

# **Appendix 7: Baseline Forecast Analysis**

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December 2016

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# 1 Historic Context

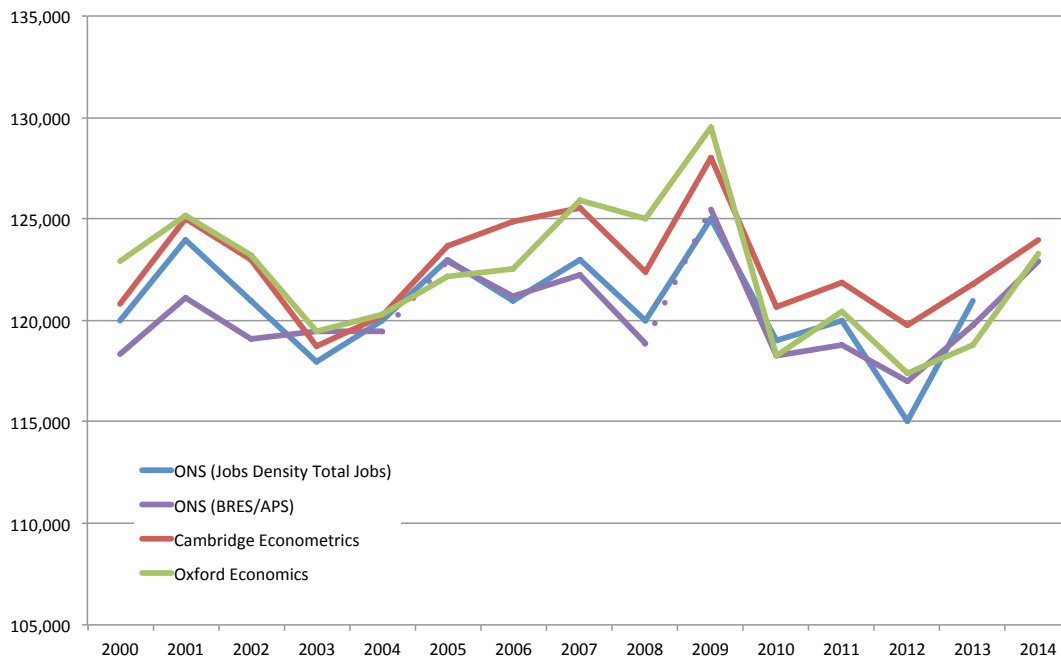
When providing economic forecasts it is normal for these to be issued alongside the modelled historic outputs. Both Oxford Economics (OE) and Cambridge Econometrics (CE) input the data available from the ONS into their models, and generally there is a strong correlation between the ONS data and the modelled data. However, what is frequently observed is some smoothing of the volatility evident in the ONS data. There can also be slightly different starting points depending on how the models have been structured. However, this is less important, as the focus of this study is about change over time. Comparing historic performance is helpful for setting the forecast projections in some kind of context of the forecasters' own models, but also for understanding how the models may differ from ONS published data.

## 1.1 Total Jobs

Figures 1 and 2 illustrate the change in total employment over the historic analysis period. This shows the figures for CE, OE and the ONS<sup>1</sup>. This illustrates how in absolute terms there is some difference in the way CE and OE model data, which results in a different employment level to that produced by the ONS.

Figure 1 shows the data for Swindon. This shows the broad pattern of the data is well matched, however, year on year there are differences. The chart also highlights something of an anomaly with the ONS Jobs Density measure of jobs in 2012 for Swindon, although much less severe than in Wiltshire. The three series indicate a very similar level of jobs for 2014.

**Figure 1: Comparison of Employment Change 2000-2013 in Swindon**



<sup>1</sup> Two ONS measures are shown for Swindon, the Jobs Density Total Jobs series and the HJA constructed BRES/APS series. For Wiltshire a third series is added including HM Forces located in the county as this is a significant number. This third series is only available for a shorter time period. No additional agricultural employment was added for Wiltshire to avoid the risk of double counting with self employment data.

