

NORTHERN IRELAND INDEX OF PRODUCTION – QUARTER 1 2015

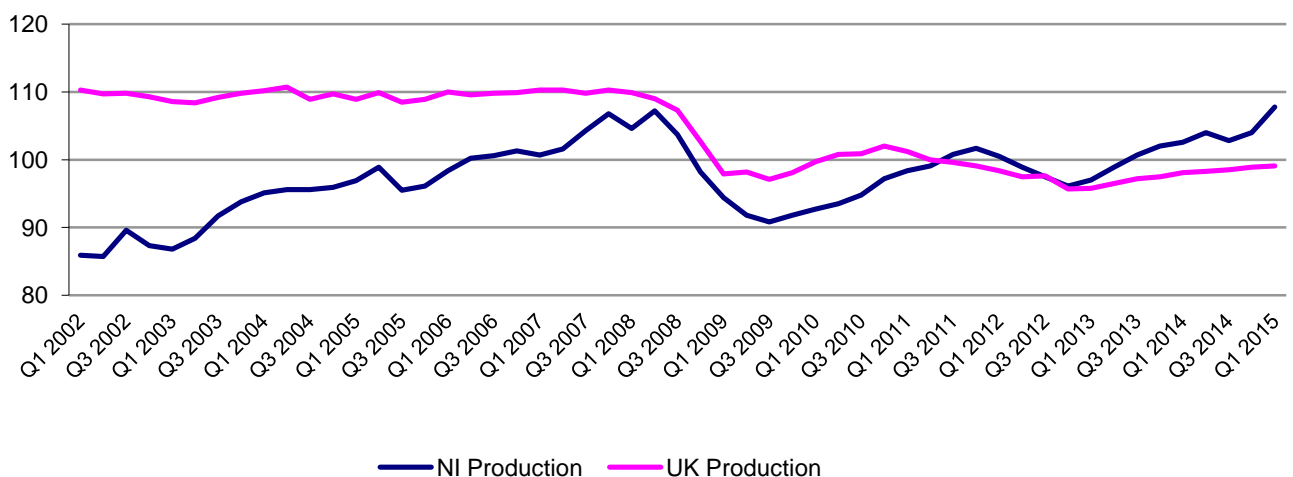
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The Index of Production is a quarterly survey of companies designed to provide a general measure of changes in the output of the Northern Ireland production sector industries in real terms. This publication contains seasonally adjusted NI Index of Production data on a 2011=100 basis. These data are provisional and may be subject to change.

- Provisional results from the Index of Production for the first quarter of 2015 showed that output in NI increased by 3.7% over the quarter, whereas output in the UK as a whole increased by 0.2%.
- The increase over the quarter shows second successive quarter of growth following a fall in output in Q3 2014; prior to this, there were six consecutive quarterly increases in output. Over the year, NI Production levels increased by 5.1% while the UK recorded a rise of 1.0%.
- The NI index has reached a new high, whilst the UK index decreased by 10.2% since the peak recorded in Q4 2007.

Index of Production in NI and UK (Seasonally Adjusted)

(2011=100)



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National Statistics

The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs;
- are well explained and readily accessible;
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest.

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed.

1: Context

Introduction

This bulletin provides provisional data from the Index of Production (IOP) for Northern Ireland (NI). The IOP is one of the earliest official indicators of the performance of Northern Ireland industry and, as such, represents an important short-term measure of change in a significant area of the economy. The contents of this report will be of interest to government policy makers, Members of the Legislative Assembly, the business community, economic commentators, academics and members of the general public with an interest in the state of the NI economy. A summary of uses is available on the website at <http://www.detini.gov.uk/deti-stats-index/stats-surveys/stats-index-of-production.htm>

The latest Department of Enterprise, Trade and Investment Economic Commentary (June 2015) provides an overview of the state of the Northern Ireland economy, setting it in context with the UK and Republic of Ireland. This can be found at http://www.detini.gov.uk/index/what-we-do/deti-stats-index/deti-economic-briefing/economic_commentary.htm

The most up-to-date official statistics on the economy and labour market, including those published on the same day as the Northern Ireland Index of Services and Index of Production, are available on the Economic Overview page of the DETI website at <http://www.detini.gov.uk/deti-stats-index/deti-stats-index-2.htm>. Quarter 3 2014 results from the NI Index of Services were published on 19th May 2015 and reported a 0.6% fall over the quarter. The next IOS publication is scheduled for 22nd July 2015 and will include results up to Q1 2015.

The Index of Production is published on a Standard Industrial Classification 2007 (SIC07) basis. This has an impact on the type of businesses classified as production sector. For example, publishing activities move from the production to the services sector and sewerage and waste disposal moves from services to the production sector. Within the production sector there are some new groupings of businesses. IOP data prior to Q2 2011 were collected on a SIC03 basis and it has been converted to approximate the SIC07 coverage. Further detail can be found in the background notes (section 7).

The background notes in Section 7 of this publication provide detailed information on the methodology used to produce the statistics as well as information on the quality and accuracy of the data. This bulletin contains detailed results for the Production Industries i.e. the Mining & quarrying, the Manufacturing, the Electricity, gas, steam and air conditioning supply and the Water supply, sewerage, waste management (inc. recycling) sectors on a 2011=100 basis, giving data up to the most recent available quarter (Quarter 1 2015).

Manufacturing is typically the main determinant of change in the production sector, representing 86% of the approximate Gross Value Added in the production industries. The other elements of the Index relate to Water supply, sewerage, waste management (inc. recycling) which represents around 6% of the Index; Electricity, gas, steam and air conditioning supply which represents around 7% and Mining and quarrying which represents around 1%.

Comparative UK data (produced by the Office for National Statistics) are presented where these are available. The latest ONS IOP results on a comparative 2011= 100 basis are available at: <http://www.ons.gov.uk/ons/rel/iop/index-of-production/april-2015/index.html>

Information on the manufacturing sub-sectors (e.g. Food, drink and tobacco) along with information by market sector (classifying production under one of three headings, according to the purpose for which output is intended i.e. Investment Goods, Intermediate Goods and Consumer Goods) are included in the publication.

This publication provides three measures of growth for the Index. The quarter-on-quarter change provides the most recent measure of how the sector is changing. It is appropriate to compare consecutive quarters as the indices are seasonally adjusted, where appropriate, to remove the

effects of changes in output as a result of the time of the year. We also provide comparisons with the same quarter one year ago and a comparison of the most recent twelve months with the twelve months before. The quarterly comparison over the year provides an additional control on seasonal effects. The comparison of the rolling annual average is useful for identifying changes in output over a longer time period than the other two approaches.

Northern Ireland Production

Revisions

Results, particularly for the most recent quarter, are provisional and subject to revision as more up-to-date data become available (e.g. through late returns). Figures can also change as a result of the seasonal adjustment process, methodological changes or changes to classifications.

The Production Index publication has published data on a 2011=100 basis to correlate with ONS publications. SIC07 deflators with the base year 2010=100 have been applied to the series from Q1 2001 to Q1 2015.

Please note that a large revision was made to the mining and quarrying index in Q4 2014 due to the identification of an industry reclassification error. This has resulted in a slight increase to Q4 2014 instead of the previously reported drop.

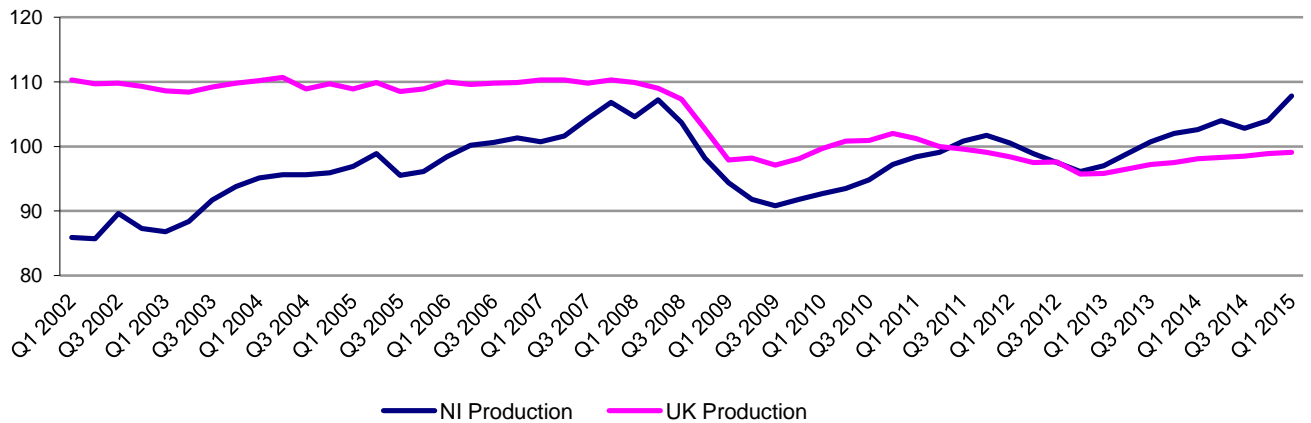
The IOP revisions policy can be found at:

<http://www.detini.gov.uk/deti-stats-index/stats-surveys/stats-index-of-production/stats-newpage-4.htm>

2: Summary

Provisional results from the seasonally adjusted Index of Production for the first quarter (January to March) of 2015 show an increase of 3.7% over the quarter, while output in the UK as a whole increased by 0.2%. In this quarter, the NI index is at its highest level yet (at 107.8). The UK index reported a fall of 10.2% since the most recent peak recorded in Q4 2007.

