



Northern Ireland Quarterly Index of

Introduction

The quarterly Index of Production (IOP) provides a timely indicator of growth in the output of the production industries in Northern Ireland. IOP indices, along with other published quarterly data and unpublished agricultural output data, are used to generate the Northern Ireland Composite Economic Index (NICEI) (opens in a new window). The NICEI is an experimental quarterly measure of the performance of the NI economy based on available official statistics.

Key Points

Output estimates are calculated from the IOP aspect of the Quarterly Business Survey (QBS). The IOP has a sample size of approximately 1,100, covering all production businesses with 40 or more employees and a representative sample of smaller businesses. All estimates are compared to the revised Quarter 3 2020 and Quarter 4 2019 estimates.

- The NI IOP decreased by 0.3% over the quarter (October December) and by 1.4% over the year.
- The UK IOP reported a 1.7% increase over the quarter and a decrease of 4.3% over the year.
- When the most recent four quarters are compared to the previous four quarters, the NI production sector decreased by 7.0% while the UK production sector decreased by 8.6%.
- The quarterly decrease in production output of 0.3% has been driven by decreases in three of the four main sectors: Manufacturing (0.6%); Electricity, gas, steam and air conditioning supply (0.8%) and Mining and quarrying (6.3%). This was partially offset by an increase in Water supply, sewerage and waste management (Inc. recycling) (10.2%).
- The annual decrease in NI production output of 1.4% was driven by decreases in three of the four main sectors: Manufacturing (0.9%); Water supply, sewerage and waste management (Inc. recycling) (1.8%); Electricity, gas, steam and air conditioning supply (6.0%) and was partially offset by an increase in Mining and quarrying (15.0%).



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NATIONAL STATISTICS STATUS

National Statistics status means that our statistics meet the highest standards of trustworthiness, quality and public value, and it is our responsibility to maintain compliance with these standards.

These statistics were designated as National Statistics on 5th August 2011 following a full <u>Index of Production assessment (opens in a new window)</u> against the UK <u>Code of Practice for statistics (opens in a new window)</u>.

Since the assessment by the UK Statistics Authority we have continued to comply with the Code of Practice for Statistics and have made the following improvements:

- Removed pre-release access to enhance trustworthiness and also brought the publication date forward as a result;
- Reduced <u>business burden (1.13MB) (opens in a new window)</u> by offering the option of online data returns.

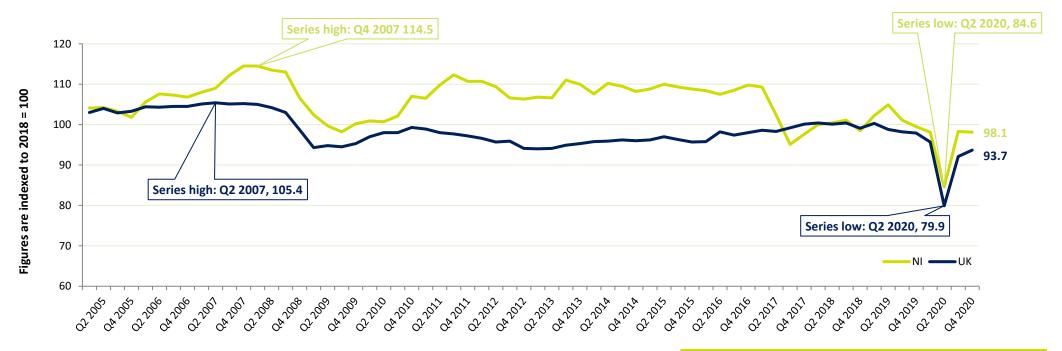
1 Summary of Index of Production

Change in IOP

The seasonally adjusted estimate for the NI IOP for Quarter 4 2020 showed:

- a decrease of 0.3% over the quarter from the Quarter 3 2020 revised estimate;
- a decrease of 1.4% over the year from the Quarter 4 2019 revised estimate;
- a decrease of 7.0% when the most recent four quarters are compared to the previous four quarters.

