grown in proportion to the rise in the total workforce hours worked in the region. Of the broad industrial sectors manufacturing had the largest GVA per job at 2003 and the largest growth (36.9%) since 1996. The increase in productivity

gains in the manufacturing sector mainly reflects the decreasing workforce job level rather than rising net output in the sector, although the GVA in manufacturing has increased by 19% between 1996 and 2003. Of the fourteen sub sections within manufacturing the top two most productive sub sections (DF & DG) rank second last and seventh highest respectively in terms of contribution to manufacturing GVA. The most productive sub section (DF) increased by nearly 30% over the five year period to 2003 but only accounted for 0.1% of both total manufacturing GVA and total manufacturing workforce jobs.

There are also a number of different ways of measuring productivity and DETI are continuing to carry out investigations into producing short term Productivity measures in the period in between regional accounts data being published using the Index of Services and Index Production series divided by an indexed workforce hours worked series and/or a workforce jobs series from 2001 onwards. Additional productivity articles within this Bulletin are Article 9 'The Productivity Gap in Northern Ireland' which provides an in-depth look at the labour productivity of all the UK regions and Article 2 by Graham Gudgin - Regional Forecasts Ltd which looks at reasons why productivity is low in Northern Ireland.

Article 9: The Productivity Gap in Northern Ireland

José Luis Iparraguirre D'Elia - Economic Research Institute of Northern Ireland (ERINI)

INTRODUCTION

In 2001, HM Treasury produced a paper on labour productivity at the regional level¹, which presented data on economic performance in 1999 for all the UK regions. Northern Ireland stood out as the poorest region with an output per head figure nearly 40 per cent below that of London, the richest region. The paper broke down output per person into four factors: labour productivity, working-age population share, labour market participation, and unemployment. The most relevant conclusion for Northern Ireland was that the region suffered from poor labour market performance in terms of both low participation rates and high unemployment, in addition to a low working-age population share; however, the main negative contributor to economic performance in Northern Ireland was labour productivity.

Insightful as it was, HM Treasury's publication only presented a snapshot of one point in time, rather than an analysis over a longer period. It showed how Northern Ireland and the other regions were performing in 1999, albeit not how they had been performing over the previous years. It did not discuss, therefore, whether there had been any improvements, whether there had been any major changes in the extent that each factor contributed to overall economic performance, or whether the gaps between richer and poorer regions had changed or not.

This article extends that study both in scope and method. It uses more up-to-date data (until 2004) and adopts a dynamic approach. It also uses five, rather than four, decomposition factors thus conveying more detailed analysis on regional productivity gaps. Furthermore, some comments on convergence as well as a typology of regional productivity patterns are provided.

Section 2 briefly discusses the decomposition method. Section 3 presents the main results. Section 4 classifies each region within the UK according to a typology of regional productivity patterns. Section 5 includes an overview of convergence across regions and Section 6 concludes.

DECOMPOSITION OF GAPS IN REGIONAL GROSS VALUE ADDED PER HEAD

Regional economic output is usually measured by Gross Value Added and a region's economic performance by GVA per person. Thus, comparing a region's GVA per head against, for example, the national average renders a useful indicator to benchmark how its economy is performing. The decomposition of regional GVA per head gaps seeks, therefore, to dissect the difference between a region's economic performance and that of the nation as a whole into its more relevant constituents –of which labour productivity is of paramount importance.

ERINI propose to decompose the regional gaps in GVA per head against the UK average into five elements: labour productivity (measured as output per hour worked); hours worked per person in employment; employed people as a percentage of labour force; economic activity rate (i.e. the ratio of the labour force to the population of working age); and the dependency rate (i.e. the ratio of the population of working age to total population – see equation 1).

Equation 1

$$\frac{\text{GVA}}{\text{Total Population}} = \frac{\text{GVA}}{\text{Hours worked}} \times \frac{\text{Hours worked}}{\text{Employed persons}} \times \frac{\text{Employed persons}}{\text{Labour Force}} \times \frac{\text{Labour Force}}{\text{Population of Working Age}} \times \frac{\text{Population of Working Age}}{\text{Total Population}}$$

Labour Productivity
Average Working Hours
Employment
Activity
Dependency

HM Treasury (2001) decomposed regional GVA per head into four components. ERINI's five-fold decomposition improves the Treasury's approach because it dissects the measure of labour productivity (i.e. output per worker) into output per hour worked and hours worked per person in employment. This refinement will prove important because ERNI found (as will be discussed later) that Northern Ireland lags behind the rest of the regions in output produced by hour, but its number of hours worked per person in employment lies above the UK average. Furthermore, the importance of output per hour worked has been waning while the number of hours per person in employment has been gaining significance.

