Economic Forecasts for Greater Manchester

Date: September 2017
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1 Introduction

Context

1.1. Greater Manchester (GM) has consistently invested in developing a robust evidence base to inform strategy and policy development. Since 2005, a central part of this evidence base has been the Greater Manchester Forecasting Model (GMFM). Originally designed for the Manchester-Salford Pathfinder project, it was extensively rebuilt in 2012, and is now managed by the GM Combined Authority (GMCA).

1.2. Updated annually, the GMFM provides economic and demographic forecasts for GM local authorities and benchmark UK cities, regions, and nations. The GMFM has been produced by Oxford Economics (OE) since 2005, and is part of, and fully consistent with, their suite of global, national, and regional models.

1.3. GMFM provides a set of ‘baseline case’ forecasts for the conurbation prepared by a leading independent forecasting house. This report presents the latest GMFM baseline forecast (GMFM-2017). Given the significant changes since the last GMFM was released, particularly the decision of the UK to leave the EU following the referendum in June 2016, the report pays particular regard to how Brexit may affect future growth.

1.4. The report benchmarks the anticipated level of growth of the GMFM with those made by other leading UK forecasting houses. It also compares the assumptions underpinning GMFM-2017 to see how they align with other forecasting houses and with official views.

1.5. GMFM provides a starting point for looking at scenarios or alternate futures, and this report includes the latest Accelerated Growth Scenario (AGS-2017) for GM. First produced in 2016 to model the impact of GM playing a leading role in the development of the Northern Powerhouse, the AGS-2017 presented in this report has been updated to take into account the changed economic context and future assumptions about the impact of Brexit.

1.6. This report is accompanied by a detailed data release providing historic and forecast data for all Gross Value Added (GVA), employment, and population variables for both the GMFM-2017 and AGS-2017. This can be found on the GMCA website.
2 Greater Manchester Forecasting Model

Key messages

- The GMFM-2017 baseline forecast shows GVA growing at 1.7% per annum up to 2035, broadly comparable to the UK average (1.8% per annum).
- Total employment is forecast to grow at 0.5% per annum in GM, slightly faster than the UK average (0.4%), equating to a net increase of 141,000 employees from 2015 to 2035.
- Employment growth is expected to largely be driven by Business, Financial, and Professional Services. Further job losses in Manufacturing are forecast, although increased productivity is expected to result in GVA growth in the sector.
- The baseline forecast suggests that the population will grow by 207,500 between 2015 and 2035, driven mostly by natural increase (birth rates and residents living longer).
- GMFM-2017 is more pessimistic about future growth prospects in both the UK and GM than GMFM-2015. This is driven by slower projected growth in labour productivity, as well as the risks to trade and skills availability emerging from Brexit. These assumptions are in line with those being made by other forecasters.
- As a result of slower growth, GMFM-2017 forecasts that by 2035, total GVA will be £9.2 billion lower, employment 6,000 lower, and population 27,500 lower than in GMFM-2015.
- The number of people living in GM who are in employment – ‘resident employment’ – is forecast to rise by 117,000 between 2015 and 2035. This is equivalent to growth of 0.4% per year, similar to the average rate of increase in the UK.

Introduction

2.1 This section presents the latest forecasts produced in the GMFM-2017. It includes:

- A summary of the coverage of the GMFM and the model’s key variables;
- The key assumptions underpinning the GMFM-2017 baseline forecasts;
- Comparisons of the projected level of growth for the UK made by OE with those made by other leading forecasting houses; and
- A summary of the GMFM-2017 forecasts for GVA, employment, industry sector, population, and unemployment.

2.2 Where possible and relevant, the analysis makes comparisons to other forecaster’s data as well as the previous GMFM forecasts launched in November 2015 (referred to as GMFM-2015).

Greater Manchester Forecasting Model

2.3 The GMFM has been produced by OE since 2005. The model is part of a suite of macro-economic models covering global, national, and regional data and forecasts. These include data on trade volumes, labour costs, trade prices, interest rates and exchange rates, commodity prices, and capital flows. The forecasts are used by governments, financial institutions, and major corporates around the world to inform strategic planning.

2.4 The assumptions in the global and UK models cascade down to the local level, combined with local Office for National Statistics (ONS) data, to provide forecasts from 2015 to 2035. Data coverage includes local authority districts in GM, GM in total, the North West region, and the UK.
2.5 The GMFM includes:

- Total economic output, referred to as Gross Value Added (GVA), which includes the profits and wages (less costs) of goods produced by firms in GM;
- Total employment within GM’s firms, including self-employment and employees, broken down by industry sector;
- Resident employment and unemployment totals and rates, and the main occupational groups and headline qualifications held by the workforce;
- Demographics and migration rates, including total population by broad age group, and migration assumptions both internal to the UK and international migration.

Model assumptions

2.6 OE are optimistic about the global and Eurozone economies. They expect the global economy to grow by 2.7% in 2017, and 3.0% in 2018, which is broadly in line with their expectations in GMFM-2015. They also expect Eurozone GDP growth to be 2.0% in 2017 and slightly slower (1.8%) in 2018, as inflation pressures take hold and dampen consumer expenditure.

2.7 However, OE are cautious about the forecast pace of growth in the UK. They have downgraded UK GDP growth for 2017, from 2.3% in GMFM-2015 to 1.7% in GMFM-2017, and similarly growth for 2018 has been downgraded from 2.2% to 1.4%. In comparison, the Office for Budget Responsibility (OBR) forecast stands at 2.0% for 2017 and 1.6% for 2018.¹

2.8 OE include the following major assumptions in the new GMFM-2017 model:

- Labour productivity growth will remain sluggish. Productivity growth has consistently underperformed relative to expectations, and more recent evidence points to a permanent, structural rather than cyclical, slow-down in UK productivity;
- Rising inflation resulting from the sharp depreciation of sterling in the period following the EU referendum result. This is expected to feed along the supply chain and weaken consumer spending; and
- Brexit which OE see as a brake on short to mid-term growth up to 2022, and likewise will affect the longer-term depending on whatever is agreed with the European Commission. All forecasters are including Brexit impacts in the short to medium term.