Figure 1: Index of Production in NI and UK (Seasonally Adjusted)
(2011=100)



Production – growth trend

	NI	UK
Percentage change compared to previous quarter	3.7	0.2
Percentage change compared to same quarter one year ago	5.1	1.0
Percentage change for most recent four quarters compared to previous four quarters	3.6	1.4

Manufacturing (Seasonally Adjusted)

Manufacturing comprises the main element (86%) of the production index and therefore the manufacturing index has a similar profile to the overall production index. The manufacturing index remains slightly below (0.6%) the peak in Q4 2007.

- Manufacturing output levels increased over the quarter by 4.0% (UK: 0.1%)
- Manufacturing output levels increased by 6.1% compared to the same quarter one year ago (UK: 1.4%)
- Manufacturing output levels rose by 4.3% over the most recent four quarters compared to the previous four quarters (UK: 2.6%)

Manufacturing Productivity (Seasonally Adjusted)

The index of manufacturing productivity (which provides a measure of the number of units of output produced per person per paid hour) recorded an increase (2.9%) over the quarter and the year (3.6%).

Other Production

Water supply, sewerage and waste management (unadjusted) decreased by 2.8% over the quarter and rose over the year (0.1%). The NI index is 17.2% below the recent peak recorded in Q1 2012, while the UK recorded a rise of 3.4% over the same time period.

The electricity, gas, steam and air conditioning supply index (seasonally adjusted) increased by 3.0% over the quarter and fell by 2.2% over the year. The UK reported a rise over the quarter (2.8%) and over the year (4.1%). The NI index remains below the peak recorded in Q3 2008 (-7.3%), with the UK reporting a similar fall over the same time period (-7.6%).

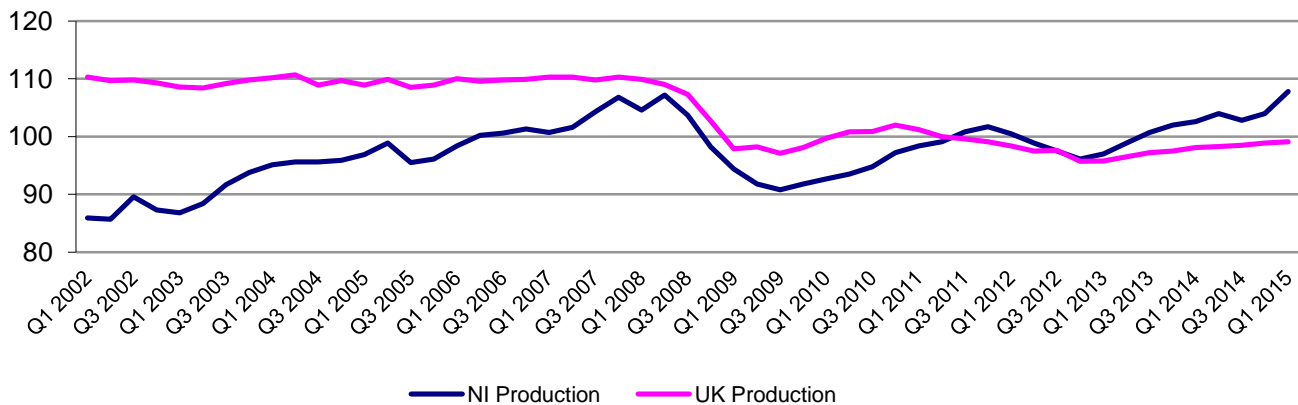
Mining and quarrying (unadjusted) increased by 7.4% over the quarter and recorded a fall of 1.5% over the year. Recovery in this index remains slow and is some 34.8% below the peak reached in Q2 2007; the UK index fell by a similar proportion (by 39.4%) over the same period.

Date of Next Publication

The Northern Ireland Index of Production for Quarter 2 2015 will be published on 16th September 2015.

3: Output of the Production Industries

Figure 2: Index of Production in NI and UK (Seasonally Adjusted)
(2011=100)



	NI	UK
Percentage change compared to previous quarter	3.7	0.2
Percentage change compared to same quarter one year ago	5.1	1.0
Percentage change for most recent four quarters compared to previous four quarters	3.6	1.4

Output from the overall production industries (seasonally adjusted) in Q1 2015 is at its highest level (107.8) with the index slightly above (0.6%) the previous peak recorded in Q2 2008. The UK recorded a fall of 9.1% over the same period.

The next section focuses on the broad sectors within Production. Manufacturing is the main component of the production sector accounting for some 86% of Regional Accounts Gross Value Added (GVA) within the overall production sector.

Table 1: Northern Ireland Index of Production (2011 = 100)

Sector	Production Industries B+C+D+E	Manufacturing C	Water & Sewerage E	Electricity & Gas D	Mining & Quarrying B
	Seasonally Adjusted	Seasonally Adjusted	Unadjusted	Seasonally Adjusted	Unadjusted
weights	100%	86.0%	6.4%	6.7%	0.9%
2002	87	91	66	79	92
2003	90	93	76	87	106
2004	96	99	81	91	108
2005	97	100	79	100	113
2006	100	104	78	96	128
2007	103	107	83	92	144
2008	103	106	90	107	115
2009	92	92	91	102	107
2010	95	93	98	106	119
2011	100	100	100	100	100
2012	98	98	96	99	101
2013	100	101	88	104	99
2014	103	105	87	103	94

Table 1 (cont'd): Northern Ireland Index of Production (2011 = 100)

Sector	Production Industries B+C+D+E	Manufacturing C	Water & Sewerage E	Electricity & Gas D	Mining & Quarrying B
	Seasonally Adjusted	Seasonally Adjusted	Unadjusted	Seasonally Adjusted	Unadjusted
weights	100%	86.0%	6.4%	6.7%	0.9%
2002 1	85.9	90.1	64.6	78.1	93.1
2	85.7	89.4	65.2	77.9	88.4
3	89.6	93.8	66.2	78.9	90.6
4	87.3	91.7	68.2	81.2	97.4
2003 1	86.8	90.4	68.7	81.1	101.9
2	88.4	91.0	77.9	86.7	104.7
3	91.7	94.7	76.3	90.2	109.2
4	93.8	97.1	79.6	92.0	109.5
2004 1	95.1	98.9	77.6	91.6	105.4
2	95.6	99.8	84.1	81.1	110.4
3	95.6	99.0	79.2	97.1	105.1
4	95.9	98.9	82.0	94.9	109.9
2005 1	96.9	100.3	81.4	94.9	100.0
2	98.9	101.9	79.5	108.6	110.9
3	95.5	98.8	76.2	96.9	118.7
4	96.1	98.6	79.1	99.0	121.1
2006 1	98.4	101.8	79.8	99.7	116.5
2	100.2	103.8	78.2	97.8	128.2
3	100.6	104.4	76.8	93.6	137.1
4	101.3	105.6	76.4	93.4	131.9
2007 1	100.7	104.5	79.4	94.2	138.0
2	101.6	105.5	82.5	89.5	149.7
3	104.3	108.8	82.2	91.2	147.1
4	106.8	110.9	89.2	94.6	142.0
2008 1	104.6	107.5	85.9	103.0	126.2
2	107.2	110.4	90.2	108.4	122.5
3	103.7	106.2	93.0	109.5	108.7
4	98.2	98.9	90.5	106.7	101.5
2009 1	94.4	94.7	89.8	100.3	105.6
2	91.8	90.8	92.9	103.2	109.0
3	90.8	89.9	90.6	102.6	107.1
4	91.8	91.5	90.9	103.1	106.3
2010 1	92.7	91.2	95.9	107.5	121.5
2	93.5	91.9	98.5	103.0	131.7
3	94.8	93.2	98.1	104.1	116.3
4	97.2	96.5	100.7	107.8	107.2
2011 1	98.4	98.7	98.4	99.7	102.1
2	99.1	98.6	98.4	99.8	102.1
3	100.8	100.9	101.2	99.9	100.1
4	101.7	101.8	102.1	100.7	95.6
2012 1	100.5	100.6	103.4	98.2	101.6
2	98.9	98.8	97.2	98.4	99.6
3	97.5	97.9	91.5	99.0	99.4
4	96.1	96.2	90.2	102.0	101.4
2013 1	97.0	97.1	86.5	104.7	102.1
2	98.9	99.9	86.8	103.4	100.7
3	100.7	102.0	90.3	103.7	98.1
4	102.0	103.1	89.2	103.0	93.3
2014 1	102.6	104.0	85.6	103.8	99.1
2	104.0	105.6	89.5	105.4	94.6
3	102.8	104.4	86.8	103.7	89.7
4	104.0	106.0	88.1	98.6	90.9
2015 1	107.8	110.3	85.6	101.5	97.6