Due to data availability, ERINI restrict the analysis to the period 1996-2004. Annex 1 briefly describes the data used in this paper.

MAIN RESULTS

Between 1989 and 2004, the residence-based GVA per head grew faster in Northern Ireland than in any other UK region. However, over this period two quite distinct sub-periods can be identified: between 1989 and 1997, Northern Ireland grew at a rate about 2 times higher than the second best performing region (i.e. the South East) reducing its gap against the UK average by over 7 percentage points. However, since 1997, it has significantly slowed down its economic performance and has failed to grow at the same rate as the UK as a

whole. Hence, the gap between Northern Ireland and the UK average was significantly reduced only over the first sub-period. For example, in 1989, Northern Ireland's GVA per head was 27 per cent lower than that the UK average and by 2004 the distance had been reduced to 21 per cent - and almost all this catching-up took place before 1997.

In other words, Northern Ireland's economic performance was satisfactory until 1997, but not successful enough since then for the region to significantly reduce its disparity against the UK average. To further illustrate this point, Table 1 presents the changes in regional GVA per head gaps against the UK average for the years 1989-2004, broken down into two sub-periods: 1989-1997 and 1997-2004.

If both Northern Ireland and the UK as a whole continued with the same economic performance as they experienced over the period 1989-2004, Northern Ireland's GVA per head would reach the UK average level in about 74 years. Moreover, it would take Northern Ireland 34 years to attain the UK average if both the region and the nation as a whole grew at the rate they did between 1989 and 1997. However, if only the economic performance between 1997 and 2004 were considered, Northern Ireland's GVA per head would increasingly lag behind the UK average level. Thus, the period under study in this article (i.e. 1996-2004) has been one of relative

Reduction (+) or Increase (-) in the Regional GVA (*) per head gap to the UK average 1989-2004

Table 1

REGION	1989-2004	1989-1997	1997-2004
Northern Ireland	+6.47%	+7.48%	-1.01%
South East	+5.29%	+3.87%	+1.42%
London	+1.12%	-0.09%	+1.22%
South West	-0.65%	+0.47%	-1.12%
East of England	-1.79%	-2.31%	+0.52%
Scotland	-2.15%	+1.19%	-3.34%
West Midlands	-2.35%	+0.23%	-2.57%
Yorkshire & the Humber	-2.76%	-1.21%	-1.55%
North West	-3.47%	-2.18%	-1.29%
East Midlands	-5.72%	-2.32%	-3.40%
North East	-5.73%	-3.57%	-2.16%
Wales	-7.53%	-4.30%	-3.23%

(*) Residence-based

Source: Office for National Statistics

stagnation in Northern Ireland's productivity gap relative to the UK average. Figure 1 presents the decomposition of the gaps between the GVA per head in each region and that of the UK as a whole in order to look in more detail to what might have contributed to that poor performance.