Productivity

2.9 In the short term, growth is likely to be supressed by factors including slowing business investment and weaker household consumption, and the risk that currency depreciation and volatility will exert upward pressure on prices. The Greater Manchester Brexit Monitor has been tracking these factors, and whilst the first 9 months after the referendum vote showed a buoyant economy, reports from April onward have painted a more mixed picture.²

2.10 In the longer term, slow productivity growth is likely to be the key constraint on growth. Productivity has not rebounded to the levels seen before the recession, and this has led to most forecasters re-evaluating their models and applying slower productivity growth. Recent research

¹ Office for Budget Responsibility: http://budgetresponsibility.org.uk/forecasts-in-depth/the-economy-forecast/real-gdp-growth/#near
² GMCA (2016 to 2017): Greater Manchester Brexit Monitor
by ONS highlights a decade of stagnation in productivity, and output per hour is now below the level seen in 2007.  

2.11 There are several plausible views as to why productivity growth (in the UK and globally) has remained flat, summarised in the Bank of England LSE speech in March 2017. These include:

- **The long tail**, whilst productivity growth remains fast in some of the most dynamic businesses, the tail of low productivity business, sectors, and places has grown longer;
- **Innovation**, slowdown in the diffusion of know-how and slower elimination of the weakest competitors, and productivity ‘locked up’ in a small number of leading businesses;
- **Recession**, permanent damage to the corporate sector which has resulted in productivity output per hour 10% to 15% lower than it was before the crash; and
- **Other factors**, including monetary policy, austerity, and how productivity is measured.

2.12 These factors are explored at length in the report: Productivity in Greater Manchester. This identifies that GM's total 'output' gap with the national average currently stands at £10bn. That is, if GVA per head in GM were the same as the national average, its economy would be a fifth larger. The report identified that there is no one factor in isolation that will 'fix' the productivity gap, requiring investment in skills, innovation, enterprise, trade, employment, and infrastructure, over a 10 to 20 year horizon, to address this gap.

2.13 OE have revised UK productivity growth down from an average of 1.8% per year in GMFM-2015 to 1.3% per year GMFM-2017, for the period 2015 to 2035. Similarly, Experian and Cambridge have applied new assumptions on productivity and Brexit, downgrading their forecasts by a similar level to OE.

2.14 It should be noted that there is significant uncertainty in forecasts for productivity growth based on past trends, particularly as all sectors now have the opportunity to adopt radical new digital technologies that have the potential to boost productivity and create new high tech jobs, in what is sometimes referred to as the fourth industrial revolution. While, to date, technological breakthroughs and innovations have not fed through into productivity statistics, some analysts suggest that technology, robotics and automation will result in a higher skill, higher productivity economy in the future.

**Brexit**

2.15 The baseline forecast incorporates OE’s assessment of Brexit’s impact on economic growth, both for GM and across the UK.

2.16 Negotiations between the UK and the EU over the terms under which the UK will leave the EU are currently underway, one year on from the referendum. Article 50 of the Lisbon Treaty was triggered by the Government on 29 March 2017, formally beginning the process of the UK leaving the EU. This means that the UK is scheduled to leave on 29 March 2019, although this deadline can be extended if all 28 EU members agree.

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3 ONS (2017) UK Productivity  
www.ons.gov.uk/employmentandlabourmarket/peopleinwork/labourproductivity/articles/ukproductivityintroduction/jantomar2017  
4 BoE (March 2017): Haldane Speech - Productivity Puzzles, with the London School of Economics  
5 GMCA: Productivity in Greater Manchester  
6 IMF (2017). Gone with the Headwinds: Global Productivity.  
http://www.imf.org/~/media/Files/Publications/SDN/2017/sdn1704.ashx  
2.17 There is broad consensus across forecasting houses that Brexit will have a negative net effect on the economy, with losses outweighing any economic gains, in particular during the next 5 years. However, Brexit is also assumed to have a detrimental impact on economic growth over the longer term in the forecasts. First, a more restrictive immigration policy slows the rate of labour force expansion, and therefore growth in employment. Second, Brexit is also likely to weigh on the long-term prospects for a recovery in productivity growth.

2.18 There is an important link between forecasts for productivity growth and Brexit. The Bank of England have outlined the challenges to addressing productivity in light of Brexit. Major challenges to securing productivity growth post-Brexit identified in their Inflation report include:

- **Openness to trade**, is an important determinant of both income and potential supply. In particular, openness can influence how efficiently capital and labour are combined to produce output, raising what is known as total factor productivity;

- **Specialisation**, a reduction in the size of the potential market available to firms could also hamper the ability of firms to specialise, making it more difficult for them to exploit the UK’s areas of comparative advantage and to achieve economies of scale.

- **Workforce skills**, openness may also affect the contribution of the labour force to supply the full potential of the economy, and address employers’ future skills needs.

2.19 OE have undertaken a range of risk analyses based on alternative assumptions about the trading relationship negotiated between the UK and the EU, and how the UK Government addresses the forthcoming changes in regulations, migration, and fiscal policy. This analysis has informed the development of GMFM-2017.

2.20 The current GMFM baseline forecast assumes that when the UK leaves the EU in 2019, there will be a three-year orderly transition arrangement to 2022, which ultimately gives way to a bespoke Free Trade Agreement which allows the UK to maintain favourable trade terms with the EU – similar to the position outlined by the Secretary of State for Exiting the EU in June 2017. While there is significant uncertainty over the outcome, OE regard this as the most likely scenario for Brexit, as it reflects the Government’s intention to avoid new tariffs and non-tariff barriers, at the same time giving the UK independence to negotiate third-party agreements.