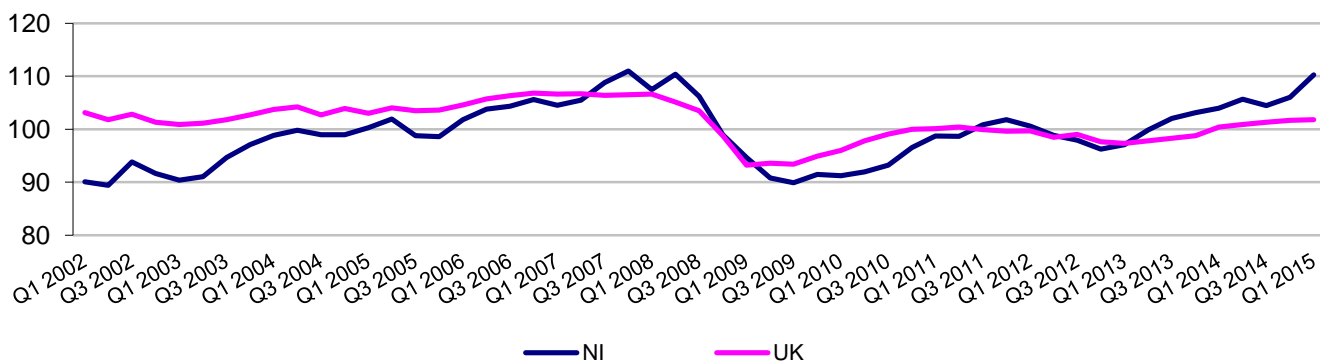
Table 1 (cont'd): Northern Ireland Index of Production (2011 = 100)

Sector	Production Industries B+C+D+E	Manufacturing C	Water & Sewerage E	Electricity & Gas D	Mining & Quarrying B
	Seasonally Adjusted	Seasonally Adjusted	Unadjusted	Seasonally Adjusted	Unadjusted
weights	100%	86.0%	6.4%	6.7%	0.9%
Percentage change latest quarter on previous:					
quarter	3.7	4.0	-2.8	3.0	7.4
year	5.1	6.1	0.1	-2.2	-1.5
Rolling average	3.6	4.3	-0.5	-1.1	-4.7

*The change in the rolling annual average measures the change in the average of the latest four quarters against the same four quarters one year previous.

Seasonally Adjusted Manufacturing Index SIC07 Section C (weight 86.0%)

Figure 3: Manufacturing in NI and UK
(2011=100)

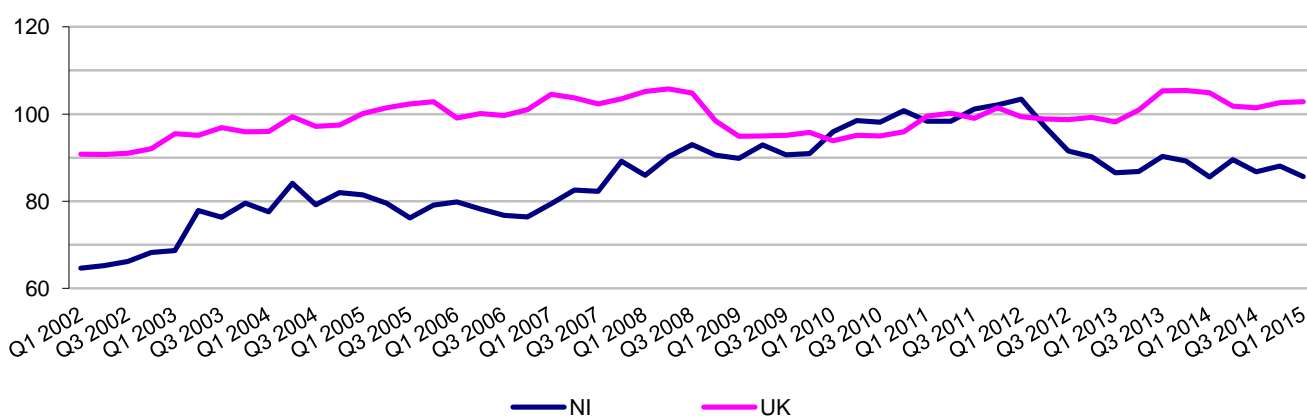


	NI	UK
Percentage change compared to previous quarter	4.0	0.1
Percentage change compared to same quarter one year ago	6.1	1.4
Percentage change for most recent four quarters compared to previous four quarters	4.3	2.6

Manufacturing comprises the main element (86%) of the production index and therefore the manufacturing index has a similar profile to the overall production index. The manufacturing index has recovered by 22.6% since the minimum in Q3 2009 (89.9).

Unadjusted Water supply, sewerage and waste management (inc. recycling) Index SIC07 Section E (weight 6.4%)

Figure 4: Water & Sewerage in NI and UK
(2011=100)

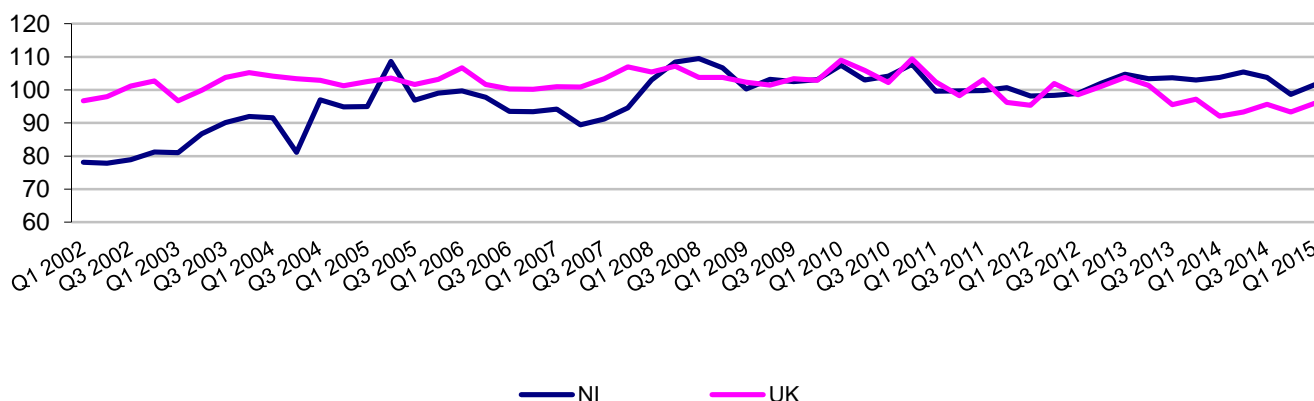


	NI	UK
Percentage change compared to previous quarter	-2.8	0.2
Percentage change compared to same quarter one year ago	0.1	-2.0
Percentage change for most recent four quarters compared to previous four quarters	-0.5	-1.9

This sector is currently 17.2% below the recent peak reached in Q1 2012.

Seasonally Adjusted Electricity, gas, steam and air conditioning supply Index¹ SIC07 Section D (weight 6.7%)

Figure 5: Electricity, gas, steam and air conditioning supply in NI and UK
(2011=100)

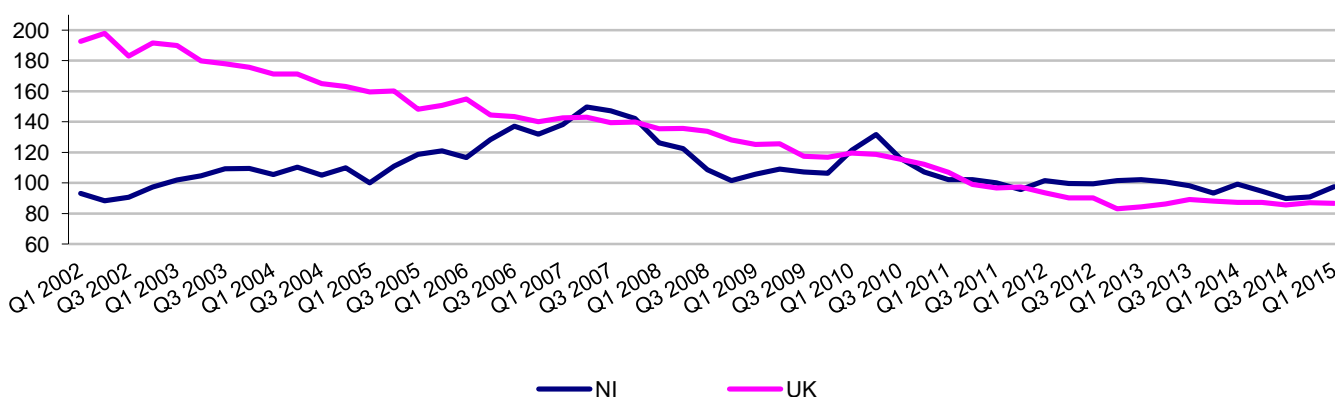


	NI	UK
Percentage change compared to previous quarter	3.0	2.8
Percentage change compared to same quarter one year ago	-2.2	4.1
Percentage change for most recent four quarters compared to previous four quarters	-1.1	-2.1

This index has fallen 7.3% since the peak recorded in Q3 2008 (109.5), with the UK reporting a similar fall over this same time period (-7.6%). The NI index has recovered 13.5% from the most recent minimum recorded in Q2 2007.