Figure 2 shows the data for Wiltshire. This is clearly different to the Swindon chart. CE (red line) models a much lower level of employment than OE. There is also a clear divergence between the ONS Jobs Density Total Jobs measure and the two forecasters in 2011-12 as has been previously discussed. The purple line shows the HJA constructed BRES/APS measure. As has been noted this does not include some elements of agricultural employment or HM Forces. A second measure adding HM Forces has also been included, which starts in 2006. This shows a greater consistency with the OE and CE data.

**Figure 2: Comparison of Employment Change 2000-2013 in Wiltshire**

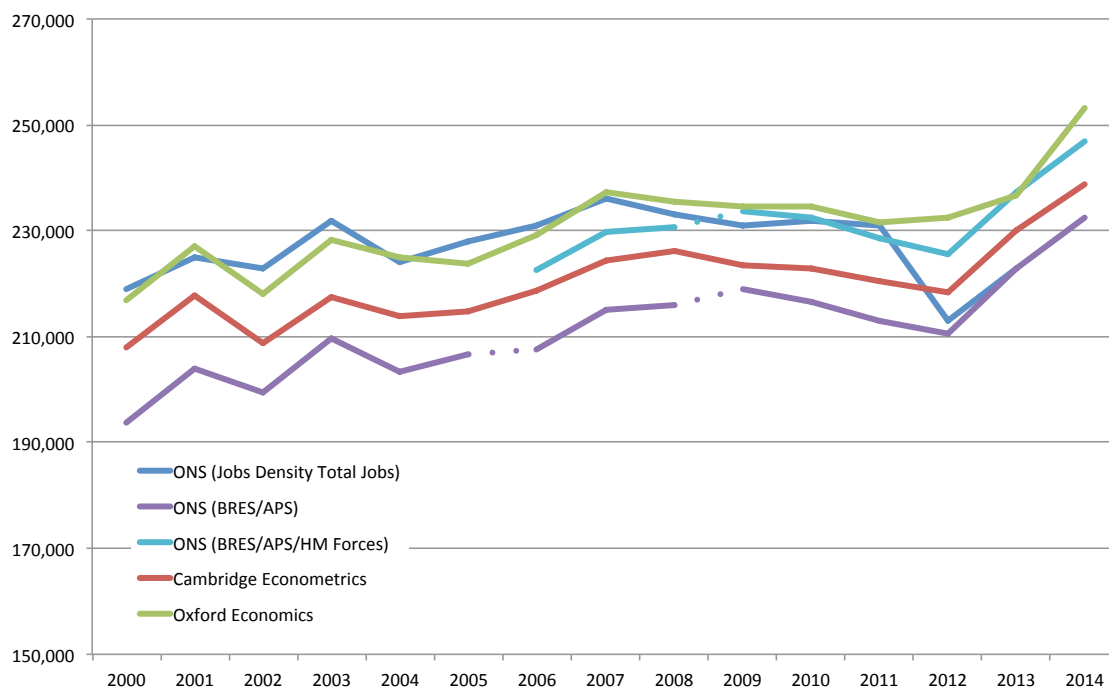


Figure 4 shows the same data for Wiltshire. This shows reasonable fit between ONS Jobs Density measure and both forecasters up to 2011 and then a clear divergence where the suspected data errors occur. The HJA constructed ONS series show a slightly more positive picture over the whole period, largely driven by a more positive view of the early years. There is then a close tracking of the trend with OE and CE.

It should be noted that the OE and CE models not only utilise local data, but ensure consistency with regional and national jobs totals, which are generally more robust. Overall this analysis shows good fit between the forecasters and the ONS data. Whilst there are clearly some variations as a result of the data modelling that takes place, the data provides comfort that the historic modelling of data is appropriate.

Figure 3 and Figure 4 show the indexed employment change for the ONS, CE and OE total jobs measures. These allow the more even comparison of data from a common starting point.