2.21 Movement of labour is a primary consideration of the Brexit deal for both the UK and the EU, and will likely incur a plethora of political, economic, and social impacts on households and the national economy. Given existing migration restrictions to the rest of the world, the forecast assumes that restrictions will manifest as restricted movement of workers from the EU.

2.22 However, over the longer term, both the UK’s and GM’s growth will be supported by helpful demographics, that is people working longer and favourable birth rates. Analysis of population growth shows that the non-UK born population accounted for nearly three-quarters of total growth in GM from 2001 to 2011. With non-EU born residents making up 9% of GM’s population, compared with 3% EU born residents, this suggests slower population growth is a lesser risk.

2.23 How different business sectors are affected in the long term will be determined by both the specific trade settlement and the Government’s policy response, but certain sectors appear to be more at risk than others – in terms of both trade and migrant workers.

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8 BoE (August 2016): Inflation Report
9 Oxford Economics (2017): Assessing the economic implications of Brexit
10 Evening Standard (June 2017): two years at most to adjust to Brexit David Davis tells the city
In general, GM’s industrial sector is subject to greater downside risks, with manufacturing and construction anticipated to have the largest exposure to changes from Brexit; amongst services (more-so for London), the financial services industry is most at risk of slower growth. Looking at the proportion of workers from the EU by sector in both the UK and GM, suggests that hospitality and tourism, and textiles, could be more at risk from losses of migrant labour.\textsuperscript{11}

Comparison with other forecasts

Figures 1 and 2 show HM Treasury’s comparison of ten forecasters providing medium-term forecasts covering the period up to 2021, and shows their views in the month prior to the referendum vote and prior to the recent evidence on structural weaknesses in productivity. Both tables show that OE have a central to conservative view of growth in the short-term, with slightly stronger growth expected closer to the end of 2021. OE’s central UK forecast for 2017 (June 2017) of 1.7% is in line with the median for all forecasters, sitting in a range of 1.2% to 2.1% per annum.\textsuperscript{12}

Figure 1: UK GDP Forecasts from independent forecasters, published in May 2016

<table>
<thead>
<tr>
<th>Forecaster (non-City) (1=lowest)</th>
<th>2017 %</th>
<th>Rank</th>
<th>2018 %</th>
<th>Rank</th>
<th>2019 %</th>
<th>Rank</th>
<th>2020 %</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beacon Economic Forecasting</td>
<td>2.6%</td>
<td>9</td>
<td>2.1%</td>
<td>2</td>
<td>1.9%</td>
<td>2</td>
<td>1.8%</td>
<td>1</td>
</tr>
<tr>
<td>CEBR</td>
<td>1.7%</td>
<td>1</td>
<td>1.6%</td>
<td>1</td>
<td>1.7%</td>
<td>1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Experian</td>
<td>2.1%</td>
<td>2</td>
<td>2.2%</td>
<td>3</td>
<td>2.3%</td>
<td>7</td>
<td>2.4%</td>
<td>6</td>
</tr>
<tr>
<td>HIS Global Insight</td>
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<td>7</td>
<td>2.3%</td>
<td>6</td>
<td>2.2%</td>
<td>5</td>
<td>2.3%</td>
<td>4</td>
</tr>
<tr>
<td>Liverpool Macro Research</td>
<td>2.4%</td>
<td>7</td>
<td>2.5%</td>
<td>9</td>
<td>2.5%</td>
<td>8</td>
<td>2.5%</td>
<td>7</td>
</tr>
<tr>
<td>NIESR</td>
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<td>10</td>
<td>2.5%</td>
<td>9</td>
<td>2.2%</td>
<td>5</td>
<td>2.2%</td>
<td>3</td>
</tr>
<tr>
<td><strong>Oxford Economics</strong></td>
<td><strong>2.3%</strong></td>
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<td><strong>2.2%</strong></td>
<td><strong>3</strong></td>
<td><strong>2.0%</strong></td>
<td><strong>3</strong></td>
<td><strong>2.3%</strong></td>
<td><strong>4</strong></td>
</tr>
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<td>2.3%</td>
<td>6</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>ITEM Club</td>
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<td>8</td>
<td>2.6%</td>
<td>9</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>IMF</td>
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<td>2.2%</td>
<td>3</td>
<td>2.1%</td>
<td>4</td>
<td>2.1%</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: HM T (2017): Forecasts for the UK economy