Unadjusted Mining and Quarrying Index SIC07 Section B (weight 1.0%)

Figure 6: Mining & Quarrying in NI and UK
(2011=100)



	NI	UK
Percentage change compared to previous quarter	7.4	-0.5
Percentage change compared to same quarter one year ago	-1.5	-0.7
Percentage change for most recent four quarters compared to previous four quarters	-4.7	-1.2

Recovery in this sector remains slow and the index is some 34.8% below the peak recorded in Q2 2007. The UK index fell by a similar proportion (-39.4%) over the same period.

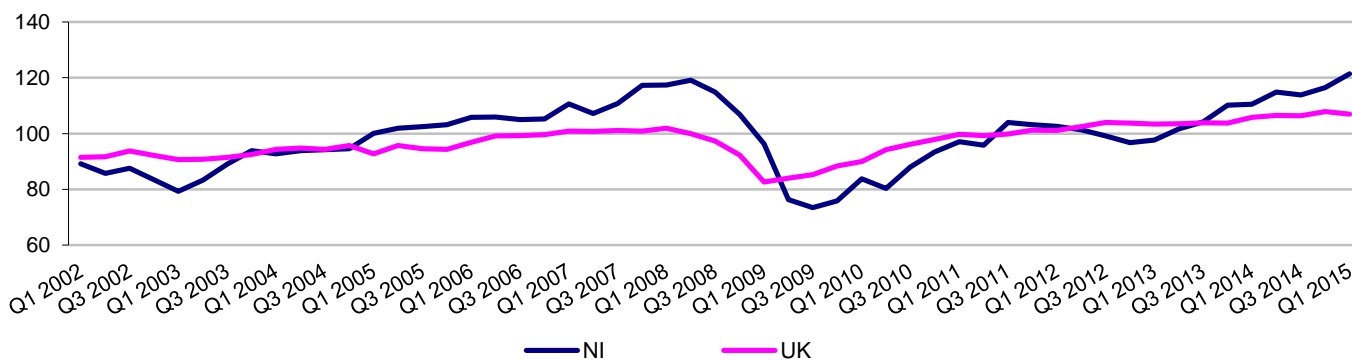
¹ The electricity, gas, steam and air conditioning supply sub-sector has been seasonally adjusted from Q2 2014 using X-13 ARIMA SEATS and previously smoothed companies with volatile returns are no longer smoothed.

4: Manufacturing Subsections

Full series of index numbers back to 2002 are provided for each sub-sector in tables at the end of this section.

Seasonally Adjusted Engineering & Allied Industries (weight 28.7%)

Figure 7: Engineering & Allied Industries in NI and UK
(2011=100)

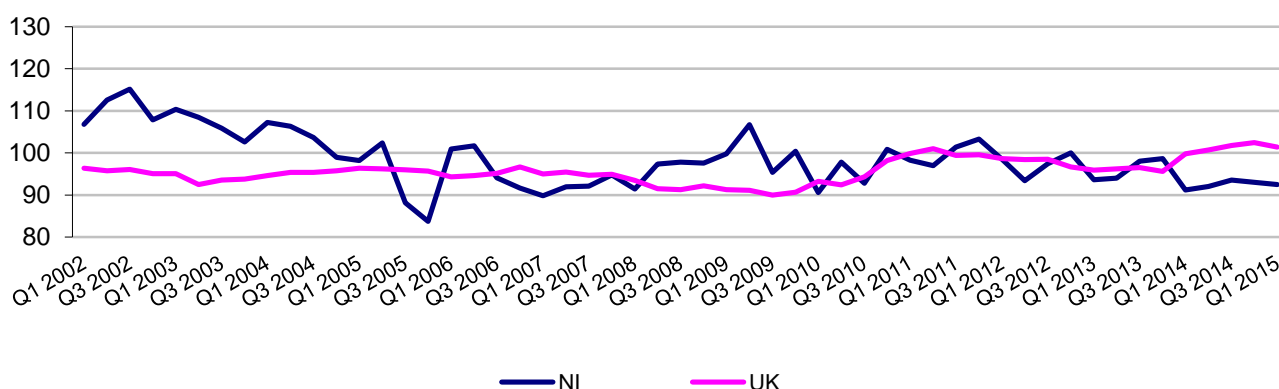


	NI	UK
Percentage change compared to previous quarter	4.2	-0.8
Percentage change compared to same quarter one year ago	9.9	1.1
Percentage change for most recent four quarters compared to previous four quarters	9.4	2.6

This sector is recording a new peak in Q1 2015, exceeding the level of the previous peak recorded in Q2 2008 by 1.9% (119.1). It has shown a notable recovery (65.4%) since its minimum value recorded in Q3 2009.

Unadjusted Food Products, Beverages & Tobacco (weight 22.6%)

Figure 8: Food Products, Beverages & Tobacco in NI and UK
(2011=100)

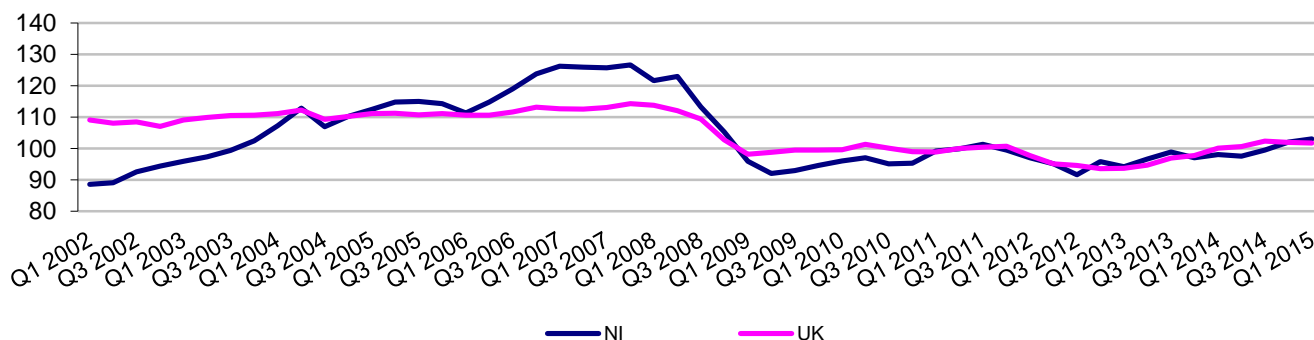


	NI	UK
Percentage change compared to previous quarter	-0.5	-1.1
Percentage change compared to same quarter one year ago	1.4	1.6
Percentage change for most recent four quarters compared to previous four quarters	-2.8	4.7

This sector has decreased by 0.5% since the previous quarter and has fallen by 13.3% from its most recent peak reached in Q2 2009.

Seasonally Adjusted Total Other Manufacturing (weight 17.8%)

Figure 19 Total Other Manufacturing in NI and UK
(2011=100)

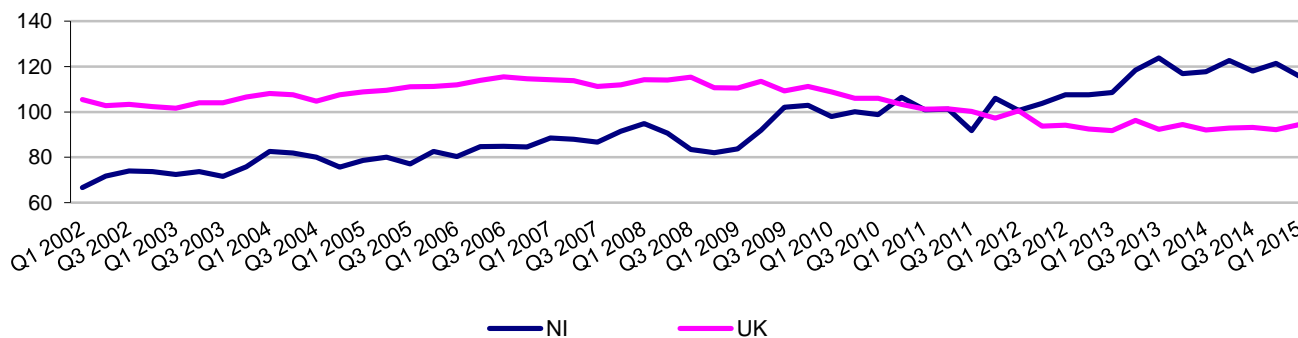


	NI	UK
Percentage change compared to previous quarter	1.0	-0.2
Percentage change compared to same quarter one year ago	5.1	1.7
Percentage change for most recent four quarters compared to previous four quarters	2.9	4.4

This sector has shown a considerable fall of 18.6% since its peak in Q4 2007. The NI index has tracked the UK index from the beginning of 2011.