Figure 1.1 IOP NI & UK (Q1 2005 - Q4 2020)



Commentary

The coronavirus (COVID-19) pandemic and subsequent measures taken to reduce the transmission of the virus impacted on the economy in 2020. Throughout Quarter 4 2020, businesses in Northern Ireland were subject to a number of restrictions which impacted on their ability to operate. Further information can be found on NI Direct (opens in a new window).

Output in the NI Production sector decreased in real terms by 0.3% over the fourth quarter of 2020. The UK Production sector has reported an increase of 1.7% over the same period. There were decreases over the year in both NI (1.4%) and UK (4.3%).

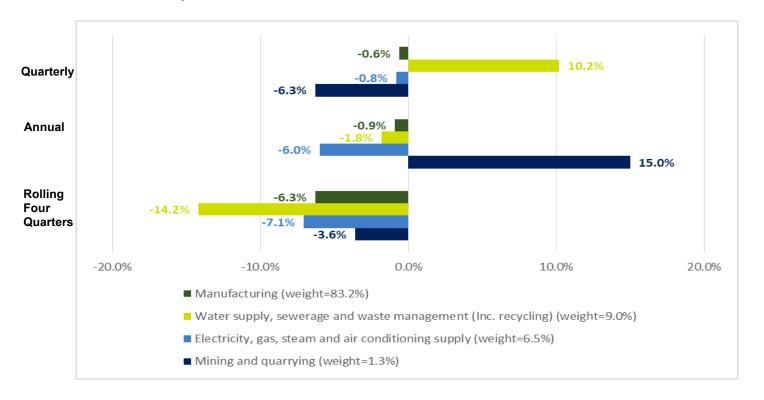
NI output is 15.9% above the series low (Quarter 2 2020), 14.4% below its series high (Quarter 4 2007) and 12.7% below its ten year high (Quarter 3 2011).

Comparing the seasonally adjusted NI IOP from Quarter 3 2020 to Quarter 4 2020, three of the four main sectors showed decreases, with the largest decrease of 6.3% reported in the Mining and quarrying sector. Only Water supply, sewerage and waste management (Inc. recycling) reported an increase (10.2%) over the quarter.

Comparing the seasonally adjusted NI IOP from Quarter 4 2019 to Quarter 4 2020, three of the four main sectors showed decreases, with the largest decrease of 6.0% reported in the Electricity, gas, steam and air conditioning supply sector. Only the Mining and quarrying sector reported an increase (15.0%).

Comparing the seasonally adjusted NI IOP for Quarter 1 2020 to Quarter 4 2020 with Quarter 1 2019 to Quarter 4 2019, all four of the main sectors reported a decrease, with the largest decrease of 14.2% reported in the Water supply, sewerage and waste management (Inc. recycling) sector.

Figure 1.2 Quarterly, annual and rolling four quarters changes in IOP at sector level Quarter 4 2020¹



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¹ For further information on weights see Regional GVA information on page 19

Context

The IOP is an important short-term measure of change in the output of the production sector of the economy. The contents of this report will be of interest to government policymakers, Members of the Legislative Assembly, the business community, economic commentators, academics and members of the general public with an interest in the NI economy. A summary of recent uses (599KB) (opens in a new window) is available on the NISRA website.

The Department for the Economy (DfE) Economic Commentary (Spring 2021) (opens in a new window) provides an overview of the NI economy, setting it in context with the UK and Republic of Ireland.

The most up-to-date official statistics on the economy and labour market are available on the Economic Overview section (opens in a new window) of the Economic and Labour Market Statistics (ELMS) section of the NISRA website (opens in a new window).

The IOP is published on a Standard Industrial Classification 2007 (SIC07) basis. IOP data prior to Quarter 2 2011 were collected on a SIC03 basis and have been converted to approximate the SIC07 coverage.

