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12 April 2018 Northern Ireland Economy Statistics Quarterly

Northern Ireland Composite Economic Index Quarter 4 2017

Key points

- The Northern Ireland Composite Economic Index (NICEI) results show that NI economic activity was estimated to have increased by 0.4% in real terms from Quarter 3 (July – September) 2017 to Quarter 4 (October – December) 2017. However, the index decreased by 0.2% over the year to Quarter 4 2017.
- Over the last two years annual output (averaged over the four quarters to Quarter 4 2017 compared to the previous four quarters) increased by 1.1%. Although the measures are not produced on a fully equivalent basis, comparisons with the UK over the same period show that the NICEI grew at a slower rate (1.1%) than UK GDP¹ (1.8%). That said, over the quarter the NICEI and UK GDP grew at the same rate (0.4%).
- The NI private sector index was estimated to have increased by 0.4% over the quarter but decreased by 0.3% over the year to Quarter 4 2017.
- The Public sector jobs index increased by 0.4% over the quarter and by 0.3% over the year to Quarter 4 2017.

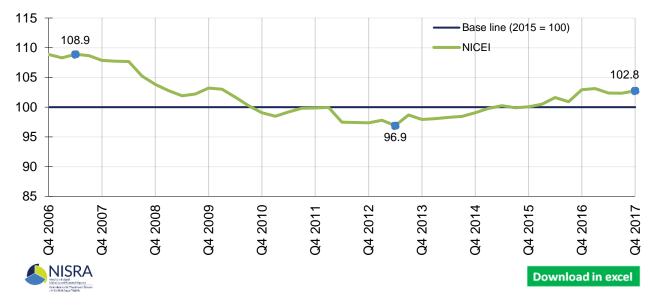


Figure 1: NI Composite Economic Index Quarter 4 2017

¹ ONS Quarterly National Accounts, Quarter 4 (October - December) 2017 (The measure of GDP referred to is the chained volume index of GDP at market prices)

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This Report contains the following chapters:

- 1. Context
- 2. NI Composite Economic Index Quarter 4 (October to December) 2017
- 3. Contribution to change
- 4. Comparisons with measures of GDP
- 5. Economic commentary
- 6. Further information
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Note that the data in this release can be downloaded in excel by clicking the button under the respective tables/charts. In addition, the summary tables and comparisons with the UK, ROI and Scottish GDP can be downloaded in Open Data Format from the <u>NINIS website</u>.

The next publication for Quarter 1 2018 results will be in July 2018.

1 Context

The results for the NICEI for Quarter 4 2017 show that economic output in Northern Ireland (NI) increased by 0.4% over the quarter (short-term) but decreased by 0.2% over the year to Quarter 4 2017 (medium term). Over the last two years annual output (averaged over the four quarters to Quarter 4 2017 compared to the previous four quarters) increased by 1.1%.

The most recent <u>Quarterly Employment Survey</u> (published March 2018) shows that the number of employee jobs increased over the quarter by 0.7% (5,330 jobs) and over the year to December 2017 by 2.0% (15,090 jobs).

The most recent <u>NI House Price Index</u> showed that between Q3 2017 and Q4 2017 property prices in NI increased by 1.0%. The index also showed growth over the year (4.3%). Research from <u>UK Finance</u>, a trade association which incorporated the Council of Mortgage Lenders, reported the number of first-time buyers and remortgages in Northern Ireland in 2017 reached a ten year high. The NI Courts and Tribunals Service reported the lowest number of mortgage cases received² for the October to December quarter since the time series began in 2007³. The number of new dwellings started in NI fell compared to the previous quarter⁴, the annual number of new dwellings decreased slightly between 2016 and 2017 (-0.2%).