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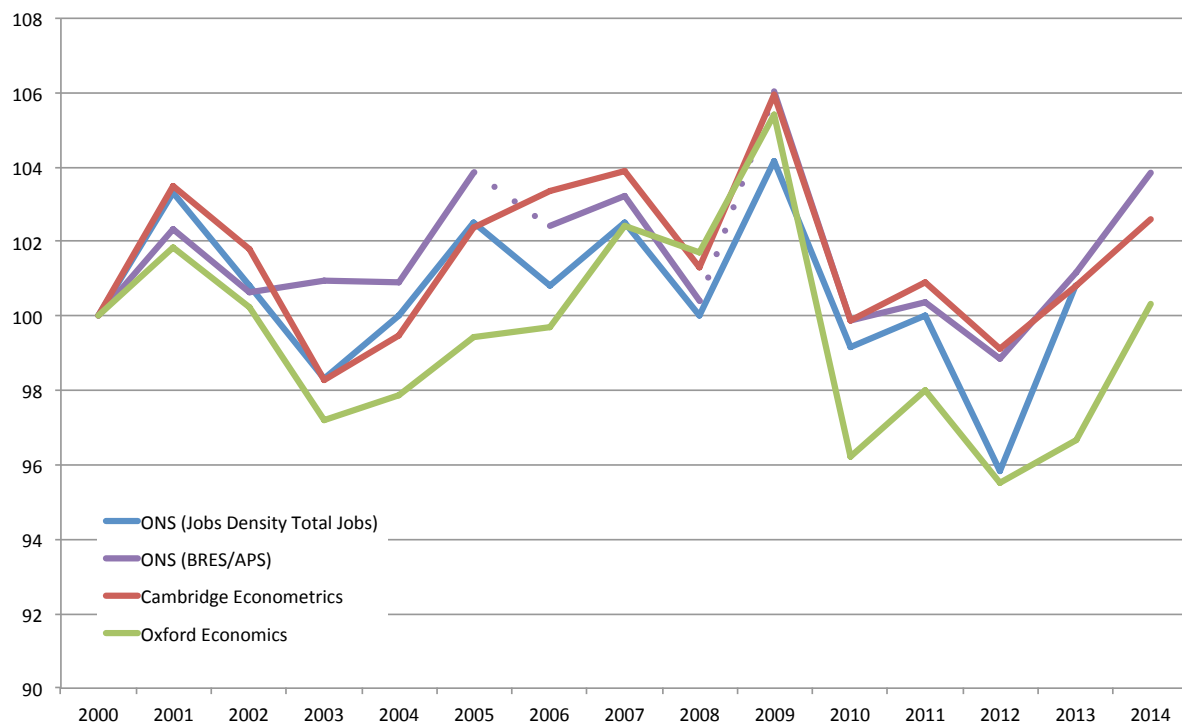
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Figure 3 relates to Swindon. When considering the CE (red line) and ONS (purple line) there is a good correlation, and the start and end points broadly align. When comparing OE (green line) with ONS there is some discrepancy. Whilst there is a reasonable fit to 2009, the data for 2009-2013 diverges, largely as a result of the fall in total jobs 2009-10.