Figure 2: UK GDP Forecasts from independent forecasters, published in June 2017

<table>
<thead>
<tr>
<th>Forecaster (non-City) (1=lowest)</th>
<th>2018 %</th>
<th>Rank</th>
<th>2019 %</th>
<th>Rank</th>
<th>2020 %</th>
<th>Rank</th>
<th>2021 %</th>
<th>Rank</th>
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<tbody>
<tr>
<td>Beacon Economic Forecasting</td>
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<td>8</td>
<td>2.0%</td>
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<td>1.8%</td>
<td>3</td>
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<td>1</td>
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<tr>
<td>CEBR</td>
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<td>3</td>
<td>1.9%</td>
<td>6</td>
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<td>2</td>
<td>1.7%</td>
<td>2</td>
</tr>
<tr>
<td>Experian</td>
<td>1.3%</td>
<td>3</td>
<td>1.8%</td>
<td>5</td>
<td>1.9%</td>
<td>4</td>
<td>2.2%</td>
<td>6</td>
</tr>
<tr>
<td>IHS Global Insight</td>
<td>1.1%</td>
<td>2</td>
<td>1.3%</td>
<td>1</td>
<td>1.9%</td>
<td>4</td>
<td>2.3%</td>
<td>7</td>
</tr>
<tr>
<td>Liverpool Macro Research</td>
<td>2.6%</td>
<td>10</td>
<td>2.9%</td>
<td>9</td>
<td>3.5%</td>
<td>9</td>
<td>3.0%</td>
<td>9</td>
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<tr>
<td>NIESR</td>
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<td>7</td>
<td>2.0%</td>
<td>7</td>
<td>1.9%</td>
<td>4</td>
<td>1.8%</td>
<td>3</td>
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<tr>
<td><strong>Oxford Economics</strong></td>
<td><strong>1.4%</strong></td>
<td><strong>5</strong></td>
<td><strong>1.6%</strong></td>
<td><strong>3</strong></td>
<td><strong>2.1%</strong></td>
<td><strong>8</strong></td>
<td><strong>2.3%</strong></td>
<td><strong>7</strong></td>
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<tr>
<td>PwC</td>
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<td>-</td>
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</tr>
<tr>
<td>ITEM Club</td>
<td>0.4%</td>
<td>1</td>
<td>1.4%</td>
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<td>1.8%</td>
<td>3</td>
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<tr>
<td>IMF</td>
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<td>1.6%</td>
<td>3</td>
<td>1.9%</td>
<td>4</td>
<td>1.9%</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: HM T (2017): Forecasts for the UK economy

\textsuperscript{11} Oxford National Migration Observatory: http://www.migrationobservatory.ox.ac.uk/projects/migration-and-brexit
\textsuperscript{12} HM T (2017): Forecasts for the UK economy: https://www.gov.uk/government/collections/data-forecasts
Headline economic indicators

2.26 Total GVA in GM stood at £57.8 billion in 2015 (latest). In the baseline forecast, GVA is forecast to grow at an average annual rate of 1.7% per year between 2015 and 2035, broadly in line with the UK average. This is equivalent to an additional £23.9 billion of economic activity in GM’s economy in 2035 (measured in constant 2013 prices), with GVA rising to a total of £81.7 billion. The main difference between GMFM-2017 and GMFM-2015 is slower anticipated productivity growth, which feeds into lower total economic output. Total GVA is therefore £9 billion lower in 2035 than reported in the previous model.

2.27 Total employment in firms in GM stood at 1.38 million in 2015, and is forecast to rise by 141,200 by 2035. This represents a growth rate of 0.5% per annum, slightly faster than the rate of growth in the UK of 0.4% per annum. The slower GVA growth, in particular between 2017 and 2021, translates into a reduction of 6,000 full time equivalent employees by 2035 compared to that shown by the previous model.

Figure 3: GMFM-2017 baseline forecasts for GM and UK (latest vs previous model)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>GM</td>
<td>GVA</td>
<td>£23.900 million</td>
<td>1.7%</td>
<td>£33.100 million</td>
<td>2.3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Productivity</td>
<td>£11.800</td>
<td>1.2%</td>
<td>£17.600</td>
<td>1.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>141,200</td>
<td>0.5%</td>
<td>147,000</td>
<td>0.5%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Population</td>
<td>207,500</td>
<td>0.4%</td>
<td>235,000</td>
<td>0.4%</td>
<td></td>
</tr>
<tr>
<td>UK average</td>
<td>GVA</td>
<td>£674.800 million</td>
<td>1.8%</td>
<td>£900,400 million</td>
<td>2.3%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Productivity</td>
<td>£14,400</td>
<td>1.3%</td>
<td>£20,200</td>
<td>1.8%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Employment</td>
<td>3,024,800</td>
<td>0.4%</td>
<td>3,261,000</td>
<td>0.5%</td>
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</tr>
<tr>
<td></td>
<td>Population</td>
<td>6,748,600</td>
<td>0.5%</td>
<td>7,496,000</td>
<td>0.5%</td>
<td></td>
</tr>
</tbody>
</table>

Source: Oxford Economics GMFM

Comparison of headline indicators with other forecasters

2.28 The latest GMFM baseline forecast has been benchmarked against forecasts from Experian (published June 2017) and Cambridge Econometrics (published November 2016). The GMFM-2017 forecasts for the period 2015 to 2035 sit in the middle of the range for employment and population, but contain more pessimistic assumptions for productivity – which feeds through into lower GVA forecasts compared with other forecasters.

2.29 All forecasts suggest lower productivity growth than the UK average, and both OE and Experian are forecasting slightly lower levels of productivity growth than the historic data show for GM. It is important to note that the Cambridge Econometrics forecast for GM is older than the others, with publication of their latest round for GM is due at the end of July 2017.

Figure 4: Baseline GMFM-2017 forecasts for Greater Manchester by selected forecasters

<table>
<thead>
<tr>
<th>Area:</th>
<th>Timeframe</th>
<th>GVA % Compound Annual Growth</th>
<th>Productivity % Compound Annual Growth</th>
<th>Employment % Compound Annual Growth</th>
<th>Population % Compound Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historic GMFM</td>
<td>1995 to 2015</td>
<td>2.1%</td>
<td>1.5%</td>
<td>0.6%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Oxford Economics GMFM</td>
<td>2015 to 2035</td>
<td>1.7%</td>
<td>1.2%</td>
<td>0.5%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Experian</td>
<td>2015 to 2035</td>
<td>2.0%</td>
<td>1.4%</td>
<td>0.6%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Cambridge Econometrics</td>
<td>2015 to 2035</td>
<td>2.0%</td>
<td>1.7%</td>
<td>0.3%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Source: Oxford Economics GMFM, Experian, Cambridge Econometrics
Growth by industry sector

2.30 Employment growth in the UK is expected to continue to be driven by the service sector, with Business, Financial, and Professional services sectors accounting for almost half of net job growth. However, further contractions are expected in Manufacturing, with 597,000 jobs forecast to be lost across the UK up to 2035.