Unadjusted Manufacturing of Chemical and Pharmaceutical Products (weight 7.5%)

Figure 10: Chemical & Pharmaceutical Products in NI and UK
(2011=100)

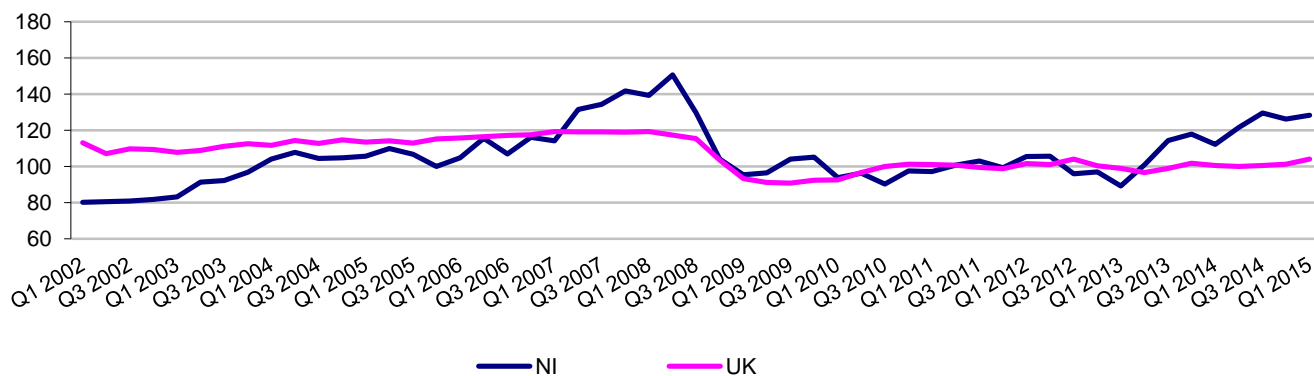


	NI	UK
Percentage change compared to previous quarter	-4.7	2.4
Percentage change compared to same quarter one year ago	-1.8	2.5
Percentage change for most recent four quarters compared to previous four quarters	0.2	-0.6

This index was mainly on an upward trend until Q3 2013 where it recorded a peak of 123.8. This sector has fallen slightly (-6.5%) since this peak.

Unadjusted Basic and Fabricated Metal Products (weight 6.2%)

Figure 11: Basic & Fabricated Metal Products in NI and UK
(2011=100)

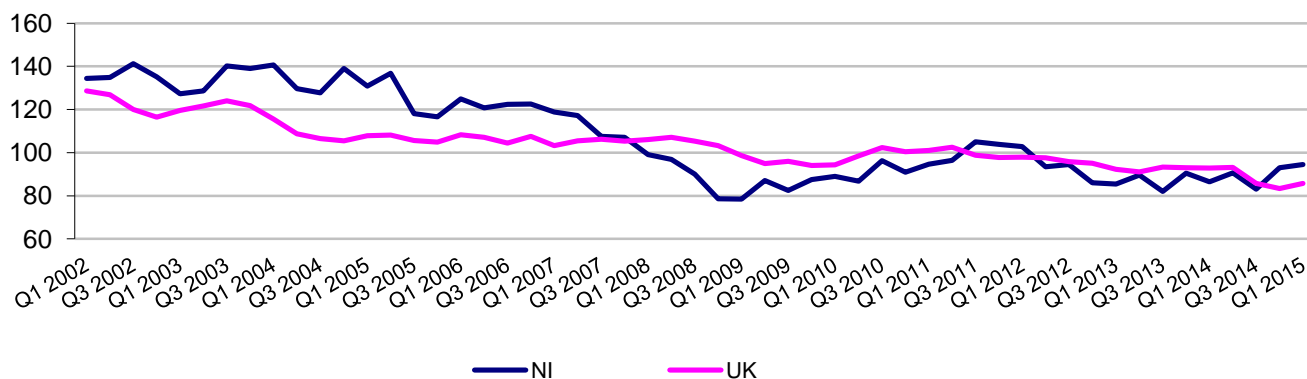


	NI	UK
Percentage change compared to previous quarter	1.7	2.7
Percentage change compared to same quarter one year ago	14.4	3.5
Percentage change for most recent four quarters compared to previous four quarters	13.6	2.0

This sector has recovered some 43.9% since the recent minimum in Q1 2013 (89.2).

Seasonally Adjusted Textiles, Leather & related products (weight 3.2%)

Figure 12: Textiles, Leather & related products in NI and UK
(2011=100)



	NI	UK
Percentage change compared to previous quarter	1.5	2.9
Percentage change compared to same quarter one year ago	9.4	-7.5
Percentage change for most recent four quarters compared to previous four quarters	3.7	-5.9

The downward trend in this sector started much earlier than in other sectors and the index has fallen 33.1% since its peak in Q3 2002.

Table 2: Northern Ireland Index of Production by Broad Manufacturing Subsectors

Sector	Engineering & Allied Industries (CI, CJ, CK, CL)	Food, Beverages & Tobacco (CA)	Total Other Manufacturing (CC, CD, CG, CM)	Chemical & Pharmaceutical Products (CE & CF)	Basic & Fabricated Metal Products (CH)	Textiles, Leather & related Products (CB)
	Seasonally Adjusted	Unadjusted	Seasonally Adjusted	Unadjusted	Unadjusted	Seasonally Adjusted
weights	28.7%	22.7%	17.8%	7.5%	6.2%	3.2%
2002 1	89.1	106.8	88.6	66.6	80.2	134.5
2	85.7	112.6	89.1	71.7	80.5	134.9
3	87.6	115.2	92.5	74.0	80.8	141.2
4	83.4	107.9	94.4	73.7	81.7	135.1
2003 1	79.3	110.4	96.0	72.4	83.1	127.3
2	83.3	108.5	97.4	73.7	91.3	128.6
3	89.0	105.9	99.4	71.6	92.1	140.2
4	93.8	102.7	102.4	75.8	96.9	139.0
2004 1	92.7	107.3	107.3	82.6	104.0	140.6
2	93.9	106.4	112.8	81.9	107.9	129.7
3	94.2	103.7	106.9	80.0	104.5	127.8
4	94.6	98.9	110.2	75.7	104.8	139.1
2005 1	100.0	98.2	112.5	78.7	105.6	130.9
2	101.9	102.4	114.8	80.0	110.0	136.9
3	102.4	88.2	115.0	77.1	106.8	118.0
4	103.2	83.8	114.3	82.6	100.0	116.6
2006 1	105.8	100.9	111.3	80.3	104.7	124.9
2	105.9	101.7	114.8	84.8	115.5	120.8
3	105.0	94.1	119.0	84.9	106.8	122.4
4	105.3	91.7	123.8	84.6	116.1	122.6
2007 1	110.6	89.9	126.2	88.5	114.2	118.9
2	107.2	92.0	125.9	87.9	131.5	117.3
3	110.8	92.1	125.7	86.7	134.4	107.6
4	117.3	94.8	126.7	91.5	141.8	107.1
2008 1	117.4	91.4	121.6	94.8	139.3	99.1
2	119.1	97.4	123.0	90.6	150.7	96.8
3	114.8	97.8	113.3	83.4	129.7	90.0
4	106.8	97.6	105.4	82.0	104.0	78.6
2009 1	96.3	99.8	96.0	83.7	95.4	78.5
2	76.2	106.8	92.1	91.9	96.4	87.1
3	73.4	95.4	93.0	102.1	104.1	82.5
4	75.8	100.4	94.6	102.9	105.2	87.4
2010 1	83.8	90.6	96.1	98.0	93.8	88.9
2	80.3	97.8	97.1	100.1	96.3	86.7
3	88.0	92.8	95.1	98.9	90.2	96.2
4	93.4	100.9	95.3	106.5	97.6	90.9
2011 1	97.1	98.3	99.2	101.0	97.1	94.7
2	95.8	97.0	99.9	101.3	100.7	96.4
3	104.0	101.4	101.3	91.8	103.0	105.1
4	103.1	103.3	99.5	106.0	99.2	103.8
2012 1	102.6	98.5	97.1	100.7	105.5	102.7
2	101.3	93.4	95.1	103.8	105.6	93.5
3	99.1	97.5	91.6	107.6	95.9	94.5
4	96.8	100.0	95.8	107.5	96.9	86.1
2013 1	97.7	93.6	94.2	108.5	89.2	85.4
2	101.7	94.0	96.7	118.5	100.8	89.6
3	104.2	98.1	98.9	123.8	114.4	82.0
4	110.2	98.6	97.1	116.9	117.8	90.4
2014 1	110.5	91.2	98.1	117.8	112.2	86.4
2	114.9	92.1	97.6	122.7	121.7	90.6
3	113.8	93.5	99.5	118.1	129.6	83.0
4	116.5	93.0	102.0	121.4	126.2	93.1
2015 1	121.4	92.5	103.1	115.7	128.4	94.5