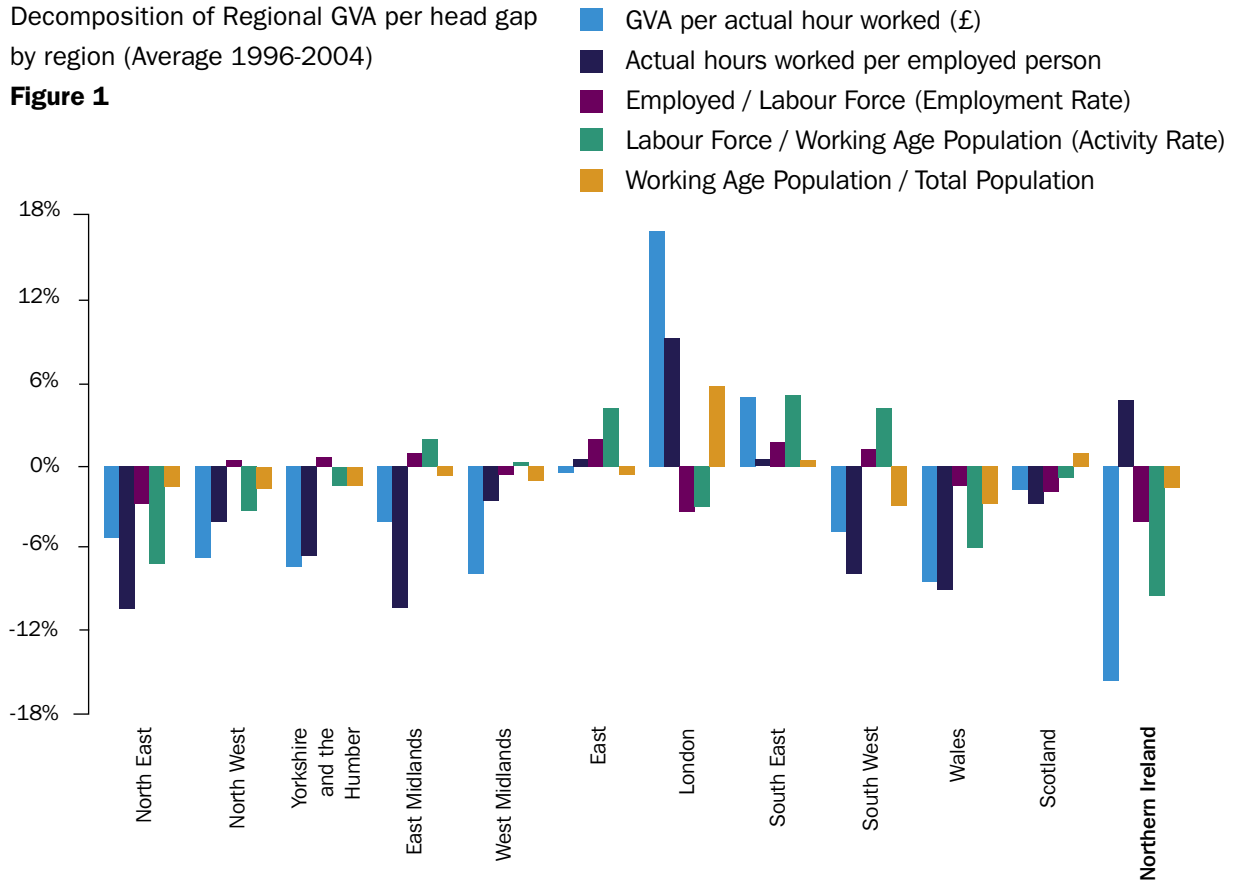
Over the years 1996-2004, Northern Ireland presents the third most negative average gap (after Wales and the North East) –around 24 per cent behind the UK average-, even though the region exhibits the most negative gap in labour productivity and activity rate. The only positive contribution comes from the relatively high number of hours worked. In other words, Northern Ireland

has the least economic active population and the least productive workforce, although those who are in employment work longer hours than most of the people in employment across the UK. In contrast, London presents the largest positive gap (25.5 per cent), which is more than double that of the region with the second most positive gap –i.e. the South East (12.4 per cent). London's difference is mainly explained by having the biggest positive gaps in labour productivity, hours worked and economic activity rates.

Thus, hourly labour productivity has been the main negative contributor to economic performance in Northern Ireland vis-à-vis the other UK regions and

Decomposition of Regional GVA per head gap by region (Average 1996-2004)