The background notes (Section 4) provide information on the methodology used to produce the statistics, as well as information on the quality and accuracy of the data. This bulletin contains results for the production sector as a whole, for Manufacturing; Water supply, sewerage and waste management (Inc. recycling); Electricity, gas, steam and air conditioning supply and Mining and quarrying sectors. Production sector series are seasonally adjusted (unless otherwise stated) on a 2018=100 basis using X-13 ARIMA SEATS, giving data up to the most recent available guarter (Quarter 4 2020).

Comparative UK data, produced by the Office for National Statistics (ONS), are presented where these are available. The latest UK IOP results (opens in a new window) can be found on the ONS website.

This publication provides three measures of growth for the index.

- 1. 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 to remove the effects of changes in output as a result of the time of the year;
- 2. Comparisons with the same quarter one year ago; and
- 3. A comparison of the most recent twelve months with the twelve months before. The quarterly comparison over the year provides an additional control on the 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.

Revisions

Results are provisional and subject to revision which can be made for a variety of reasons. The most common include late responses to surveys, estimates being replaced by actual data, revisions to seasonal adjustment factors, methodological changes and changes to business classifications. Volatility also arises when businesses inform NISRA of SIC code changes via business surveys, ONS or HM Revenue & Customs (HMRC). This new information helps to improve the estimates of growth each quarter but also adds volatility to quarterly and annual changes. Only rarely are there avoidable 'errors' such as human or system failures, and such mistakes are made quite clear when they do occur.

The coronavirus (COVID-19) pandemic impacted on the data collection and the validation of business data, which are collected on the Quarterly Business Survey. As a result, estimates for Quarter 4 2020 may be subject to higher revisions than normal over the coming quarters.

2 Production output by sector

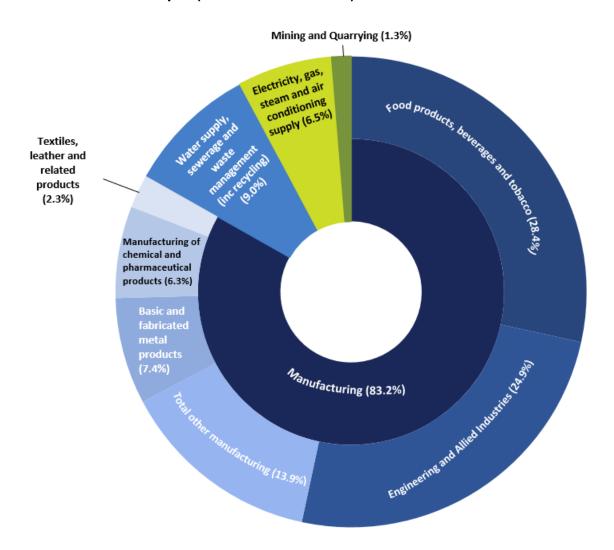
Output: Turnover, defined as the value of total sales generated from all NI based activity, excluding VAT. Turnover is rounded to the nearest thousand and is then deflated and seasonally adjusted.

2.1 Key findings

- The IOP decreased by 0.3% over the quarter; by 1.4% over the year and by 7.0% on a rolling four quarter basis.
- The quarterly decrease in production output of 0.3% has been driven by decreases in three of the four main sectors: Manufacturing (0.6%); Electricity, gas, steam and air conditioning supply (0.8%); Mining and quarrying (6.3%) and partially offset by an increase in Water supply, sewerage and waste management (Inc. recycling) (10.2%).
- The annual decrease in NI production output of 1.4% was driven by decreases in three of the four main sectors: Manufacturing (0.9%); Water supply, sewerage and waste management (Inc. recycling) (1.8%); Electricity, gas, steam and air conditioning supply (6.0%) and partially offset by an increase in Mining and quarrying (15.0%).