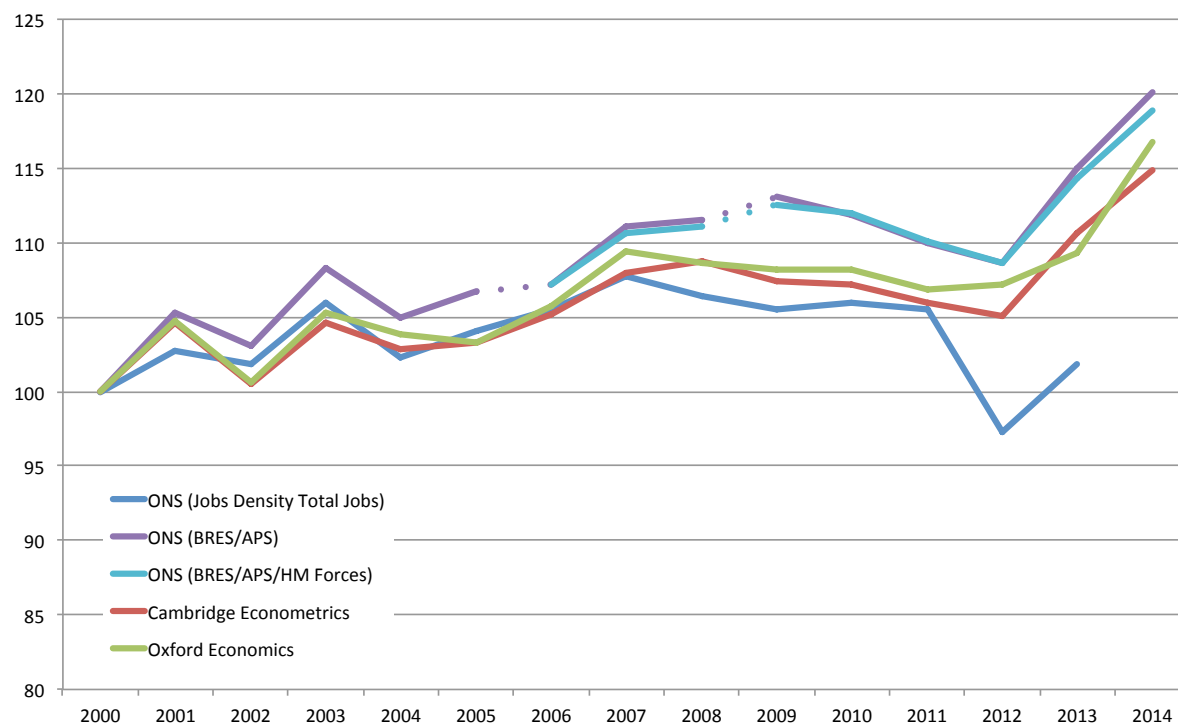
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**Figure 3: Swindon Historic Employment Comparison (index 2000=100)**