2.31 Rising manufacturing activity will be achieved through the adoption of new technologies, increased productivity, and rising total GVA rather than through higher levels of employment in the sector. Spending cuts by the Government will mostly impact upon Public Administration in the UK, with an expected loss of over 172,000 jobs by 2035.

2.32 Within GM, GVA growth will be heavily dependent on private services, which account for over four-fifths of total growth. The main sectors in terms of growth to 2035 are:
- Business, Financial, and Professional Services: +£9,001m (2.3% per annum growth);
- Wholesale and Retail: +£3,965m (2.1% per annum growth);
- Creative and Digital Industries: +£2,977m (2.9% per annum growth); and
- Manufacturing +£2,119m (1.3% per annum growth).

2.33 The latest forecast shows that long-term trends for employment growth by key sector in GM remain largely unchanged. The main sectors in terms of employment growth, are:
- Business, Financial and Professional services: +70,300 (1.1% per annum growth);
- Wholesale and Retail: +27,200 (0.6% per annum growth); and
- Hospitality, Tourism and Sport: +18,800 (0.7% per annum growth); and
- Construction: +16,600 (1.0% per annum growth).

2.34 Further job shedding is forecast in Manufacturing as productivity improvements result in labour being substituted by technology; and despite uncertainty still remaining over the scale of austerity measures, the baseline forecast suggests 8,100 jobs will be lost in GM's Public Administration sector (note: excluding education and health) over the next two decades.

Figure 5: Baseline GMFM-2017 forecast by main sectors in GM, net increase 2015 to 2035

<table>
<thead>
<tr>
<th>GMCA defined sectors</th>
<th>Measure</th>
<th>Net increase/decrease (millions)</th>
<th>% Compound Annual Growth</th>
<th>GVA Net increase/decrease (millions)</th>
<th>% Compound Annual Growth</th>
<th>Employment Net increase/decrease</th>
<th>% Compound Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Period</td>
<td>2035 vs level in 2015</td>
<td>2015 to 2035</td>
<td>2035 vs level in 2015</td>
<td>2015 to 2035</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td>£936m</td>
<td>1.1%</td>
<td></td>
<td>16,600</td>
<td>1.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Manufacturing</td>
<td>£2,119m</td>
<td>1.3%</td>
<td></td>
<td>-22,000</td>
<td>-1.0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logistics (transport and storage)</td>
<td>£890m</td>
<td>1.1%</td>
<td></td>
<td>4,400</td>
<td>0.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wholesale and retail</td>
<td>£3,965m</td>
<td>2.1%</td>
<td></td>
<td>27,200</td>
<td>0.6%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal services</td>
<td>£267m</td>
<td>1.2%</td>
<td></td>
<td>4,900</td>
<td>0.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business, financial, professional services</td>
<td>£9,001m</td>
<td>2.3%</td>
<td></td>
<td>70,300</td>
<td>1.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Creative and digital industries</td>
<td>£2,977m</td>
<td>2.9%</td>
<td></td>
<td>15,300</td>
<td>0.9%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospitality, tourism and sport</td>
<td>£1,252m</td>
<td>1.9%</td>
<td></td>
<td>18,800</td>
<td>0.7%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>£-58m</td>
<td>-0.1%</td>
<td></td>
<td>-700</td>
<td>-0.03%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health and social care</td>
<td>£2,022m</td>
<td>1.7%</td>
<td></td>
<td>13,300</td>
<td>0.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public administration</td>
<td>£-275m</td>
<td>-0.6%</td>
<td></td>
<td>-8,100</td>
<td>-0.8%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Oxford Economics GMFM. Main industry sectors defined by GMCA
Resident employment rate and unemployment

2.35 In terms of resident employment (jobs taken by people also living in GM), the long-term view – encompassing 2015 to 2035 – highlights an additional 117,000 GM residents in employment, growing at 0.4% per annum, similar to the average for the UK (0.4% per annum).

2.36 The GM resident employment rate is forecast to increase from 70.2% in 2015 to 72.4% by 2035, compared with 75.5% in the UK. Despite rising employment, the gap between the employment rates in GM and UK has remained at 2 to 3 percentage points since the UK’s economy was at its peak a decade earlier, and this is forecast to remain the case.

2.37 The latest model shows that unemployment is expected to rise modestly in the short run in the UK and GM as job creation fails to keep pace with rising labour supply. Unemployment in GM increased in 2016 for the first time since 2012. It is expected to rise again in 2017 by 3,500, to a total of 50,200 claimants. After 2017, unemployment is forecast in GM to decline faster than the UK over the outlook period to just over 40,000 claimants in 2035, a fall of 4,200 since 2015.

2.38 The unemployed claimant rate (unemployment as a proportion of the working age population) is also expected to rise for a second consecutive year in 2017 to 3.5%, before declining over the forecast to 2023 and flattening out to 2.6% in 2035.

Figure 6: Baseline GMFM-2017 forecast resident employment 2015 to 2035

<table>
<thead>
<tr>
<th>Measure</th>
<th>Resident employment</th>
<th>Unemployment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net increase/</td>
<td>% Compound Annual</td>
</tr>
<tr>
<td></td>
<td>decrease 2035 vs level in 2015</td>
<td>Growth 2015 to 2035</td>
</tr>
<tr>
<td>GM</td>
<td>117,000</td>
<td>0.4%</td>
</tr>
<tr>
<td>UK</td>
<td>2,561,000</td>
<td>0.4%</td>
</tr>
</tbody>
</table>

Source: Oxford Economics GMFM

Population and migration

2.39 GM’s economic development is supported by an increase in the local population. Total population is forecast to rise from 2,756,400 in 2015 to 2,963,800 in 2035 in the baseline forecast, an increase of 207,500 people at an average growth rate of 0.4% per year. This is equivalent to just over 10,000 additional residents per annum over the 20-year period. Population projections have remained broadly unchanged between the current and previous baseline forecasts.