Figure 1



Source: Office for National Statistics

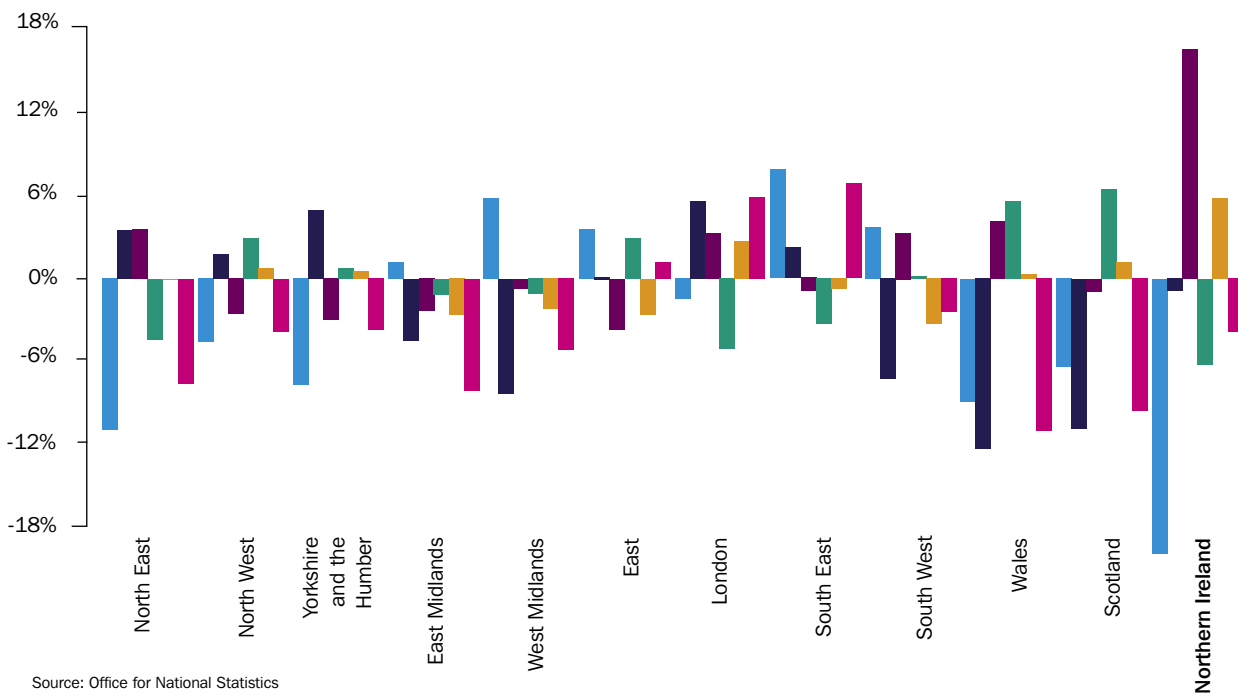
the national average. However, a decomposition of the growth rates in regional GVA per head gaps provides a different perspective and renders further insight into the evolution of each factor over time. Figure 2 shows that the gap in GVA per head between Northern Ireland and the UK average marginally widened between 1996 and 2004. This process took place mainly as a result of two contrasting changes in all the factors against their UK counterparts: the highest negative growth in the labour productivity gap, which fell behind the UK average by almost 8.5 per cent over the period, and the highest increase in regional employment rates –which grew by 7 per cent over the UK average between 1996 and 2004.

In addition, the South East presents different underlying forces beneath its relative economic success: it enjoyed the highest growth in regional labour productivity and a small increase in the actual number of hours worked per person, despite a marginal reduction in the other components. The North East, in turn, presents the second largest negative growth in labour productivity against the UK average of almost 4.6 per cent over the period, which drove its GVA per head gap further behind that of the UK as a whole by about 3 per cent –Wales and Scotland present similar cases, albeit with an additional reduction in the actual number of hours worked per person.

Decomposition of Growth Rates of Gaps in Regional GVA per head (1996-2004)

Figure 2

- GVA per actual hour worked (£)
- Actual hours worked per employed person
- Employed / Labour Force (Employment Rate)
- Labour Force / Working Age Population (Activity Rate)
- Working Age Population / Total Population
- GVA per head (£)



Source: Office for National Statistics

ERINI carried out a decomposition of the variance of each factor to assess their relative contribution to overall changes in regional GVA per head. On average, the number of actual hours worked per employed person and the hourly productivity per person were the two components with the highest positive incidence on the variability of the GVA per head across regions over the period 1996-2004. Together, they explain almost 60 per cent of the average changes in GVA per head across regions. The importance of labour productivity decreased against that of the number of hours worked per person until 2001 but bounced back since then.