**Figure 4: Wiltshire Historic Employment Comparison (Index 2000=100)**



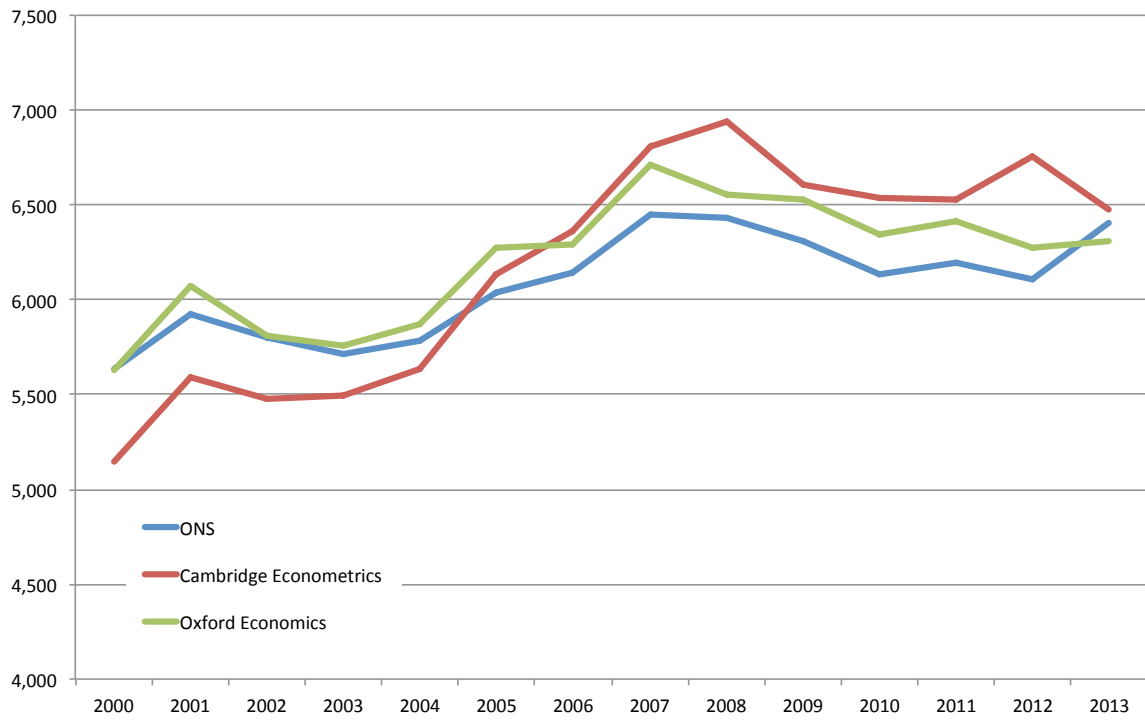
## 1.2 GVA

As with total jobs, the econometric forecasters use models to assess GVA at the local level. It should also be remembered that the ONS data for GVA has some limitations in order to bring it into 'real' terms. The ONS deflators which allow data to be considered at all in real terms at the local level are relatively new and cited as experimental. These have therefore not been available for the forecasters to use and as a result they rely on their own modelling approaches.

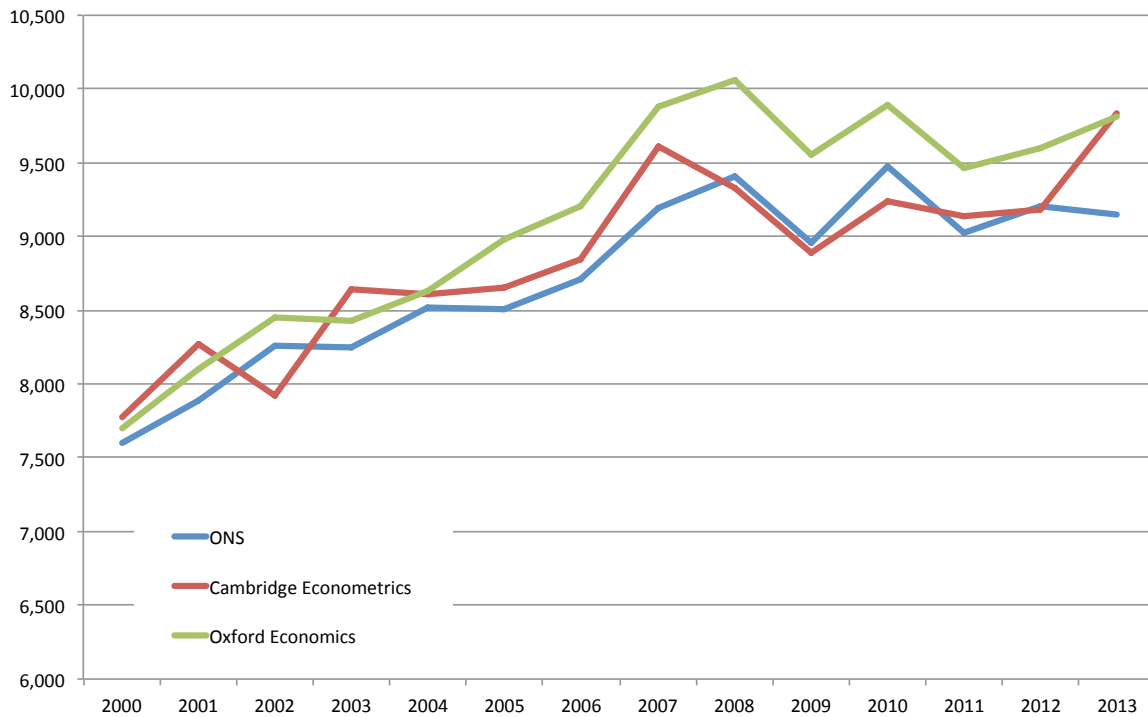
Figures 5 and 6 show the CE, OE and ONS estimates for GVA<sup>2</sup> for both Swindon and Wiltshire. Whilst in absolute terms there are some differences, there is no single major discrepancy. The most striking difference is the CE data for Swindon which starts as the lowest measure of GVA and finishes as the highest, with very strong GVA growth in the period 2004-08 in particular. For Wiltshire, it is OE that takes a more positive view of GVA growth for much of the period, although at the start and finish both OE and CE are estimating very similar values.

**Figure 5: Comparison of GVA Estimates 2000-2013 in Swindon (£ million)**

<sup>2</sup> CE data in £million 2011 prices. OE and ONS data in £million 2012 prices.