The Production sector is dominated by Manufacturing, which accounts for approximately 83.2% of total production Gross Value Added (GVA) at 2018 prices.

Figure 2.1 IOP sector split (based on 2018 GVA)



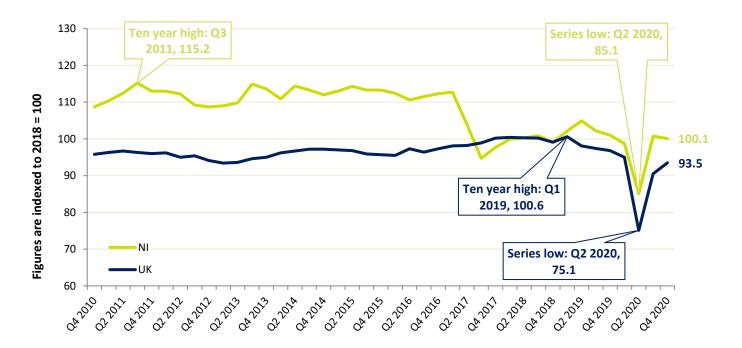
2.2 Manufacturing

Manufacturing sector (SIC07 Section C) - (weight = 83.2% of IOP): Manufacturing involves the transformation of materials into new products (outputs). It is comprised of six subsectors, as shown in Figure 2.1.

Key findings

- The NI seasonally adjusted figures show decreases of 0.6% over the quarter, 0.9% over the year and 6.3% on a rolling four quarters basis.
- The UK seasonally adjusted figures show an increase of 3.3% over the quarter and decreases of 3.4% over the year and 9.9% on a rolling four quarters basis.
- NI output is 13.1% below its highest point recorded (Quarter 3 2011) over the ten year period.
- NI output is 17.6% above the series low recorded in Quarter 2 2020.
- Within manufacturing, three of the six broad subsectors (as shown in Figure 2.1) have decreased over the quarter (See Section 3 on page 12).

Figure 2.2 Manufacturing sector, NI & UK (Q4 2010–Q4 2020)



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The NI index has been outperforming the UK in the Manufacturing sector with the exception of the period between Quarter 3 2017 and Quarter 2 2018.

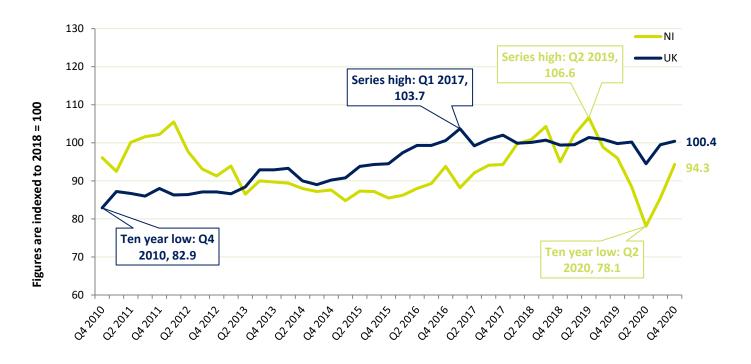
2.3 Water supply, sewerage and waste management (Inc. recycling)

Water supply, sewerage, and waste management (Inc. recycling) (SIC07 Section E) (weight = 9.0% of IOP): 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.

Key findings

- The NI seasonally adjusted figures show an increase of 10.2% over the quarter, a decrease of 1.8% over the year and a decrease of 14.2% on a rolling four quarters basis.
- The UK reports increases of 0.9% over the quarter and 0.6% over the year, with a decrease of 1.7% on a rolling four quarters basis.
- NI output is 20.7% above the ten year low recorded in Quarter 2 2020 and is 33.3% above the series low recorded in Quarter 3 2005.
- The NI estimate is 11.5% below the series high recorded in Quarter 2 2019.