Table 2 cont'd : Northern Ireland Index of Production by Broad Manufacturing Subsectors

Sector	Engineering & Allied Industries (CI, CJ, CK, CL)	Food, Beverages & Tobacco (CA)	Total Other Manufacturing (CC, CD, CG, CM)	Chemical & Pharmaceutical Products (CE & CF)	Basic & Fabricated Metal Products (CH)	Textiles, Leather & related Products (CB)
	Seasonally Adjusted	Unadjusted	Seasonally Adjusted	Unadjusted	Unadjusted	Seasonally Adjusted
weights	28.7%	22.7%	17.8%	7.5%	6.2%	3.2%
Percentage change latest quarter on:						
previous qtr						
	4.2	-0.5	1.0	-4.7	1.7	1.5
previous year						
	9.9	1.4	5.1	-1.8	14.4	9.4
rolling average*						
	9.4	-2.8	2.9	0.2	13.6	3.7

Figures are provisional and subject to revision to take account of more recent information and more up-to-date seasonal factors (see Background Notes). *The change in the rolling annual average measures the change in the average of the latest four quarters against the same four quarters one year previous.

5: Market Sector Analysis

Market sector analysis classifies production under one of three headings which are derived from the main SIC classification groups.

Investment Goods – also known as Capital Goods – are the plant, equipment and inventories used to produce goods for consumption. Companies will invest further in these kinds of goods when they are looking to expand their production or upgrade existing equipment.

Intermediate Goods are those purchased by industry as inputs into the final production of goods. This category would include the materials (such as cement, rubber, plastic, chemicals and electronics) which will ultimately be used to produce a good for consumption.

Consumer Goods are the final goods produced by industry which are intended for purchase by private consumers. These goods are consumed by the mass market rather than used in the production of another good, and are therefore closely linked to consumer demand and the factors which influence this.

It should be noted that these groups are for illustrative purposes as there can be overlap where manufacturer goods could be used as capital to produce another good but will also be used for consumption (e.g. motor vehicles).

Table 3: Index of Production by Market Sector Goods

Sector	Consumer Goods	Intermediate Goods	Investment Goods
	Unadjusted	Seasonally Adjusted	Unadjusted
weights	44.2%	39.1%	16.7%
2002	109	82	95
2003	105	91	91
2004	102	101	95
2005	92	104	103
2006	96	106	107
2007	92	111	113
2008	95	111	113
2009	100	96	81
2010	95	100	87
2011	100	100	100
2012	96	98	101
2013	94	102	109
2014	91	103	122

Table 3 cont'd: Index of Production by Market Sector Goods

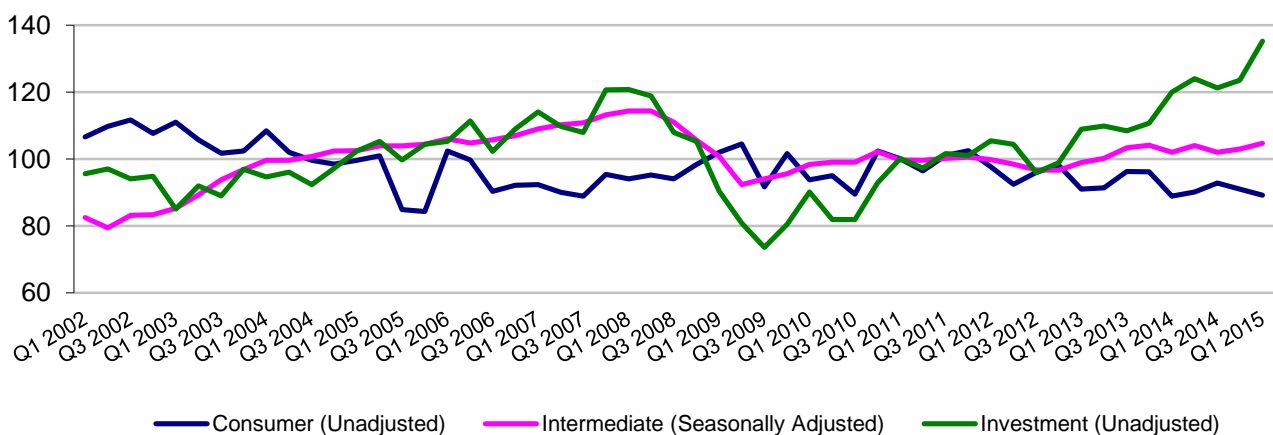
Sector	Consumer Goods	Intermediate Goods	Investment Goods
	Unadjusted	Seasonally Adjusted	Unadjusted
weights	44.2%	39.1%	16.7%
2002 1	106.5	82.4	95.6
2	109.7	79.4	97.0
3	111.6	83.2	94.1
4	107.6	83.3	94.8
2003 1	111.0	85.2	85.1
2	105.7	89.2	92.0
3	101.7	93.8	89.0
4	102.4	96.9	96.9
2004 1	108.4	99.6	94.7
2	102.0	99.6	96.1
3	99.6	100.7	92.3
4	98.5	102.3	97.2
2005 1	99.6	102.5	102.4
2	100.9	103.9	105.3
3	84.8	103.9	99.7
4	84.3	104.4	104.3
2006 1	102.4	106.0	105.2
2	99.7	104.8	111.3
3	90.4	105.7	102.3
4	92.2	106.9	108.9
2007 1	92.3	109.0	114.1
2	90.0	110.2	109.7
3	88.9	110.8	107.9
4	95.4	113.1	120.6
2008 1	94.0	114.3	120.7
2	95.2	114.4	118.8
3	94.0	111.0	107.9
4	98.3	105.7	105.2
2009 1	102.0	100.7	90.3
2	104.5	92.3	80.9
3	91.6	94.0	73.5
4	101.6	95.6	80.5
2010 1	93.8	98.3	90.1
2	95.0	99.1	81.9
3	89.4	99.0	81.9
4	102.4	102.2	92.9
2011 1	100.1	99.7	100.1
2	96.4	99.5	97.3
3	101.1	100.2	101.6
4	102.4	100.6	101.0
2012 1	97.7	99.8	105.4
2	92.4	98.5	104.4
3	96.0	96.7	96.0
4	98.2	96.6	98.8
2013 1	91.0	99.0	108.9
2	91.4	100.2	109.8
3	96.3	103.4	108.4
4	96.2	104.1	110.7
2014 1	88.8	102.0	120.0
2	90.1	104.0	124.0
3	92.8	102.0	121.3
4	91.0	102.9	123.5
2015 1	89.2	104.6	135.2

Table 3 cont'd: Index of Production by Market Sector Goods

Sector	Consumer Goods	Intermediate Goods	Investment Goods
	Unadjusted	Seasonally Adjusted	Unadjusted
weights	44.2%	39.1%	16.7%
previous quarter	-2.0	1.6	9.4
previous year	0.4	2.6	12.7
Rolling average*	-2.6	1.0	12.3

Figures are provisional and subject to revision to take account of more recent information and more up-to-date seasonal factors (see Background Notes). * The change in the rolling annual average measures the change in the average of the latest four quarters against the same four quarters one year previous.

Figure 13: Market Sector Goods
(2011=100)



Unadjusted Consumer Goods (weight 44.2%)

This category has been relatively stable during the recession but remains changeable quarter on quarter. In Q1 2015 there was a decrease (-2.0%) in output of consumer goods.

Seasonally Adjusted Intermediate Goods (weight 39.1%)

After experiencing a sharp fall between 2008 and 2009, this category has remained steady with the index being in the region of 100 quarter on quarter. Q1 2015 is reporting increases over the quarter (1.6%) and over the year (2.6%).

Unadjusted Investment Goods (weight 16.7%)

The significant falls in output experienced from 2008 where the index fell 39.1% between Q1 2008 and Q3 2009 reflects the impact of the global recession on businesses, with many companies looking to survive as the economy contracted. The recent rises in output can be interpreted as firms recovering from the recession and investing to grow from 2011. In Q1 2015 Investment goods have seen an increase of 9.4% from the previous quarter, and an increase of 12.7% from the same period one year earlier. This category has recovered some 83.9% from the minimum in Q3 2009.