**Figure 6: Comparison of GVA Estimates 2000-2013 in Wiltshire (£ million)**



For the Swindon and Wiltshire combined area CE assesses annual GVA growth of 1.8% over the period 2000-13, this compares to 1.5% by OE and 1.3% using ONS data.

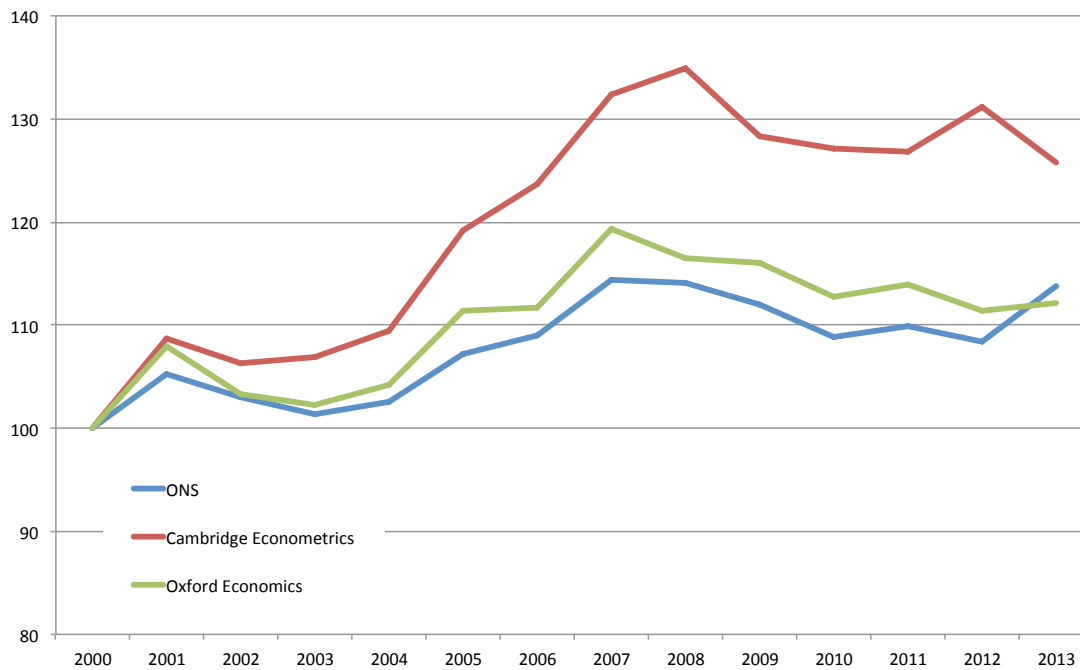
Figures 7 and 8 compare indexed GVA change from the ONS dataset and both CE and OE.

Figure 7 contains the data for Swindon and shows a substantial difference between the GVA analysis of CE (red line) and both OE and ONS. In terms of CAGR, CE models growth of 1.8% per annum compared with 0.9% for OE and 1.0% for ONS.