CLASSIFICATION OF REGIONAL PRODUCTIVITY PATTERNS

Cuadrado-Roura et al (2000)² proposed a typology of regional productivity patterns according to the gaps in each region's labour productivity, GVA per head and employment growth with respect to the national average. The rationale behind this classification is that a region's economy can grow faster than the UK average but, nonetheless, experience a slower labour productivity growth or even a contraction in its employment rates compared to the UK as a whole. Therefore, relating these three variables allows us to detect different structural processes, which may be in operation within each region.

Classification of UK Regions

Table 2

	1989-1997	1997-2004
I. Virtuous circle		
I.A. Virtuous growth	Northern Ireland	East
II. Restructuring		
II.A. Restructuring via productivity		
II.A.1 Dynamic restructuring		South East South West
II.A.2 Relative restructuring	South East West Midlands	
II.A.3 Absolute restructuring	North East East	
II.B. Restructuring via employment		
II.B.1 Conservative restructuring	London East Midlands North West	London Wales Scotland
II.B.2 Intensive restructuring	Yorkshire and the Humber South West Scotland	Northern Ireland
III. Vicious circle		
III.A. Economic Decline	Wales	North East North West Yorkshire and the Humber East Midlands West Midlands

Source: Cuadrado-Roura et al (2001) and Office for National Statistics

There are three basic patterns: virtuous growth, restructuring and vicious circle. Virtuous growth is the process in which a region presents higher labour productivity, GVA and employment growth rates than the nation as a whole. Restructuring can happen via productivity or employment. Restructuring via productivity implies that labour productivity grows more but employment less than at the national level, and restructuring via employment means that labour productivity grows less and employment more than at the national level. Finally, a vicious circle of economic decline occurs when the region or sector presents lower labour productivity, GVA and employment growth rates than the national average. Table 2 presents the results.

ERINI found that between 1989 and 1997, Northern Ireland was the only region that experienced a virtuous growth but that since then, it became the only region going through an intensive restructuring via employment.

CONVERGENCE

There would be convergence in GVA per head if poorer regions grew faster than richer ones, and divergence otherwise. ERINI studied the dispersion of work-based GVA per head across regions since 1989 and found that although intra-regional disparities diminished until 1995, since then there have been increasingly more variations in the output per head within the UK regions. Consequently, ERINI estimated two convergence equations, one for the period 1989-1995 and the other one for the period 1996-2004³. The results reflected this change: there has been convergence in GVA per head across the regions in the UK throughout the period 1989-1995 and divergence since then. The GVA per head of UK regions have

been pulling further apart from each other at the rate of 0.8 per cent a year since 1996.

ERINI also investigated whether there has been any convergence in the different components over the period 1996-2004. The only coefficient which is statistically significant corresponds to the regional employment rates and indicates that employment rates have diverged across the regions at a rate of around 3 per cent a year.

FINAL COMMENTS

Productivity is at the heart of economic performance and prosperity. Between 1989 and 1997, Northern Ireland was the best performing region in the UK in terms of GVA per head (the most common indicator of economic performance). This period of good economic performance was followed by a slowdown at the same time as most of the regions faced negative growth. However, because the South East of England and London enjoyed continuous growth over the whole period, Northern Ireland's economic performance since 1997 was slightly below the UK average. As a consequence, whilst Northern Ireland exhibited the lowest regional GVA per head in the UK (27 per cent below the UK average) in 1989, Northern Ireland's GVA per head lagged behind the UK average by around 22 per cent by 2003. Even the 1989-1997 performance cannot be considered sufficient: if all the UK regions grew at the same rate as they did between 1989 and 1997, it would take Northern Ireland around 34 years to reach the UK average level - moreover, since 1997, Northern Ireland's GVA per head has been lagging behind the UK average.

There are two main explanatory factors behind the difference between Northern Ireland and the UK average: labour productivity and economic activity.

Northern Ireland presents the largest negative gap in both, as well as a relative high number of working hours. Consequently, ERINI can conclude that the region presents the least economically active population and the least productive workforce and that those who are in employment work longer hours than most of their counterparts elsewhere in the UK.

However, Northern Ireland exhibits positive trends against the UK average in employment rates (which exhibit the highest regional growth since 1996). The only variable which displays a worrying negative trend against the UK average is labour productivity. Between 1996 and 2004, it decreased by over 8 per cent against the UK average -the deepest fall in all UK regions.