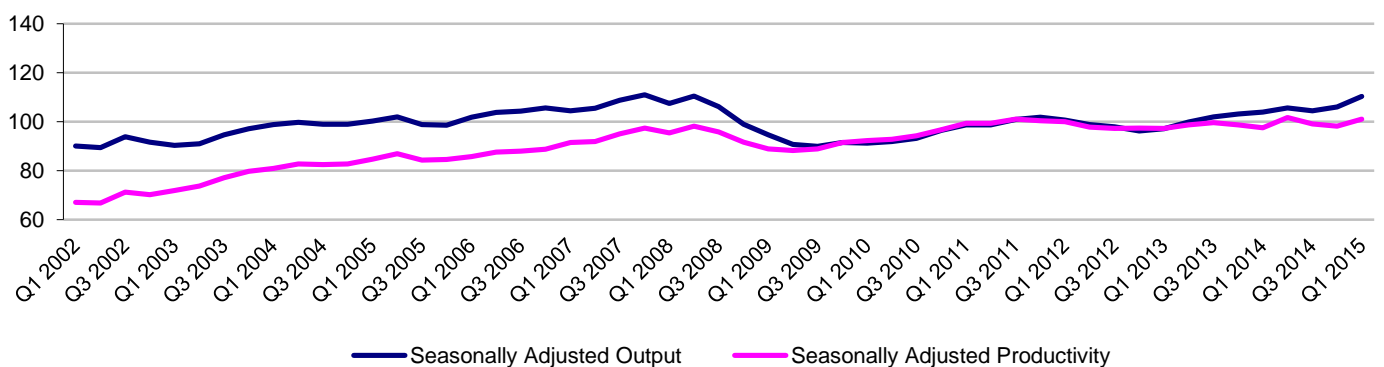
6: Seasonally Adjusted Index of Manufacturing Productivity

Manufacturing Productivity

The seasonally adjusted index of manufacturing productivity provides a measure of the number of units of output produced per person per paid hour. The index includes seasonally adjusted employees in employment, the seasonally adjusted manufacturing index and average weekly hours (based on hours worked for full-time adult manufacturing workers including overtime from the Annual Survey of Hours and Earnings).

The index of manufacturing productivity increased over the quarter and the year, by 2.9% and 3.6% respectively. The index reported an increase of 1.4% over the latest four quarters compared to the previous four quarters. Since mid-2009, output and productivity have been very similar. However, since the start of 2013, output has been greater than productivity.

Figure 14: Manufacturing Output & Productivity in NI
(2011=100)



The most recently published Quarterly Employment Survey seasonally adjusted figures for March 2015 (based on the 2007 Standard Industrial Classification) reported an increase of 1.0% over the quarter in employee jobs in the manufacturing sector and a rise of 2.4% over the year.

Seasonally Adjusted Manufacturing Productivity Index									
Annual Averages		Quarterly series		Quarterly series		Quarterly series		Quarterly series	
2002	69	2002 1	67.1	2006 1	85.7	2010 1	92.2	2014 1	97.5
2003	76	2	66.8	2	87.6	2	92.9	2	101.7
2004	82	3	71.3	3	87.9	3	94.2	3	99.1
2005	85	4	70.2	4	88.8	4	96.7	4	98.1
2006	87	2003 1	71.9	2007 1	91.5	2011 1	99.3	2015 1	101.0
2007	94	2	73.7	2	91.9	2	99.4		
2008	95	3	77.2	3	95.0	3	101.0		
2009	89	4	79.8	4	97.4	4	100.3		
2010	94	2004 1	81.0	2008 1	95.4	2012 1	100.0		
2011	100	2	82.7	2	98.2	2	97.7	% change latest qtr on:	
2012	98	3	82.4	3	95.8	3	97.3	Previous qtr	
2013	99	4	82.7	4	91.7	4	97.3		2.9
2014	99	2005 1	84.6	2009 1	88.9	2013 1	97.3	Same qtr 1 yr ago	
		2	86.9	2	88.3	2	98.6		3.6
		3	84.3	3	88.9	3	99.6	Rolling average	
		4	84.5	4	91.6	4	98.6		1.4

7: Background Notes

Background

The Northern Ireland Index of Production (IOP) has been produced since 1949 and figures are available in the current format back to 2002. It is published quarterly and is designed to provide a general measure of changes in the output of the production industries in Northern Ireland. (This is defined as Standard Industrial Classification 2007 sections B, C, D and E.) In 2012 these industries accounted for approximately 16% of regional Gross Value Added (GVA). See link to Regional GVA information.

<http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Regional+GVA>

Index numbers

An index number is a convenient form of expressing a series in a way that makes it easier to see changes in that series. The numbers in the series are expressed relatively, with one number in that series chosen to be the 'base' (usually expressed as 100) and other numbers being measured relative to that base. Index numbers have the advantage that they allow different types of data to be combined on a consistent basis, e.g. deflated current price data with volume data. The aim of the Index of Production is to provide a reliable indicator of short-term changes in the output of the production sector. Index numbers are a very good way of communicating this message. For example, the Index of Production Q1 2015 value of 107.8 means that the level of output was 7.8% higher than in 2011 which had a base year value of 100. The NI IOP is a Laspeyres volume index. The UK economic accounts are based on the European System of Accounts (ESA), which in turn is based on the UN System of Accounts (SNA). The ESA-preferred type of output indicator is one that measures deflated gross output (or turnover) for an industry. These use an approximate price change estimator to remove the effects of inflation. For this reason we, and the ONS, use a Laspeyres volume index (as opposed to Paasche, Lowe or Fisher indices). The ONS paper, link following, on the Methodology of the Monthly Index of Services (Annex A: Mathematical Formulation of the Index of Services) gives a good explanation of Index numbers theory.

<http://www.ons.gov.uk/ons/guide-method/user-guidance/index-of-services-methodology/index-construction/index.html>

Index sample

The IOP sample was refreshed for Q1 2014 and was drawn on a SIC07 basis. The sample was boosted from around 650 businesses and it is now approximately 1,000 companies. Due, in part, to the significant number of companies which fall into the census element, more than 60% of businesses in the new sample were also in the old sample. As a statutory survey the response rate is around 90%. The sample of production industries is selected directly from the Inter Departmental Business Register (IDBR), by stratifying companies by industry and company size. The sample consists of a census of dominant companies and a Neyman stratified random sample of the remaining companies. The census element consists of all companies employing 40 or more employees and those employing 0 to 39 employees and having a turnover of £10 million or more. This sample has been designed to give sufficiently accurate results, yet keep the total costs to businesses to a minimum.

Questionnaires were issued to both the new and existing businesses on each sample, for three quarters, as a means to calculate a link factor between the old sample (up to and including Q4 2013) and the new sample (from Q1 2014 onwards). With advice from Office for National Statistics Methodologists, as the result of a successful Quality Improvement Fund, a methodology has been developed in order to integrate the new samples without making significant changes to the back series data, thus giving a meaningful index.

Data collection, validation and Index calculation

The survey forms are issued quarterly, immediately after the period to which they relate. For example, forms are issued in October asking for information relating to July to September. Companies are asked to provide their turnover and exports. Historically a number of companies provided volume information rather than turnover data (e.g. litres of product rather than the turnover value of the product). From quarter 2, 2010 these companies were asked to also provide turnover data and from Q2 2011 the IOP estimates have solely been based on turnover. In response to user demand information is also collected on the value of exports. This will be used to produce a quarterly index in due course once a sufficient back series has been established.

Data validation is carried out ensuring that data fall within the expected limits, contacting the company where appropriate for clarification.

The overall Index of Production is calculated by weighting together industry level indices using relative shares of Accounts Gross Value Added (GVA) data from the most recent Regional Accounts, which is currently 2012. The IOP relative weights used to produce the aggregated industries are derived from the Regional GVA estimate, published annually by ONS. Figures in this Q4 2014 IOP publication reflect the move to using 2012 GVA, including a new ONS methodology for calculating sub-sectoral breakdowns of the GVA for Manufacturing first adopted in December 2013.

For practically all series, the value of sales, deflated to allow for price changes, is used as the indicator. In the remaining cases, changes in the volume of production or the number of employees are used as a proxy measure.

From Q2 2014, the individual series have been seasonally adjusted using X-13 ARIMA SEATS, which introduces improvements to the models used for seasonal adjustment. Also from Q2 2014, the electricity, gas, steam and air conditioning index is seasonally adjusted; prior to this a smoothing methodology had been applied to this series.