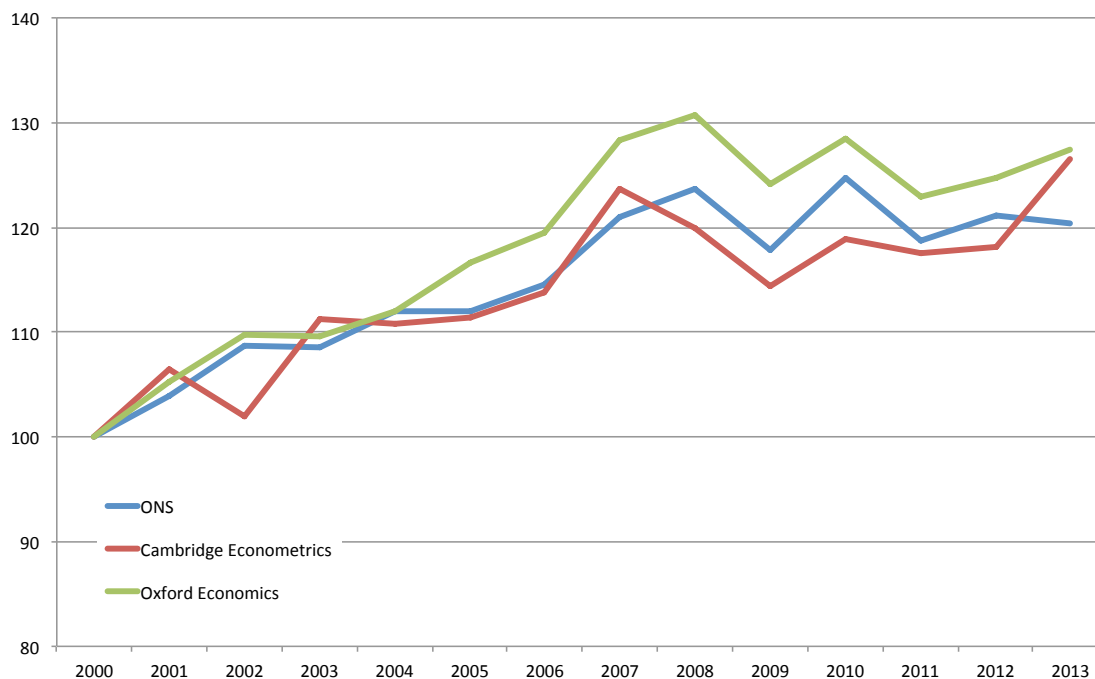
Figure 8 presents the data for Wiltshire which shows a less marked discrepancy. For a number of years the OE (green) line is above the CE (red) line before coming together in 2013. The CAGR of 1.8% CE and 1.9% OE are very similar and above ONS 1.4%. The ONS data lies between the two forecasters for much of the period.

**Figure 7: Swindon Historic GVA Comparison (2000=100)**





**Figure 8: Wiltshire GVA Comparison (2000=100)**



At the Local Authority level CE has a consistently more positive view of Swindon (in terms of both jobs and GVA) than OE. The two forecasters have much more similar views of Wiltshire performance for both indicators.

Table 1 below sets out the results of the two forecasters historic analysis along with the ONS to aid comparison with forecast data in the following sections. This illustrates some patterns that do not come across in the preceding analysis. For example, CE assesses GVA growth across both Swindon

and Wiltshire to be the same at 1.8% per annum, but the balance of employment and productivity growth across the two areas is markedly different.

**Table 1: Summary of 2000 - 13 Analysis – Compound Annual Growth Rates**

	Swindon	Wiltshire	Swindon & Wiltshire
<b>Employment Change<sup>3</sup></b>			
ONS ( <i>Jobs Density</i> )	0.1%	0.1%	0.1%
ONS ( <i>BRES/APS</i> ) <sup>4</sup>	0.1%	1.1%	0.7%
CE	0.1%	0.8%	0.5%
OE	-0.3%	0.7%	0.4%
<b>GVA Change</b>			
ONS	1.0%	1.4%	1.3%
CE	1.8%	1.8%	1.8%
OE	0.9%	1.9%	1.5%
<b>Productivity Change</b>			
ONS	n/a	n/a	n/a
CE	1.7%	1.0%	1.3%
OE	1.1%	1.2%	1.1%

### 1.3 What does this mean when assessing forecasts?

The contextual data presented above tells us that:

- There is clearly some uncertainty relating to ONS Jobs Density measure of Total Jobs, particularly for Wiltshire. HJA has constructed a proxy measure to try and eliminate the anomalies. This would suggest the order of jobs growth in Wiltshire modelled by OE and CE is a reasonable indicator.
- Wiltshire has experienced jobs growth much more strongly than Swindon, this is consistent across the sources.
- There is no compelling evidence that the Swindon and Wiltshire area has been consistently outperforming the national economy in either GVA or jobs terms. This is largely as a result of weaker relative performance in the Swindon economy.
- CE has a generally more positive view of the Swindon economy in its historic model, which may be reflected in its future analysis.

<sup>3</sup> The ONS CAGR figures for ONS should be treated with some caution, particularly the APS/BRES source which includes discontinuities in data, and the Wiltshire Jobs Density figure as a result of a clear data anomaly.