Figure 2.3 Water supply, sewerage and waste management (Inc. recycling), NI & UK (Q4 2010–Q4 2020)



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The UK index has been performing better than the NI index in this sector since Quarter 2 2013, with the exception of the periods between Quarter 2 2018 to Quarter 3 2018 and Quarter 1 2019 to Quarter 2 2019. NI output has seen a substantially larger decrease in the early quarters of 2020 than UK output.

2.4 Electricity, gas, steam and air conditioning supply

Electricity, gas, steam and air conditioning supply (SIC07 Section D) (weight = 6.5% of IOP): This sector 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. Therefore, the operation of electric and gas utilities are included.

Key findings

- The NI seasonally adjusted figures show decreases of 0.8% over the quarter, 6.0% over the year and 7.1% on a rolling four quarters basis.
- The seasonally adjusted figures for the UK show decreases of 1.8% over the quarter, 5.8% over the year and 4.5% on a rolling four quarters basis.
- The NI estimate is 15.2% below the series high recorded in Quarter 1 2010 and 13.0% below the ten year high recorded in Quarter 1 2018.
- NI output is 4.8% above the series low recorded in Quarter 2 2020.

Figure 2.4 Electricity, gas, steam and air conditioning supply, NI & UK (Q4 2010–Q4 2020)



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The NI and UK indices have followed similar trends in the Electricity, gas, steam and air conditioning supply sector throughout the series. The UK index has generally outperformed the NI index in this sector with the exception of a few quarters. NI output saw a more substantial decrease in early 2020 than the UK index.

2.5 Mining and quarrying

Mining and quarrying (SIC07 Section B) (weight = 1.3% of IOP): 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.

Key findings

- The NI seasonally adjusted figures show a decrease of 6.3% over the quarter, an increase of 15.0% over the year and a decrease of 3.6% on a rolling four quarters basis.
- The UK seasonally adjusted figures show decreases of 6.0% over the quarter, 14.2% over the year and 9.5% over a rolling four quarters basis. This quarter is a series low for the UK in this sector.
- NI output is 11.5% below the series high (Quarter 1 2017).
- NI output is 40.3% above its ten year low (Quarter 2 2020) and 54.5% above the lowest reported level since the series began (Quarter 1 2005).

Figure 2.5 Mining and quarrying, NI & UK (Q4 2010–Q4 2020)



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Both the NI and the UK indices have shown volatility in the Mining and quarrying sector. Since Quarter 1 2016 NI has generally performed better than the UK in this sector with the exception of Quarter 1 2018, Quarter 3 2018, Quarter 4 2019 and Quarter 2 2020.

3 Manufacturing subsectors

Key findings

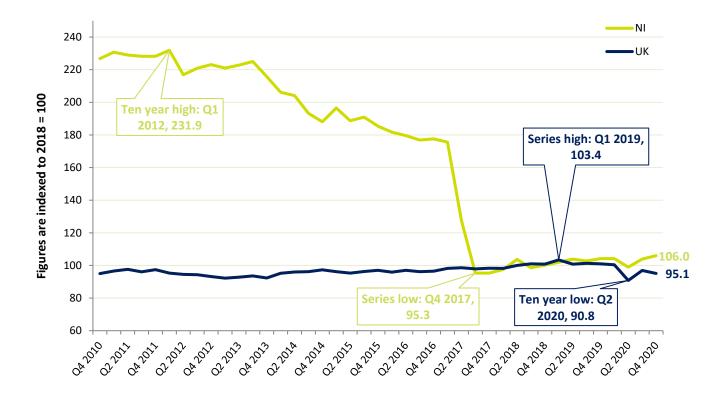
- The quarterly decrease in Manufacturing output (0.6%) was driven by decreases in three of the six main subsectors: Manufacture of textiles, leather and related products (10.1%); Engineering and allied industries (2.6%) and Basic metals and fabricated metal products (0.3%)
- This decrease is partially offset by increases in the Food products, beverages and tobacco (1.9%); Total other manufacturing (1.5%) and Manufacture of chemical and pharmaceutical products (0.9%) subsectors.
- Over the year the decrease in Manufacturing (0.9%) was driven by decreases in two of the six main subsectors: Engineering and allied industries (14.0%) and Basic metals and fabricated metal products (10.1%).
- These decreases were partially offset by increases in the Manufacture of chemical and pharmaceutical products (31.9%); Manufacture of textiles, leather and related products (23.3%); Food products, beverages and tobacco (1.7%) and Total other manufacturing (0.1%) subsectors.