Further information on the methodology and impact of the seasonal adjustment changes can be found in the methodological note published at www.detini.gov.uk/deti-stats-index/stats-surveys/stats-index-of-production/stats_iop_background_information.htm

It is also possible to aggregate all individual series to give indices by final use of goods produced. This is known as a market sector analysis and estimates are given in Section 5 of this bulletin. It distinguishes between unadjusted Consumer, unadjusted Investment and seasonally adjusted Intermediate Goods. The latter are described as intermediate because they include materials used to produce goods for consumption.

The Productivity index provides a measure of the number of units of output produced per person per paid hour. The productivity index is based on the seasonally adjusted manufacturing index, seasonally adjusted employees in employment and average weekly hours (based on hours worked for full-time adult manufacturing workers including overtime from the Annual Survey of Hours and Earnings). An index of total employee hours is calculated based on the number of employees in employment and average weekly hours. The seasonally adjusted index of manufacturing is divided by the index of total employee hours to produce the Index of Productivity.

The seasonally adjusted Northern Ireland Index of Production is annually chain-linked (chain-linking involves the linking of growth estimates between different time periods in order to produce a continuous time series) using GVA estimates derived from regional accounts using the fourth quarter of the preceding year as the link period. Inaccuracies caused by the assumption of a stable relationship between GVA and turnover are reduced using this methodology. When annual weights are used the assumption only has to be maintained from one year to the next year. A paper on annual chain-linking from ONS is available at <http://www.ons.gov.uk/ons/rel/regional-accounts/regional-gross-value-added--income-approach--december-2010/stb-regional-gva-dec-2011.html>

The standard method for linking two series (for example one based on a SIC03 sample and one based on SIC07 sample) is to calculate the index under the old and new circumstances over some link period, and then apply the growth of the subsequent new series to the old series. As the relationship of both samples to the IDBR was known, the IDBR was used to provide the link period. Thus the ratio of the IDBR turnover for Q1 2011 and Q2 2011 is known. We have the Q2 2011 value (SIC07) and the Q1 2011 value (converted from SIC03 to SIC07). We can therefore create the following link factor:

$$\text{link factor} = \frac{(\text{Q2 2011 sample estimate} * \text{IDBR Q1 2011 value})}{(\text{Q1 2011 sample estimate} * \text{IDBR Q2 2011 value})}$$

This can then be applied to the converted back series along with historic Q1 to Q2 fluctuations, thus retaining the previous growth rates and any seasonal effects.

For Q1 2014 and Q2 2014, questionnaires were issued to companies on both the existing sample and the new sample, thus allowing a link factor to be calculated based on the average percentage change between the two. This link factor was then applied to each of the quarterly turnover back series (grossed & deflated), in order to give a series of the same magnitude as the new sample series (from Q1 2014 onwards).

Deflation

All series, unless otherwise quoted, are measured at constant market price. Deflators adjust the value series to take out the effect of price change to give the volume series. Details on the changes to the ONS deflators methodology can be found at the following link

<http://www.ons.gov.uk/ons/guide-method/method-quality/specific/economy/national-accounts/methodology-and-articles/2011-present/index.html>

Seasonal adjustment

The index numbers in this statistical bulletin are seasonally adjusted, where appropriate. This aids interpretation by removing annually recurring fluctuations, for example due to holidays or other regular seasonal patterns. All IOP time series are checked using X-13 ARIMA SEATS for evidence of seasonality, and those series where seasonality is detected are adjusted using X-13 ARIMA SEATS in order to obtain a clear picture of the general trend. Unadjusted data are also available.

The figures presented in this publication are calculated using the X-13 ARIMA SEATS method of seasonal adjustment. The following is a link to an ONS Guide to seasonal adjustment with X-12 ARIMA (an updated guide for X-13 ARIMA SEATS is currently being finalised by ONS):

<http://www.ons.gov.uk/ons/guide-method/method-quality/general-methodology/time-series-analysis/guide-to-seasonal-adjustment.pdf>

Quality reporting

One indicator of the reliability of the figures in this bulletin can be obtained by monitoring the size of revisions. The IOP revisions policy can be found at:

<http://www.detini.gov.uk/deti-stats-index/stats-surveys/stats-index-of-production/stats-newpage-4.htm>

Summary quality report

The latest summary quality report for this publication can be found on the IOP Quality and Revisions page of the website at

<http://www.detini.gov.uk/deti-stats-index/stats-surveys/stats-index-of-production/stats-newpage-4.htm>

Publication of results on a SIC07 basis

A Standard Industrial Classification (SIC) was first introduced into the UK in 1948 for use in classifying business establishments by the type of economic activity in which they are engaged. The UK is required by European legislation to revise the SIC in parallel with NACE (the statistical classification of economic activities in the European Communities) so that both systems are identical down to and including the four digit class level. This new SIC07 provides greater detail on the services sector, reflecting its growing importance in the economy. The new classification has a small impact on total IOP and Index of Services and a slightly bigger impact on manufacturing. In the new classification, sewerage and waste disposal have been moved from services to production and publishing has moved in the opposite direction. The changes also lead to differences in the behaviour of the IOP and IOS over time as the industries moving between the two sectors behave in quite different ways. There has also been a switch within the production sector between manufacturing caused by the new treatment of recycling, which moves out of manufacturing into the new section E – this reduces the size of manufacturing though production as a whole is unchanged. More information on SIC07 can be found at the following links:

<http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/standard-industrial-classification/index.html>

<http://www.ons.gov.uk/ons/rel/naa2/second-estimate-of-gdp/q2-2011/art---bb11-improvements-to-gdp--ios--iop.html>

Status of figures in current bulletin

Results are published on a SIC07 basis in this bulletin and all indices are produced on a 2011=100 basis.

Turnover from newly registered businesses on IDBR from Q2 2011 to Q4 2013 have been included in the results.

All figures are published to one decimal place. Figures for annual averages and percentage changes over the previous quarter and year are based on unrounded figures and may not agree with the published constituent parts.

Results, particularly for the latest quarter, are provisional and subject to revision as more up to date information become available.

The overall IOP index has been produced using X-13 ARIMA SEATS seasonal adjustment. Some of the sectors and sub-sectors have also been seasonally adjusted, and those can be identified throughout the bulletin.

Comparisons between the Index of Production and the Annual Business Inquiry (ABI) may not necessarily match because of definitional and coverage differences.

Planned future revisions

The IOP revisions policy can be found at

<http://www.detini.gov.uk/deti-stats-index/stats-surveys/stats-index-of-production/stats-newpage-4.htm>

Publications policy

All Economic and Labour Market Statistics Branch statistical publications are available to download free of charge from the website: <http://www.detini.gov.uk/deti-stats-index.htm>

The IOP bulletin is available at <http://www.detini.gov.uk/deti-stats-index/stats-surveys/stats-index-of-production.htm>

The tables from the current publication, which include data back to 2002, are available in Excel format to download free of charge from the IOP website at <http://www.detini.gov.uk/deti-stats-index/stats-surveys/stats-index-of-production.htm>

The IOP is normally published on the same day as the Index of Services (IOS) each quarter and the latest edition of the IOS can be accessed at http://www.detini.gov.uk/index/what-we-do/deti-stats-index/economic_output_statistics/index-of-services.htm. Quarter 3 2014 results from the NI Index of Services were published on 19th May 2015 and reported a 0.6% fall over the quarter. The next IOS publication is scheduled for 22nd July 2015 and will include results up to Q1 2015.

The Economic and Labour Market Statistics Branch statistics publication schedule is available at http://www.detini.gov.uk/index/what-we-do/deti-stats-index/stats_publications_2014_onwards.htm

The list of people given pre-release access to this publication is available at http://www.detini.gov.uk/elms_publication_and_pre-release_access_list_updated_april_2015.docx?rev=0

SIC 2007 Definitional Changes

Manufacturing – SIC07 Section C (weight 86.0%)

The boundaries of manufacturing and the other sectors of the classification system can be somewhat blurred. As a general rule, the activities in the manufacturing section involve the transformation of materials into new products. Their output is a new product.

Water supply, sewerage and waste management (inc. recycling) – SIC07 Section E (weight 6.4%)

This section covers activities related to the management (including collection, treatment and disposal) of various forms of waste, such as solid or non-solid industrial or household waste, as well as contaminated sites. Activities of water supply are also grouped in this section, since they are often carried out in connection with, or by units also engaged in, the treatment of sewage.

Electricity, gas, steam and air conditioning supply – SIC07 Section D (weight 6.7%)

This section includes the activity of providing electric power, natural gas, steam, hot water and the like through a permanent infrastructure (network) of lines, mains and pipes. Also included is its distribution in industrial parks or residential buildings. This therefore includes the operation of electric and gas utilities.

Mining and Quarrying – SIC07 Section B (weight 0.9%)

This section covers the extraction of minerals occurring naturally as solids (coal and ores), liquids (petroleum) or gases (natural gas). Extraction can be achieved by different methods such as underground or surface mining, well operation, seabed mining, etc.

Next publication

The next bulletin will be published on 16th September 2015.

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