As reported in previous bulletins, the NICEI is designated as an experimental index to reflect its status as a measure under development. Users should take this into account when interpreting results. Ongoing areas of development are highlighted below:

- The Public Sector jobs index of the NICEI is based on public sector jobs. This may be unduly impacted by the fact that the NI Civil Service underwent a period of strategic reorganisation in the form of a Voluntary Exit Scheme (VES) which sought to reduce the number of such jobs. For example, a ten percent reduction in public sector jobs may not equate to an equivalent fall in public sector output. NISRA is continuing to investigate how to improve the measure of public sector output as part of planned improvements to the NICEI series. This includes the assessment of various output measures for different public sector functions and analysis of public sector expenditure data and appropriate deflators.
- The Index of Construction component of the NICEI covers the output of construction firms' activity in Northern Ireland only. There is evidence to suggest that since the downturn many NI construction firms have been sending employees to work in projects based outside NI. NISRA is currently investigating the feasibility of including the value of such work in the construction index.

⁴ New dwellings statistics report, February 2018

² i.e. writs and originating summonses issued, which commence the legal process for an order of possession for property

³ NI Courts and Tribunals Service – Mortgages: Actions for Possession bulletin October to December 2017

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2 NI Composite Economic Index Quarter 4 (October to December) 2017

The NICEI is an experimental quarterly measure of the performance of the NI economy based on available official statistics. Existing published quarterly indices (i.e. Index of Services (IOS), Index of Production (IOP), Quarterly Construction Enquiry (QCE), and public sector employee jobs data from the Quarterly Employment Survey (QES), plus unpublished agricultural output data from the Department of Agriculture, Environment and Rural Affairs (DAERA)) are weighted using ONS Regional Accounts Gross Value Added (GVA) data to provide a proxy measure of total economic output in the NI economy on a quarterly basis.

Key results (by private and public sector indices)

NI economic activity is estimated to have

- increased by 0.4% in real terms from Quarter 3 2017 to Quarter 4 2017; and
- decreased by 0.2% over the year.

Private sector output

- increased by 0.4% in real terms over the quarter; and
- decreased by 0.3% compared to the same quarter one year ago.

The Public sector jobs index

- increased by 0.4% compared to Quarter 3 2017; and
- increased by 0.3% over the year.

On a slightly longer timeframe, the NICEI results show that annual output averaged over the four quarters to Quarter 4 2017 compared to the previous four quarters increased by 1.1% in real terms. For the same period:

- the Private sector index increased by 1.5%; and
- the Public sector jobs index was unchanged.

Table 1 provides a summary of changes over the quarter, year and rolling four quarters for the NICEI and its private and public sector jobs sub-indices.

	Change on quarter	Change on year	Rolling annual average change⁵	
NICEI	0.4%	-0.2%	1.1%	
NI Private Sector	0.4%	-0.3%	1.5%	
NI Public Sector jobs	0.4%	0.3%	0.0%	

⁵ Most recent four quarters compared to previous four quarters

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3 Contribution to change

Those industries that represent a larger proportion of the economy and/or which have large quarterly changes will have the most impact on the overall NICEI results. This is particularly the case when dealing with short term change over the quarter as results in the individual inputs (services, production and construction) can be volatile. The contribution different industries make to the overall change in the NICEI is calculated by multiplying their quarterly change by the proportion of the economy they represent.

Change over the quarter (short-term)

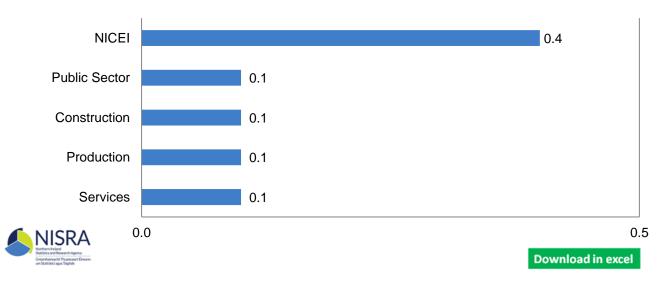
Latest results show that over the quarter to Quarter 4 (October - December) 2017:

- NI economic activity increased by 0.4%;
- the Private sector index increased by 0.4%; and
- the index for the Public sector jobs increased by 0.4%.