3.2 Food products, beverages and tobacco (weight=28.4% of Manufacturing)²

Key findings

- NI output increased by 1.9% over the quarter, 1.7% over the year and 0.1% on a rolling four quarters basis.
- The UK decreased by 1.9% over the quarter, 5.8% over the year and 5.7% on a rolling four quarters basis.
- NI output is estimated to be 11.2% above the series low (Quarter 4 2017).
- NI output remains 54.3% below its ten year high (Quarter 1 2012).

Figure 3.2 Food products, beverages and tobacco, NI & UK (Q4 2010–Q4 2020)



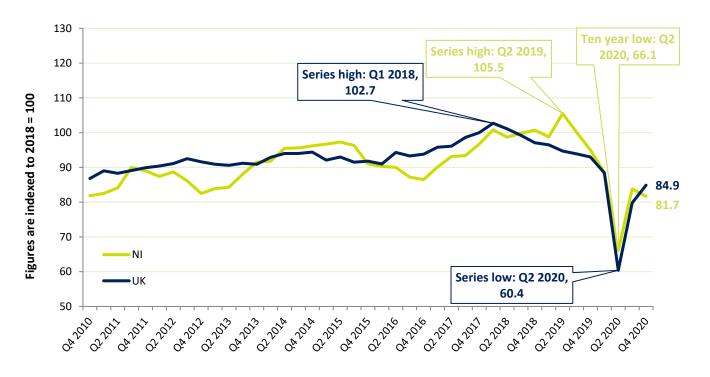
² Please note that estimates at subsector level can fluctuate due to sampling variability and also due to businesses moving industrial classification.

3.3 Engineering and allied industries (weight=24.9% of Manufacturing)³

Key findings

- NI seasonally adjusted figures show decreases over the quarter (2.6%), over the year (14.0%) and on a rolling four quarters basis (19.8%).
- The UK estimate shows an increase of 6.4% over the quarter and decreases of 8.7% over the year and 17.1% on a rolling four quarters basis.
- NI output is 23.5% above its ten year low (Quarter 2 2020) and is 29.3% above the series low (Quarter 3 2009).
- NI output is 22.6% below its highest point recorded (Quarter 2 2019).

Figure 3.3 Engineering and allied industries NI & UK (Q4 2010–Q4 2020)



³ Please note that estimates at subsector level can fluctuate due to sampling variability and also due to businesses moving industrial classification.

3.4 Total Other Manufacturing (weight=13.9% of Manufacturing)⁴

Key findings

- Seasonally adjusted figures show increases of 1.5% over the quarter, 0.1% over the year and a 6.2% decrease on a rolling four quarters basis.
- The UK reported an increase over the quarter (3.7%) and decreases over the year (1.2%) and on a rolling four quarters basis (9.9%).
- NI output is 25.6% above its series low (Quarter 2 2020).
- NI output is estimated to be 11.0% below the highest point of the past ten years (Quarter 2 2018).