2.40 The number of working age residents, defined as those aged 16 to 64, is forecast to rise a little over the next 10 years, before falling modestly beyond 2030 to 2035. The working age population of GM is forecast to be 1,770,400 in 2035, similar to the current level.

2.41 Future population growth in GM is largely underpinned by positive natural change (i.e. more births than deaths). In the baseline forecast over the full period, natural change accounts for the entire growth in population. Net migration does make a positive contribution to growth in the early years but this starts to reverse from 2021. Overall, net migration accounts for -10% of the change whilst natural change accounts for 110%.

Figure 7: Baseline GMFM-2017 forecast resident employment 2015 to 2035

<table>
<thead>
<tr>
<th>Measure</th>
<th>Population</th>
<th>% Compound Annual</th>
<th>Net migration</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net increase/</td>
<td>Net increase/</td>
<td></td>
</tr>
<tr>
<td>Period</td>
<td>Net decrease</td>
<td>decrease 2035 vs level in 2015</td>
<td>2035 vs level in 2015</td>
</tr>
<tr>
<td>GM</td>
<td>207,500</td>
<td>0.4%</td>
<td>-14,500</td>
</tr>
<tr>
<td>UK</td>
<td>6,749,000</td>
<td>0.5%</td>
<td>-246,000</td>
</tr>
</tbody>
</table>

Source: Oxford Economics GMFM
Key messages

- OE was commissioned by the GMCA to produce a baseline forecast and an ‘Accelerated Growth Scenario’ (AGS) for GM.
- The accelerated growth scenario illustrates a future where improvements to the skills base, innovation, and transport connectivity boost GVA, employment, and productivity growth across the North. GM’s economy both drives and benefits from this additional growth.
- The AGS draws on the transformational growth scenario for the North prepared by Cambridge Econometrics and partners for the Northern Powerhouse Independent Economic Review. It also considers the risks from Brexit, as well as the challenges to raising the long-term productivity of GM’s economy, alongside raising levels of employment.
- In the AGS-2017 scenario, GM’s economy is forecast to grow at an average annual rate of 2.2% between 2015 and 2035. This is equivalent to an additional £32.4 billion of economic activity, and is significantly above the baseline forecast of 1.7% per year. Furthermore, GM would grow faster than the UK up to 2035.
- Stronger GVA growth is supported by a shift towards higher value sectors. This means productivity growth in GM is stronger in the AGS scenario than the baseline forecast, averaging growth of 1.6% per year from 2015 to 2035, compared with 1.2% the baseline.
- The number of jobs in Greater Manchester is forecast to rise by 190,000 between 2015 and 2035 in the AGS-2017 scenario, which is equivalent to 49,000 more jobs than in the baseline forecast. This represents an average annual growth rate of 0.6%, a little higher than the baseline forecast of 0.5% and higher than that projected for the UK.
- GM’s population growth is stronger in the AGS scenario than in the baseline forecast. Total population is projected to rise by 286,000 between 2015 and 2035, which is 78,600 above the level of population increase shown in the baseline forecast.
- The AGS assumes that a majority of new jobs will be taken by GM residents. Adjusting for residents that may hold more than one job and commuting, it equates to an additional 46,800 GM residents in employment in 2035 in the AGS-2017 scenario compared with the baseline.

Introduction

3.1 This section explains the development of an Accelerated Growth Scenario (AGS) for GM, including both the rationale for the scenario’s development, as well as headline impacts on the economy. It highlights how the growth trajectory will help to close the gap in performance between GM’s economy and the national average, and shows GM making an increased contribution to the total economic output of the North.

3.2 The analysis also highlights how the impacts of the AGS differ from previous versions of the scenario for growth, as well as highlighting the assumptions and impacts on key sectors of the economy, and factors such as resident employment, population, migration, and commuting.

3.3 OE were commissioned to produce an ‘accelerated growth scenario’ for GM. It provides a projection for the GM economy that is stronger than the baseline forecast, and reflects a future where the city plays a lead role in driving forward growth ambitions for the North of England. It is consistent with the long-term ambitions for the ‘Northern Powerhouse’ as set out in the Northern Powerhouse Independent Economic Review.

3.4 The AGS also builds upon the growth sectors in which GM is expected to have a comparative advantage, including evidence from the sector Deep Dives and analysis on productivity in GM.
Accelerated growth in Gross Value Added

3.5 In the AGS-2017 scenario, the GM economy is forecast to grow at an average annual rate of 2.2% between 2015 and 2035. This is equivalent to an additional £32.4 billion of economic activity (measured in constant 2013 prices), and the growth rate is significantly above the baseline forecast of 1.7% per year. Furthermore, Greater Manchester would grow faster than the UK (1.9%) up to 2035.\textsuperscript{13}

Figure 8: GMFM baseline forecasts vs Accelerated Growth Scenario for GM

<table>
<thead>
<tr>
<th>Measure</th>
<th>Latest AGS2017 (June 2017)</th>
<th>Difference between GMFM2017 and AGS2017</th>
<th>Difference in level</th>
<th>Difference in CAGR % points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period</td>
<td>Net increase/decrease</td>
<td>% Compound Annual Growth Rate 2035 vs level in 2015</td>
<td>2015 vs level in 2035</td>
<td>2015 vs level in 2035</td>
</tr>
<tr>
<td>GVA</td>
<td>£32,400 million</td>
<td>2.2%</td>
<td>£8,500 million higher in 2035</td>
<td>+0.5 % points</td>
</tr>
<tr>
<td>Productivity</td>
<td>£16,000</td>
<td>1.6%</td>
<td>£3,700 higher</td>
<td>+0.4 % points</td>
</tr>
<tr>
<td>Employment</td>
<td>190,000</td>
<td>0.6%</td>
<td>+49,000 higher</td>
<td>+0.1 % points</td>
</tr>
<tr>
<td>Population</td>
<td>286,100</td>
<td>0.5%</td>
<td>+78,700 higher</td>
<td>+0.1 % points</td>
</tr>
</tbody>
</table>