The change (0.4%) in the NICEI over the latest quarter was driven by increases in each of the component indices. Construction, Production, Services and Public Sector each contributed 0.1 percentage points to the quarterly growth rate.

The changes in each of these individual series can be found in Table 2 at the end of this document.





Percentage Points

Change over the year (medium-term)

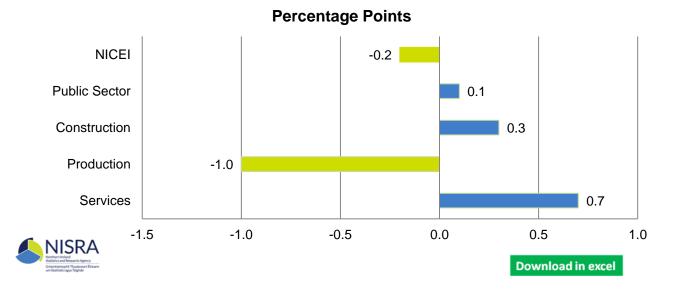
The NICEI results show that over the year (Quarter 4 2016 to Quarter 4 2017):

- NI economic activity decreased by 0.2%;
- the Private sector index decreased by 0.3%; and
- the index for the Public sector jobs increased by 0.3%.

The decrease in the NICEI over the year (0.2%) was driven by a decrease in the Production sector (a contribution of 1.0 percentage points (pps)). This decrease was partially offset by increases in:

- the Services sector (a contribution of 0.7 pps); and
- the Construction sector (a contribution of 0.3 pps); and
- the Public Sector (a contribution of 0.1pps)

Figure 3: Contributions of component indices to annual change in the NICEI Q4 2017⁶



Rolling annual average change

Looking at longer term trends, results for annual output (averaged over the four quarters to Quarter 4 2017) compared to the average of the previous four quarters show:

- NI economic activity increased by 1.1%;
- the Private sector index experienced growth of 1.5%; and
- the index for the Public sector jobs was unchanged.

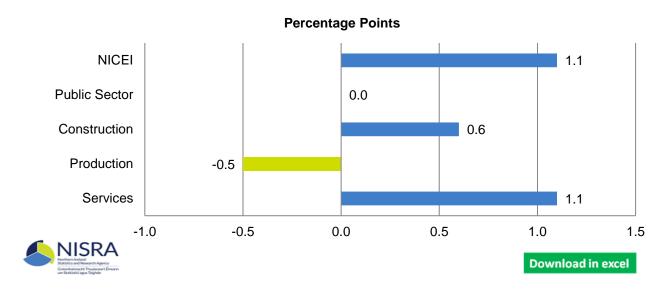
The increase (1.1%) in the NICEI over this period was a combination of increases in:

- the Services sector (a contribution of 1.1 pps); and
- the Construction sector (a contribution of 0.6 pps);

These increases were partially offset by a decrease in the Production sector (a contribution of -0.5 pps).

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Figure 4: Contributions of component indices to rolling annual average change in the NICEI, Q4 2017⁷



⁷ Please note figures may not sum due to rounding NI Composite Economic Index Statistical Bulletin published 12th April 2018

4 Comparison with measures of GDP

The NICEI is not equivalent to the Office for National Statistics (ONS) quarterly measure of change in Gross Domestic Product (GDP) for the whole UK economy. This is because the ONS measure is based on a broader range of sources including output, income and expenditure estimates of economic activity, whereas the NICEI is based on output and employee jobs data. However, when applied to the equivalent UK data sources, the NICEI methodology has been shown to provide a close short term approximation to the UK GDP series (see <u>NICEI Methodology Paper</u>).

Although the measures are not produced on a fully equivalent basis, comparisons with the UK show that NI output and UK GDP increased by the same rate (0.4%) over the quarter. The UK economy grew by 1.4% over the year to Quarter 4 2017, meanwhile NI output over the same period decreased by 0.2%.

When the extent of change is considered over the last two years, that is average growth for the four quarters to Quarter 4 2017 compared to the previous four Quarters, the NI growth rate has increased by 1.1%. The UK growth rate was 1.8% over the same period.