Figure 3.4 Total Other Manufacturing, NI & UK (Q4 2010–Q4 2020)



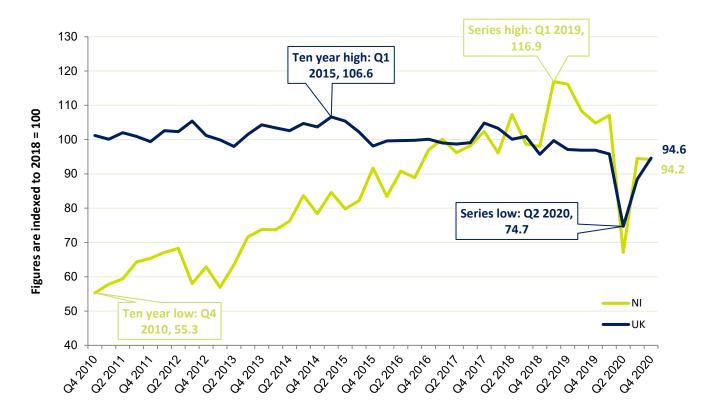
⁴ Please note that estimates at subsector level can fluctuate due to sampling variability and also due to businesses moving industrial classification.

3.5 Basic and fabricated metal products (weight=7.4% of Manufacturing)⁵

Key findings

- The NI seasonally adjusted figures show decreases of 0.3% over the quarter, 10.1% over the year and 18.6% on a rolling four quarters basis.
- UK seasonally adjusted figures show an increase of 7.0% over the quarter and decreases of 2.4% over the year and 9.5% on a rolling four quarters basis.
- NI output is 19.4% below its peak (Quarter 1 2019).
- NI output is 70.5% above the ten year low (Quarter 4 2010).

Figure 3.5 Basic and fabricated metal products, NI & UK (Q4 2010–Q4 2020)



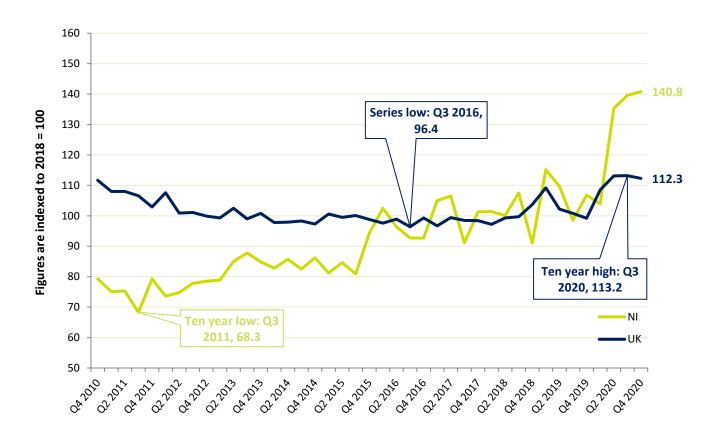
⁵ Please note that estimates at subsector level can fluctuate due to sampling variability and also due to businesses moving industrial classification.

3.6 Manufacturing of chemical and pharmaceutical products (weight=6.3% of Manufacturing)⁶

Key findings

- The NI non-seasonally adjusted figures have increased by 0.9% over the quarter, 31.9% over the year and 20.8% on a rolling four quarters basis.
- The UK figures show a decrease of 0.8% over the quarter and increases of 13.2% over the year and 8.7% on a rolling four quarters basis.
- NI output has reached a series high in this subsector in Quarter 4 2020.
- NI output is 106.2% above the ten year low point (Quarter 3 2011).

Figure 3.6 Manufacturing of chemical and pharmaceutical products, NI & UK (Q4 2010–Q4 2020)



⁶ Please note that estimates at subsector level can fluctuate due to sampling variability and also due to businesses moving industrial classification.

The Manufacturing of chemical and pharmaceutical products subsector has not been seasonally adjusted as this subsector shows no evidence of seasonality. The UK data has been seasonally adjusted.

3.7 Textiles, leather and related products (weight=2.3% of Manufacturing)⁷

Key findings

- The NI seasonally adjusted figures show a decrease over the quarter (10.1%) and increases over the year (23.3%) and on a rolling four quarters basis (12.1%).
- UK seasonally adjusted figures show an increase over the quarter (1.2%) and decreases over the year (2.7%) and on a rolling four quarters basis (14.6%).
- NI output is 10.1% below its series high (Quarter 3 2020).
- NI output is 93.5% above the ten year low (Quarter 3 2014).