Source: Oxford Economics GMFM

Figure 9: Accelerated Growth Scenario and GVA in Greater Manchester, 2015 to 2035

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure9.png}
\caption{Accelerated Growth Scenario and GVA in Greater Manchester, 2015 to 2035}
\end{figure}

Source: Oxford Economics GMFM

3.6 Growth in GM in the AGS-2017 scenario is led by private services. About a third of GVA growth is attributable to the three largest sub-sectors within Business, Financial, and Professional Services, those being Professional, Technical & Scientific activities, Business Services, and Real Estate – with the first two of these growing significantly faster than the total economy; within these, Legal, Accounting, and Head Office functions are forecast to play a key role in driving growth.

3.7 The Digital Industries sub-sector is forecast to grow on average by 4.2% per year between 2015 and 2035, and therefore markedly increasing its contribution to the GM economy. Wholesale & Retail Trade is forecast to grow at a rate closer to the total economy average, yet it is expected to remain the largest sector in GM, and therefore an important source of growth and jobs.

\textsuperscript{13} Note the UK grows slightly faster in the AGS than the GMFM2017 baseline, due to GM’s faster growth rate.
3.8 All other major sectors provide a positive contribution to growth in the AGS-2017 scenario, and grow faster than in the baseline forecast. However, they still tend to expand slower than private services. This is true for much of the Public Sector, Construction, and Manufacturing in aggregate, and this means each of these sectors will account for a smaller share of the GM economy in 2035 than they currently do. But there are exceptions, for example Advanced Manufacturing (including: Engineering, Automotive, Electronics), is projected to grow at least as fast as the total GM economy.

3.9 Overall productivity growth in GM is higher in the AGS-2017 scenario than in the baseline, partly reflecting a shift towards higher-value sectors, but also because faster growth is supported by investments that boost overall productivity. The strongest productivity growth, of close to 3% per year in the period to 2035, is forecast in activities most closely aligned to Digital Industries, including Computing and Telecommunications, as well as Legal and Accountancy activities.

3.10 These are followed by other high-value private service activities and Manufacturing, where productivity is projected to rise between 2.0 to 2.5% per year, exceeding the total economy average of 1.6%. Lower-value business services, such as Office Administration, are comparable to the UK average, as are parts of the Logistics sector. The weakest rates of productivity growth are forecast in Public Administration and Hospitality & Tourism.

Figure 10: AGS forecast for GVA and employment by main sectors in GM, 2015 to 2035

<table>
<thead>
<tr>
<th>Broad industry sector (GMCA definition)</th>
<th>GVA</th>
<th>Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Accelerated Growth Scenario 2035 vs level in 2015</td>
<td>Growth in AGS over Baseline (additionality in 2035)</td>
</tr>
<tr>
<td>Construction</td>
<td>£1,308m</td>
<td>+£372m</td>
</tr>
<tr>
<td>Manufacturing</td>
<td>£2,763m</td>
<td>+£644m</td>
</tr>
<tr>
<td>Logistics (transport and storage)</td>
<td>£1,158m</td>
<td>+£468m</td>
</tr>
<tr>
<td>Wholesale and retail</td>
<td>£4,475m</td>
<td>+£510m</td>
</tr>
<tr>
<td>Personal services</td>
<td>£324m</td>
<td>+£57m</td>
</tr>
<tr>
<td>Business, financial, professional services</td>
<td>£11,312m</td>
<td>+£2,311m</td>
</tr>
<tr>
<td>Creative and digital industries</td>
<td>£4,277m</td>
<td>+£1,300m</td>
</tr>
<tr>
<td>Hospitality, tourism and sport</td>
<td>£1,451m</td>
<td>+£198m</td>
</tr>
<tr>
<td>Education</td>
<td>£904m</td>
<td>+£961m</td>
</tr>
<tr>
<td>Health and social care</td>
<td>£3,195m</td>
<td>+£1,173m</td>
</tr>
<tr>
<td>Public administration</td>
<td>£173m</td>
<td>+£448m</td>
</tr>
</tbody>
</table>

Source: Oxford Economics GMFM. Main industry sectors

Note: GVA show impacts in 2035 vs level recorded in GM in 2015, and additionality during 2035. For total GVA impact over time by sector requires totalling additionality every year to 2035 expressed as a Net Present Value.
Accelerated growth in employment

3.11 The number of jobs in GM is forecast to rise by 190,300 between 2015 and 2035 in the AGS-2017 scenario, which is equivalent to 49,000 more jobs than in the baseline forecast. This represents an average annual growth rate of 0.6%, a little higher than the baseline forecast of 0.5% and that projected for the UK.

**Figure 11: Accelerated Growth Scenario and Employment in Greater Manchester, 2015 to 2035**

Source: Oxford Economics GMFM

3.12 Job creation is concentrated in the private services sector – in particular within Business, Financial, and Professional Services – forecast in AGS-2017 to account for up to half of net additional job creation in GM in the period to 2035 (totalling +88,800). Within Business, Financial, and Professional Services sub-sectors, 64,000 of these additional jobs are forecast to be created in Professional Services (Legal & Accounting Services, Building Management Services, and Architectural and Engineering Services) and within Employment Services (which includes jobs across a range of activities if provided through an agency), and Head Offices.