The UK has reported GDP growth in each of the last 20 quarters, whereas the NICEI has reported growth in 14 of the last 20 quarters. The NICEI is currently 5.6% below the maximum value recorded in Quarter 2 2007. In Quarter 4 2017, UK GDP was estimated to have been 10.7% higher than its pre-economic downturn peak of Quarter 1 2008. This suggests that the UK has had a shorter downturn with a faster recovery.

The most recent results for Scotland show that GDP⁸ grew by 0.3% over the most recent quarter and by 1.1% over the year to Quarter 4 2017. The average growth for the four quarters to Quarter 4 2017 compared to the previous four quarters was 0.8%.

Looking at the Republic of Ireland Quarterly National Accounts⁹, growth in GDP increased by 3.2% over the quarter to Quarter 4 2017. Over the year to Quarter 4 2017 GDP increased by 7.8%, with an average annual growth of 7.8% (latest four quarters compared to the previous four quarters).

Please note that a table showing a comparison of the NI Composite Economic Index and GDP for the UK, Scotland and Republic of Ireland can be found in the downloadable tables on the <u>NISRA</u> website.

⁸ Scottish Government Quarterly National Accounts, Quarter 4 2017

⁹ <u>CSO Quarterly National Accounts, Quarter 4 2017</u> (The measure of GDP referred to is the chained volume index at constant market prices, seasonally adjusted)

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5 Economic commentary

The results for the NICEI for Quarter 4 2017 show that economic output in Northern Ireland (NI) has increased over the quarter (short-term) by 0.4% but decreased by 0.2% over the year to Quarter 4 2017 (medium term). The Production, Construction, Public and Services sectors all made positive contributions to the overall growth of the NICEI in Quarter 4 2017.

Longer term trends can be analysed by comparing the change in the average for the most recent four quarters (to Quarter 4 2017) with the average of the previous four quarters (to Quarter 4 2016). The result is less affected by short-term fluctuations, although this is a less sensitive measure of short term change.

When looking at this annualised trend over the last three years there is some evidence that the rate of growth has slowed. Annualised average growth over the last four quarters to Quarter 4 2017 compared to the previous four quarters was 1.1%. This compares with annual growth over the previous two year period (to Quarter 4 2016), which was 1.5%.

Considering the extent of change over the last two years, average annualised GDP growth for the four quarters to Quarter 4 2017 for the UK was 1.8% compared to the previous four quarters. As stated above, the NI growth rate in the NICEI was 1.1% over the same period.

Although the sources are not fully comparable, recent results show that the UK economy was growing at a faster pace than NI. Annual growth (comparing Q4 2017 with Q4 2016) was 1.4% in the UK compared with -0.2% in NI (medium-term). However, growth over the latest quarter in both NI output and UK GDP increased at the same rate (0.4%).

The most recent <u>Labour Force Survey</u> results reported that the NI seasonally adjusted unemployment rate for the period November-January 2018 was 3.2%, a 0.8 pps decrease from the previous quarter and a 2.6 pps reduction over the year, resulting in the joint lowest unemployment rate on record.

In addition, over the period, the employment rate (69.8%) increased by 1.7 pps over the quarter and 0.5 pps over the year. Meanwhile the economic inactivity rate (27.8%) decreased by 1.2 pps over the quarter but increased by 1.5 pps over the year.

The <u>Quarterly Employment Survey</u>, shows that employee jobs increased over both the quarter and the year to a series high of 756,030 in December 2017. NI employee jobs reached a pre-downturn peak in June 2008, latest estimates show that quarterly employee jobs have been above this pre-downturn peak since June 2016.

An overview of the NICEI time series alongside an economic timeline of key world, European, UK and NI events to help place the performance of the NICEI into context is provided overleaf.