Figure 3.7 Textiles, leather and related products, NI & UK (Q4 2010–Q4 2020)



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⁷ Please note that estimates at subsector level can fluctuate due to sampling variability and also due to businesses moving industrial classification.

4 Background notes

Background

The quarterly IOP provides a measure of change in the output of the production industries in NI (this is defined as SIC07 sections B to E). In 2018 these production industries accounted for 18% of Regional GVA. For further information please see the Methodology for the NI Index of Production (IOP) (opens in a new window).

Impact of coronavirus (COVID-19) on data collection and estimates

Coronavirus impacted on the data collection and the validation of turnover data, which are collected on the Quarterly Business Survey.

The following provides an overview of the coverage response rates for 2019 compared to Quarter 4 2020:

	Quarter 4 2020	2019 (median*)
Coverage response rate (returned turnover)	59%	80%

^{*}median value achieved at IOP database closure of the four quarters of 2019.

Coronavirus has resulted in a decrease in coverage response rates in Quarter 4 2020 when compared to 2019 figures, primarily due to the restrictions in place for businesses. As a result, the estimates for Quarter 4 2020 may be subject to higher revisions than normal over the coming quarters. Comparisons of provisional 2020 estimates at lower industry levels in particular should be treated with caution.

Gross Value Added (GVA)

From Quarter 4 2017 weighting has been carried out using the balanced GVA approach which balances the income and production approaches to measuring the economy into a single estimate. For more information please see <u>Regional GVA information (opens in a new window)</u>. Figures in this publication are weighted using 2018 GVA which became available on 19th December 2019.

Deflation

All series, unless otherwise quoted, are measured at a constant market price (2018 = 100). Deflators adjust the value series to take out the effect of price change to give the volume series. The deflators used in this bulletin were provided by ONS on 8th March 2021. Details on the changes to the ONS deflators methodology (177KB) (opens in a new window) can be found on the ONS Website.

Seasonal adjustment Review

Following the seasonal adjustment review conducted in November 2018 changes have been made to some regressors and models used to seasonally adjust (where applicable) time series using X13 ARIMA SEATS. This improves the reliability of results. Further details on this review and other methodological changes (opens in a new window) implemented in March 2019 are available on the NISRA website.

Changes to recent releases

Quarter	Change	Detail
Quarter 2 2018	NI Index Rebased to 2016	Figures rebased to 2016 = 100 in line with ONS.
Quarter 4 2018	NI Index of Manufacturing Productivity removed from the Index of Production report.	We are currently reviewing the methodology as part of a wider review of productivity.
Quarter 1 2019	Seasonal Adjustment Review	Following the seasonal adjustment review conducted in November 2018 changes have been made to some regressors and models used to seasonally adjust (where applicable) time series using X13 ARIMA SEATS.
Quarter 4 2019	2018 GVA	Figures in this publication are weighted using 2018 GVA which became available on 19th December 2019.
Quarter 3 2020	NI Index Rebased to 2018	Figures rebased to 2018 = 100 in line with ONS. For further information on this please see the Quarter 3 2020 Rebasing notice (213KB) (opens in a new window).

Publications policy

All ELMS publications are available to download free of charge from the **ELMS section of the NISRA** website (opens in a new window).

The IOP bulletin and tables from the current publication, which includes all the data from the start of the series in 2005, are available in Excel and Open Document format to download free of charge from the IOP section of the NISRA website (opens in a new window).

Future IOP publications are due to be published on the same day as the Index of Services in March, June, September and December of each year.

Next publication

The next bulletin is due to be published on 17 June 2021.

The **ELMS** publication schedule (opens in a new window) is available on the NISRA website.

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