Other regions present different patterns. For example, the GVA per head in Wales and Scotland deteriorated against the UK average mainly as a consequence of a sum of negatively contributing factors. Given such dissimilar patterns, ERINI classified regions in terms of their GVA per head, labour productivity and employment. Northern Ireland stands out as the only region which enjoyed a virtuous growth cycle between 1989 and 1997, but embarked on a process of intensive economic restructuring via employment since then.

ERINI found signs of regional divergence in GVA per head: on average, richer regions have grown faster than poorer ones since 1989. This has not been the case, though, between 1989 and 1995, when there has been some convergence in the economic performance across the regions in the UK.

ANNEX 1

Data

ERINI have used data on Gross Value Added by region on a residence basis from the Office for National Statistics (ONS), deflated by the GVA implied deflator where appropriate.

ERINI preferred to calculate the resident population indirectly from the data on regional GVA and GVA per head indicators to reduce statistical discrepancies. Therefore,

$$\text{Total Population} = \frac{\text{GVA}}{\text{GVA per head}}$$

The total number of hours worked was also indirectly calculated from the published GVA per hour worked and the GVA indicators:

$$\text{Total Population} = \frac{\text{GVA}}{\text{GVA per hour worked}}$$

The total number of employed persons was obtained from Labour Force Survey (LFS) -Spring waves for each year.

The labour force is equal to the number of economically active people of working age (thus, the activity rate is the proportion of employed and unemployed people of working age over the total number of people of working age). Labour force data was calculated from the published regional activity rates (LFS) and the population of working age per region (ONS).

- ¹ HM Treasury (2001). Productivity in the UK: 3 – The Regional Dimension. Productivity in the UK papers. HM Treasury: London.
- ² Cuadrado-Roura, J.; Mancha-Navarro, T., and Garrido-Yserte, R. (2000). "Regional Productivity Patterns in Europe: an Alternative Approach", in: *Annals of Regional Science*, 34(3), 365-384.
- ³ Absolute (beta)-convergence. We omitted London from both estimations, because its GVA per head in 1989 and 1996 were detected as significant outliers (at 5 per cent confidence level) -and estimations using outliers in initial values are not robust. See Niebuhr (2001). 'Convergence and the effects of spatial interaction', *Jahrbuch für Regionalwissenschaft*, 21, pp. 113-133.

Article 10: NI-CO's International Work for Northern Ireland

Rupert Haydock - NI-CO

INTRODUCTION

Northern Ireland is becoming more outward and forward looking as a region. There are many benefits in relation to exports and trade to the Northern Ireland Economy from the development of international networks, creating co-operation and partnerships at government, private and voluntary sector levels in new markets. NI-CO is active to bring these benefits to Northern Ireland.

ROLE OF NI-CO

During the early 1990s when many of the post-communist countries were moving towards more 'western' market orientated economies and desired closer relationships with the European Union, the Northern Ireland Government Departments had the vision to establish NI-CO as a central marketing body to promote the region overseas. In 1992 NI-CO was created to develop partnership opportunities to market the skills and expertise of the Northern Ireland public service and to build a stronger presence for Northern Ireland in the European platform and worldwide.

NI-CO's extensive range of development project sectors were enhanced on the 1st April 2006 when NI-CO incorporated NICARE (The international development service of the Northern Ireland Health and Social Services). NI-CO has an established practical and collaborative approach to international development which allows clients and partners to benefit from this enhanced sectoral portfolio and impressive track record including the delivery of over 250 projects in 60 countries. This work assists Northern Ireland as an outward and forward looking region which is a strategic priority for Northern Ireland Government Departments and a stated objective of the Economic Development Forum¹.

VALUE OF INTERNATIONAL CO-OPERATION - EUROPEAN CONTEXT

The Copenhagen European Council in 1993 outlined the political and institutional criteria for those countries who have expressed an intention to apply for EU membership. This Council provided the framework for the development of European Commission programmes of technical assistance for institutional building, legal approximation and implementation of EU law to achieve the requirements of the 'acquis communautaire'². Over the years the EU has become larger with the most significant enlargement of 10 new members on the 1st May 2004.