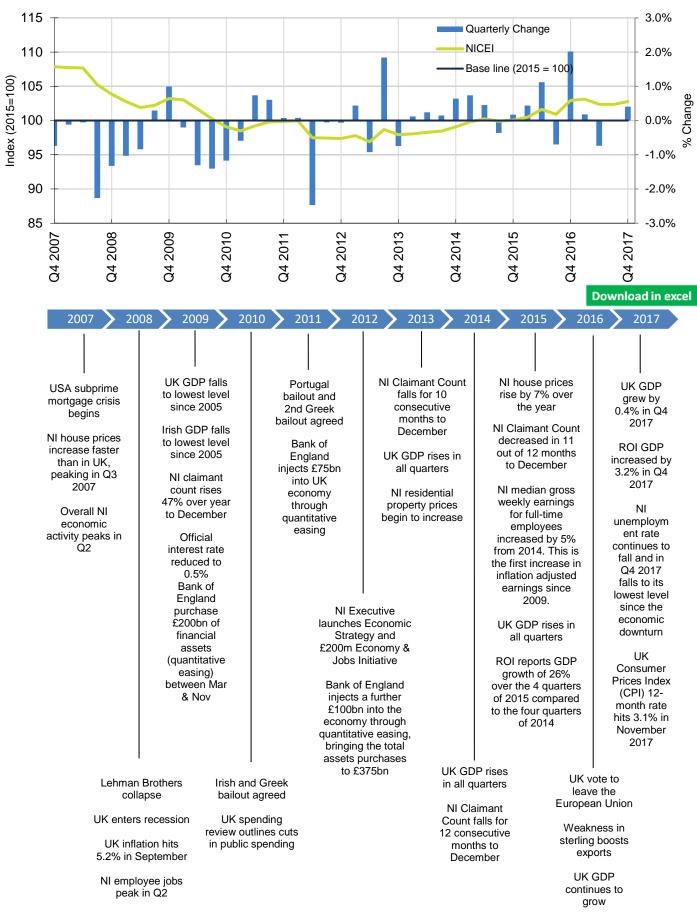


Figure 5: Overview of the performance of the NICEI alongside a timeline of key economic events, 2007-17

Further information on the state of the Northern Ireland economy, setting it in context with the UK and Republic of Ireland can be found in the latest Department for the Economy (DfE) <u>Economic Commentary</u>.

5 Further Information

Coverage

Together the existing IOS, IOP and QCE indices cover their respective elements of the private sector economy. Output data currently provided by Department of Agriculture, Environment and Rural Affairs (DAERA) is unpublished and as such we are not able to disclose this data. No appropriate output data for the Public sector is collected in Northern Ireland and as a best available proxy public sector employment from the Quarterly Employment Survey (QES) was used, as recommended by the Office for National Statistics (ONS).

Further information on the main input data is presented below:

IOP: The quarterly NI Index of Production (IOP) is currently based on a sample of around 1,100 businesses out of a population of c. 5,000. This covers approximately 93% of the turnover of the population at the time of selection and a response rate of around 85%. This includes a census of all companies employing 40 or more employees as well as those employing 0 to 39 employees and having a turnover of £10 million or more. The new sample has been designed to have a minimum precision of 10% for each of the production subsectors.

IOS: The quarterly NI Index of Services (IOS) is currently based on a sample of around 3,400 businesses out of a population of c. 39,000. The sample consists of a census of dominant companies and a Neyman stratified random sample of the remaining companies and covers approximately 70% of turnover. The census element consists of all companies employing 100 or more employees as well as those employing 0 to 99 employees and having a turnover of £10 million or more.

<u>QCE</u>: From a sampling universe of approximately 10,000 firms, a disproportionate sample of 700 construction firms is randomly selected to take part in the NI Quarterly Construction Enquiry (QCE). The sample is disproportionately stratified (into six strata) using Inter Departmental Business Register (IDBR) turnover as the stratification variable. This includes a census of all companies with a turnover of £5.25m or greater. Further information on the QCE sample coverage and methodology can be found <u>here</u>.

Weighting and Combining the Data

The output series were produced as weighted aggregates of the above input series, where the weights were based on the new "Balanced estimate¹⁰" of Gross Value Added (GVA)¹¹ by industry obtained for Northern Ireland from Regional Accounts produced by ONS.