3.13 The outlook is mixed elsewhere in the private sector. Wholesale & Retail Trade is currently the largest employer in GM, and this is expected to remain the case, with an additional 30,800 jobs by 2035. But the pace of job creation in this sector is only in line with the total economy. More impressive is the rate of employment growth in Digital Industries, where the number of jobs is forecast to grow by 10,900 (1.1% per year: almost double the growth rate for all industries) – in addition to 8,000 in Creative Industries; Construction sector employment is also expected to rise significantly in AGS-2017 by 21,700 (1.2% per year) from 2015 to 2035.

3.14 The employment outlook is weakest for Manufacturing. The number of jobs in the sector is forecast to fall by 17,900 between 2015 and 2035 in the AGS-2017 scenario, as the adoption of new technologies means rising activity can be accommodated by fewer workers. Nonetheless, this is 4,100 fewer Manufacturing job losses than in the baseline forecast.14

3.15 Public sector employment is forecast to rise in the AGS-2017 scenario, but with job creation slower than the total economy average. New jobs here will be concentrated in Health & Social Care sector, accounting for 20,500 more jobs by 2035. By contrast, Public Administration employment is forecast to be 4,800 lower in 2035 (but in a better position than in the GMFM-2017 baseline of 8,100 job losses).

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14 Note: GMCA sector definition for Manufacturing includes manufacturing engineering consultancy
Population and resident employment

3.16 The AGS-2017 scenario adopts the 2014-based ONS subnational population projections, in-line with the previous AGS-2015 and the evidence base for the GMSF, rather than using a model-based population forecast. The ONS projections suggest the total population of GM will rise to 3,042,500 in 2035, an increase of 286,100 on the 2015 level, and 78,600 more than the baseline GMFM-2015 forecast increase of 207,500. Under the AGS-2017 scenario, 88% of all GM population growth comes from natural changes (252,700 people), with migration accounting for around 12% (33,400 people).

3.17 The difference in the two projections is largely explained by the migration assumptions used in each. The baseline forecast is constructed using the GMFM-2017 and incorporates OE’s expectations for net migration to GM to be positive in the short term, but negative in the medium to long term. The ONS projections – which were produced prior to the referendum and are an extrapolation of past trends – have a similar short term outlook, followed by net migration being close to zero further out in the forecast horizon. It would be expected that a successful city region would be attracting people rather than losing population and hence neither forecast necessarily aligns with GM’s ambitions.

3.18 As outlined above, employment in GM is forecast to rise by 190,300 between 2015 and 2035 in the AGS, 49,000 more than in the baseline forecast. The AGS assumes that a majority of these will be taken by GM residents. Adjusting for residents that may hold more than one job and commuting, this translates to an additional 46,800 GM residents in employment in 2035 in the AGS-2017 scenario compared with the baseline.

3.19 Non-employed working age residents will account for the majority of the additional 46,800 GM employed residents. These people may be registered as being unemployed and claiming job seekers allowance, be economically inactive, or economically active but not in work.

3.20 The assumptions adopted in the AGS-2017 scenario are that 15% of the additional resident workers will be residents who were previously unemployed, and 75% will be residents aged 16 to 64 who were neither employed or registered unemployed. These proportions are in line with the assumptions made in the baseline forecast and recognise there are significantly more people in the second group than the first, and that job creation benefits the economically inactive as well as the unemployed. Hence, the AGS-2017 delivers a significant increase in the numbers of GM residents in employment.

Figure 12: Accelerated Growth Scenario population change, 2015 to 2035
3.21 The final 10% of the additional 46,800 GM residents in employment by 2035 are assumed to be people aged over 64. This reflects the fact that concerns over the sufficiency of pension provision, improved health among older age groups, and increases in the state retirement age have contributed to an increase in the proportion of jobs held by older workers.

3.22 Higher employment in GM in the AGS-2017 scenario supports an increase in the resident employment rate. This is projected to rise from 70.2% in 2015 to 72.4% in 2035. The equivalent figures for the UK are 73.5% in 2015, rising to 75.5% in 2035.

3.23 The UK scenario takes account of the impact that higher growth across the North has on national economic performance, and aligns this with ONS population projections to ensure consistency with GM assumptions. This indicates GM’s economic performance will be sufficient to narrow the gap with the UK on this measure.

3.24 In this scenario, GM’s rising employment rate is underpinned by a combination of factors, including economic forces (stronger economic growth and employment opportunities drawing people into the labour market) and demographic factors (such as progressively weaker growth in the working age population and higher participation amongst older age groups). A rising employment rate is also consistent with, and further supported by, local policy interventions aimed at boosting participation and employment.
4 Data sources

4.1 This publication is accompanied by a release of the following datasets:

- GVA by: Greater Manchester Combined Authority defined sectors; and detailed sub-sectors within the model build (50 industries)
- Employees and employment by: Greater Manchester Combined Authority defined sectors; and detailed sub-sectors within the model build (50 industries)
- Productivity by: Greater Manchester Combined Authority defined sectors; and detailed sub-sectors within the model build (50 industries)
- Population by 4 categories (working age, 15-74 years, children and over retirement age)
- Expansion demand, replacement demand, and total net demand for jobs per year, by: industry sector, broad occupation group, and by qualification (notional levels).

4.2 New data included in the GMFM-2017 include:

- New global, UK, North West outlooks for 2017, including Brexit and UK productivity assumptions
- Census consistent mid-year population estimates (2015)
- Official population projections (2014)
- Earnings (2015)
- Resident employment (2015)
- Unemployment (2016)
- Regional GVA (2015 data; 2013 prices)
- Personal sector (regionally).