As part of the Northern Ireland Government and a UK Mandated Body for EU Institutional Twinning³, NI-CO is maximising the value and influence for Northern Ireland (and the UK as a whole) in both the new member states and the candidate countries. Over the last 7 years NI-CO has secured 47 projects in 14 countries ranging in value from €75k to €2.5 million with a total value of €29 million, covering areas in the *acquis communautaire* such as governance, equality, justice and security, financial management, agriculture & rural development, food, environment, consumer affairs and economic development.

INFLUENCE OF INTERNATIONAL PROJECTS

Twinning projects are of national importance for the fulfilment of the 'acquis' in the countries involved, hence for Northern Ireland and UK as a whole there is strategic significance of this involvement at policy development, framework design and implementation levels which provide excellent opportunities to build influence, network and develop international competencies of public service staff of most government departments.

Northern Ireland may be a small region but through these projects it has a large presence in e.g. Poland which has a population of 39 million. On the European stage the ability to form alliances at national and inter-regional levels and to influence policy makers will become more important. This institutional capacity building is also of strategic importance to complement and protect the Northern Ireland economy, e.g. building capacity of public servants and agencies in countries which are the new frontiers of the EU.

An excellent example is the recently completed 'Phytosanitary' (plant health) Twinning Project in Poland of Plant and Animal health inspection services. This one-year project valued at €535,000 was led by NI-CO on behalf of the United Kingdom, where a senior civil servant

from the Department of Agriculture and Rural Development (DARD) was seconded to NI-CO as the resident adviser in Poland. He was supported by other expertise from DARD and UK agencies to train over 500 government inspectors so as to improve the plant disease diagnostic abilities within the Polish Plant Health and Seeds Inspectorate Service. The project which was regarded as one of the best in Poland, was successfully completed with benchmarks surpassed, building excellent partnership links for Northern Ireland and the UK as a whole with the Polish government. This project is also of great value to Northern Ireland as it helps prevent diseases entering the EU and affecting our agri-food industry. NI-CO is currently delivering 6 Twinning projects worth over €10 million in Poland. Table 1 illustrates the spread of countries of

NI-CO EU Twinning Projects in New EU Member States

Table 1

COUNTRY	POPULATION	NO. OF NI-CO TWINNING PROJECTS	PARTNER MINISTRIES & ORGANISATIONS
Poland	39.0 million	11	Ministries of Interior, Finance, Agriculture & Rural Development, of Environment and Office for Competition and Consumer Protection
Czech Republic	10.3 million	4	Ministries of Interior and of Finance
Hungary	10.3 million	1	Ministry of Interior
Estonia	1.4 million	5	Ministries of Agriculture, of Internal Affairs and Office of the Legal Chancellor
Latvia	2.4 million	4	Ministries of Economy, Interior and Agriculture
Lithuania	3.5 million	3	Ministries of Interior and of Justice
Slovakia	5.4 million	2	Ministries of Interior and of Finance
Slovenia	2.0 million	2	Ministry of Interior
Malta	0.4 million	4	Ministries of Agriculture & Fisheries, Environment and Finance

NI-CO projects and the significance in the EU in relation to population and of the new member states, working with a wide range of ministries and agencies. There is also growing influence in the future member states and those which have economic association agreements with the EU through the Twinning approach - see Table 2.

**INTERNATIONAL CO-OPERATION DEVELOPMENT
EU ENLARGEMENT**

A comprehensive analysis of the effect of EU Enlargement on Northern Ireland has been carried out in last years bulletin⁴. The Copenhagen European Council agenda is still being implemented through the pre-accession strategy for Bulgaria and Romania for proposed membership in 2007. There is now agreement for Turkey and Croatia to commence negotiations.

Macedonia has been granted candidate status by the EU and other countries in the Balkans are likely to seek membership as part of the stabilisation process.