Please note that the latest available GVA by industry published in December 2017 includes provisional figures for 2016. The NICEI calculations are based on GVA balanced figures up to and including the 2016 year.

Annual Chain-Linking

Annual chain-linking was used to combine the private Services, Production, Construction and Agriculture sectors to produce an index for the Private sector, which was then combined with the index for the Public sector to give an overall index for the economy. Use of annual chain-linking is standard National Accounts practice.

¹⁰ ONS Regional Gross Value Added (Balanced), UK: 1998 to 2016

¹¹ Please note that a glossary of national accounts terms and definitions can be found <u>here</u>.

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Seasonal Adjustment of the Indices

The indirect method of seasonal adjustment was employed. Seasonally adjusted figures were input (where possible) and when the combined output series were tested for seasonality there was no residual seasonality found, therefore no seasonal adjustment was required.

Base and reference year

As part of the Blue Book process (UK National Accounts), and in line with Eurostat guidance, the base year and reference year for chained volume estimates are moved forward by one year so that the estimates better reflect the industrial structures and prices currently seen within the economy. Rereferencing on its own does not cause revisions to real growth rates, but the rebasing process, taking on as it does new Gross Value Added and product weights from the supply and use balancing process, will cause revisions to the growth rates of chained volume components.

Public Sector Employees

The public sector employee jobs figures used in our analysis are sourced from the Office for National Statistics who compile the figures to produce their <u>Public Sector Employment publications</u>. The public sector comprises central government, local government and public corporations as defined for the UK National Accounts.

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Users' comments and feedback are welcomed and can be provided in writing to: <u>David.Leonard@nisra.gov.uk</u> and <u>Mark.Looney@nisra.gov.uk</u>

Annex 1: Index Tables

The tables below provides an overview of the index tables for the Composite Economic Index and its constituent indices. The arrows in the cells indicate whether the index has increased/decreased/remained constant from the previous period. Key:

Maximum value reached

Minimum value reached

Table 2: Overview of NICEI and component indices by Quarter

Download in excel

	Quarter	Composite Economic Inde	Private sector	Public sector	Services	Production	Construction
2006	1	106.6	107.0	106.0	107.4	93.9	148.7
	2	107.0	107.6	4 105.9	107.9	1 95.5	48.6
	3	108.5	109.5	106.5	109.4	9 5.8	157.8
	4	108.9	110.1	4 106.0	110.4	95.8	4 157.5
2007	1	4 108.3	4 109.4	- 105.9	4 109.8	1 96.1	4 152.0
	2	108.9	110.2	106.0	109.9	97.1	158.0
	3	4 108.7	↓ 110.0	J05.7	↓ 109.5	100.4	4 151.3
	4	4 107.9	4 108.9	105.7	J08.0	101.9	44.8
2008	1	107.7	108.7	⇒ 105.7	108.8	1 00.3	40.9
2000	2	→ 107.7	108.9	↓ 105.0	108.3	100.9	145.1
	3	↓ 107.7	↓ 105.9	↓ 103.0	↓ 106.0	99.3	1 43.1
	4	103.2	↓ 103.9	107.9	↓ 100.0	✓ 99.5 ↓ 93.6	↓ 134.7
2009	4	↓ 103.8	↓ 102.0	107.9	↓ 103.3		↓ 131.0
2009	2	↓ 102.8	99.8	107.9	↓ 102.4	90.1 90.1 88.1	↓ 129.2
	3	101.9	y 99.8 ↑ 100.1	108.2	101.0	87.4	↓ 120.9
	4	102.2	100.1	108.0	102.5	67.4 1 88.1	120.1
2010	4	103.2	→ 101.6	↓ 108.3	104.0	89.6	 ↓ 123.7 ↓ 117.5
2010	2	↓ 103.0	↓ 101.0	↓ 107.0	104.7	▲ 89.8	↓ 117.5
	3	101.7	98.4	105.8	↓ 102.9	90.4	112.3
	4	99.1	96.9	105.7	97.6	92.7	112.3
2011	4	98.5	y 96.3	↓ 105.1		93.6	↓ 100.2
2011	2	99.2	97 .5	103.1	99.0	95.7	94.3
	3	99.8	98.5	103.7	99.6	98.3	
	4	99.9	98.8	↓ 103.1	⇒ 99.6	99.0	97.0
2012	1	100.0	1 98.9	103.3	↓ 99.0	97.6	103.7
2012	2	97.5	95.7	↓ 102.9	96.5	96.1	91.5
	3	97.4	95.6	103.0	1 97.2	94.7	89.1
	4	97.4	95.4	103.4	97.1	93.8	88.8
2013	1	1 97.8	1 95.9	103.5	1 97.4	1 94.8	88.1
	2	96.9	94.7	103.6	96.7	94.2	81.7
	3	98.7	97.0	103.9	98.7	97.9	84.6
	4	97.9	96.8	4 101.6	98.8	97.8	79.6
2014	1	98.1	97.2	100.8	98.9	97.0	83.9
	2	1 98.3	97.4	101.1	98.8	98.3	84.2
	3	1 98.4	1 97.5	101.3	98.7	1 99.3	1 85.9
	4	1 99.1	1 98.3	101.4	1 99.3	98.7	1 90.7
2015	1	1 99.8	1 99.5	4 100.9	4 99.0	1 99.9	100.8
	2	100.3	100.2	4 100.4	100.1	100.3	101.6
	3	4 99.9	4 99.9	99.8	100.3	🔶 100.3	4 97.3
	4	👚 100.1	100.4	98.9	100.7	4 99.5	100.3
2016	1	100.5	101.1	98.7	101.6	4 98.6	102.5
	2	101.6	102.8	98.0	103.4	1 99.5	107.2
	3	4 100.9	J02.0	4 97.4	4 102.3	100.3	↓ 105.5
	4	102.9	104.5	1 97.9	104.1	102.1	113.4
2017	1	103.1	104.8	1 98.0	104.9	4 100.8	↓ 112.8
	2	4 102.4	4 103.8	98.0	4 104.3	97.5	116.3
	3		103.8	97.9	105.2	95.3	4 115.4
	4	102.8	104.2	98.3	105.4	1 96.1	117.2

Growth Rates		NICEI	Private Sector	Public Sector	Services	Production	Construction
Q/Q		0.4%	0.4%	0.4%	0.2%	0.9%	1.5%
Y/Y		-0.2%	-0.3%	0.3%	1.2%	-5.9%	3.4%
Rolling 4Q A Average	nnual	1.1%	1.5%	0.0%	2.0%	-2.7%	7.7%

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Table 3: Overview of NICEI and component indices by Year

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Year	Composite Economic Index	Private sector	Public sector	Services	Production	Construction
2006	107.7	108.5	106.1	108.8	95.3	153.1
2007	108.4	1 109.6	4 105.8	1 109.3	1 98.9	🦊 151.5
2008	4 106.1	4 106.5	4 105.7	4 106.6	4 98.5	🦊 137.9
2009	4 102.5	4 100.7	1 108.3	4 102.8	4 88.4	4 126.5
2010	4 101.0	499.2	4 106.5	4 101.3	10.6	🦊 112.3
2011	4 99.3	497.8	4 104.1	498.8	1 96.7	- 97.4
2012	🦊 98.1	4 96.4	4 103.1	4 97.4	4 95.6	- 93.3
2013	4 97.8	- 96.1	1 103.2	1 97.9	1 96.2	↓ 83.5
2014	👚 98.5	1 97.6	4 101.2	1 98.9	98 .3	1 86.2
2015	100.0 👚	1 100.0	4 100.0	1 100.0	100.0	100.0
2016	👚 101.5	102 .6	498.0	1 102.9	100.1	107.1
2017	👚 102.7	1 104.1	\$98.0	1 104.9	4 97.4	115.4