The current enlarged EU and prospective enlargements have opened up new business opportunities for Northern Ireland. There is a need to develop strategic partnerships to market products to economies where the purchasing power of the population is increasing dramatically. Within EU budgets up to 2013 there are large allocations for development funding e.g. structural funds, for these new member states which will require consultancy services and manufactured goods to achieve their objectives. There are also increasing opportunities with the large scale economies (Poland etc.), regional

NI-CO Twinning Projects in Future EU Member States and those with Economic Association with the EU
Table 2

COUNTRY	POPULATION	NO. OF NI-CO TWINNING PROJECTS	PARTNER MINISTRIES & ORGANISATIONS
Bulgaria	8.0 million	6	Ministries of Regional Development & Planning, Health, Environment, Justice, Labour & Social Policy and National Council on Ethnic & Demographic Issues
Turkey	70.7 million	1	Ministries of Interior & of Justice
Lebanon	2.8 million	1	Ministry of Economy & Trade
Jordan	5.0 million	1	Ministry of Agriculture
Serbia & Montenegro	8.1 million	2	Ministry of Agriculture and Rural Development

scale economies (Baltic states etc.) and micro economies (Malta and Cyprus) for collaboration and development of production supply chains to service Northern Ireland companies.

EU NEIGHBOURHOOD REGION

The EU has a range of funding mechanisms for supporting development internationally. In 2004 the EU developed its Neighbourhood Policy with the objective to share the benefits of the EU's 2004 enlargement with neighbouring countries in strengthening stability, security and well-being for all concerned. Hence countries in the Balkans, Mediterranean, Middle East, Russia and Commonwealth of Independent States are becoming more disposed and actively promote trade with the EU currently and in the future creating commercial contract opportunities for Northern Ireland companies.

WIDER INTERNATIONAL DEVELOPMENT

The G8 Meeting at Gleneagles in July 2005 chaired by the UK, focused on the need to increase the support particularly for Africa but also parts of Asia so that the Millennium Development Goals established and agreed by the international development agencies in 2000 to address poverty, health, education and overall development issues would be achieved. This agreement on increased aid linked to decreased debt and incorporation of anti-corruption measures in targeted countries was the main success of the summit. This significant increase in aid will be tangible fiscal support in target low income countries but also the main funding agencies such as the UK Department for International Development, the EU, the Asian Development Bank and the World Bank have considerable budget allocations for tradeable consultancy services to train and build capacity in developing countries.

The G8 and the 'Commission for Africa'⁵ Report identified barriers to increased international trade as a major obstacle to development in poorer countries, the current World Trade Organisation round of talks is addressing this issue. Where appropriate this may result in an increase in trade opportunities for Northern Ireland.

CIVIL SOCIETY DEVELOPMENT

Within the EU, the Neighbourhood Region and worldwide, Northern Ireland has recognised unique experience and expertise in relation to civil society organisation and development. Through international donor-funded projects there is the opportunity to develop the networks and support the sustainability of the Northern Ireland social economy and contribute to widening knowledge and understanding, further building cross-cultural and socio-economic capacities in Northern Ireland.

CONCLUSIONS

Overall the development of international co-operation in the global economy is essential and is currently and increasingly valuable to the Northern Ireland economy. This is seen in the Government/Administrative networks which have been developed by NI-CO, raising Northern Ireland's profile in the EU and beyond, developing international capacities in the public service, enhancing overseas capacity to benefit and protect the Northern Ireland economy and influencing policy makers facilitating stronger links for this region which can benefit business. These strong links can complement and support Commercial networks in the export of Northern Ireland's tradable services and goods. This can also assist in the development of 'trade-bonds' of Northern Ireland to overseas in the competitive marketplace encouraging strategic partnerships and collaboration. There are also Social networks

which can be further developed to address very significant social issues in the EU, Neighbourhood Region and worldwide identified by the major funding agencies and governments which strongly complement the Government/Administrative and Commercial sectors.

¹ Economic Development Forum website <http://www.edfni.com/> - Primary Indicators for Strategic Priority Areas
http://www.investni.com/edf_pg_8-22.pdf

² Acquis Communautaire or Community acquis - see http://europa.eu.int/scadplus/glossary/community_acquis_en.htm

³ The Phare funding instrument supports the accession process and in 1998 the EU launched Institutional Twinning. Its purpose is to help the development of modern and efficient administrations, with the structures, human resources and management skills needed to implement the acquis communautaire to the same standards as Member States. Government departments of candidate countries have the facility through this programme to 'Twin' with counterparts in equivalent departments of Member States.

⁴ Article 10 'EU Enlargement and the Northern Ireland Economy', Northern Ireland Economic Bulletin 2005.

⁵ Commission for Africa website <http://www.commissionforafrica.org/english/report/introduction.html>.