<sup>4</sup> There is an incomplete timeseries for HM Forces data, so CAGR over the full period is not available.

## 2 Cambridge Econometrics Forecasts

The CE forecasts are summarised in Table 2 below. CE has provided data for:

- Period 1981 – 2037
- 45 sectors of the economy
- GVA and employment (GVA in £ millions at 2011 prices)

**Table 2: Summary of Cambridge Econometrics Headline Results 2016-36**

	Swindon	Wiltshire	Swindon & Wiltshire
<b>Employment Change</b>			
2016-36 Total Change	8,100	29,900	38,000
Average Annual	405	1,495	1,900
<i>Historic 2000-13 comparison</i>	75	1,695	1,770
CAGR	0.3%	0.6%	0.5%
<i>Historic 2000-13 comparison</i>	0.1%	0.8%	0.5%
<b>GVA Change</b>			
2016-36 Total Change	£3,748m	£6,238m	£9,986m
CAGR	2.1%	2.3%	2.2%
<i>Historic 2000-13 comparison</i>	1.8%	1.8%	1.8%
<b>Productivity Change</b>			
2016-36 Total Change	£24,350	£17,956	£19,899
CAGR	1.8%	1.7%	1.7%
<i>Historic 2000-13 comparison</i>	1.7%	1.2%	1.1%

What does this tell us about the potential future of the Swindon and Wiltshire economy?

Overall CE is suggesting a higher level of GVA growth than the 2000-13 historic period, but no greater level of employment growth. The difference is therefore explained by higher growth forecasts for productivity than within the historic data. The CE model historically shows higher rates of growth than ONS for GVA and therefore the forecasts appear substantially more positive than historic ONS growth rates for the area.

- Average GVA growth of 2.2% per annum across the plan period is projected. This compares with CE historic (2000-13) data of 1.8% per annum, and is therefore more optimistic. It compares with ONS historic GVA growth of 1.3% per annum for the combined area and 1.7% for England over the historic period.
- Wiltshire GVA growth is forecast to be slightly higher than for Swindon, compared with CE's historic assessment of broadly equal GVA growth across the two areas. ONS historic data has higher GVA growth for Wiltshire than Swindon, which aligns to the relative CE forecast position.

- GVA growth is driven by both employment growth and increases in the output per job (labour productivity). Productivity growth underpins 77% of GVA growth, with employment growth delivering 23% of GVA increases. This is a slightly higher proportion than over the historic 2000-13 period when productivity accounted for 72% of total GVA growth.
- Total employment growth is projected at 0.5% per annum. This compares to CE historic analysis of 0.5% per annum and historic estimated ONS measured growth of 0.7% per annum<sup>5</sup>. ONS historic job growth for England is 0.7% per annum.
- CE analysis sets out higher (0.6% per annum) jobs growth rate in Wiltshire than in Swindon (0.3% per annum), which mirrors the relative historic rates of job growth rate in the CE model for Wiltshire (0.6% per annum) and Swindon (0.3% per annum).
- Average annual jobs growth across the combined area is 1,900 jobs per annum.
- Productivity growth of 1.7% per annum is projected over the analysis period. Productivity growth is projected to be marginally higher in Swindon (1.8% pa) than in Wiltshire (1.7% pa). This is higher than across the 2000-13 period when productivity growth was estimated at 1.3% per annum, with a much higher rate in Swindon (1.7% per annum) than Wiltshire (1.0% per annum).
- The cause of the variance in total productivity growth is the sectoral composition of the two areas rather than any projected difference in productivity growth in sectors in the different parts of the Swindon and Wiltshire area.

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<sup>5</sup> This figure should be treated with some caution as is based on HJA crude combination of BRES/ABI and LFS/APS.

### 3 Oxford Economics Forecasts

The OE forecasts are summarised in Table 3 below. OE has provided data for:

- Period 1991 – 2037
- 85 sectors of the economy
- GVA, employment and a range of supplementary variables
  - Population, employees, net commuting, unemployment, economic activity etc
- GVA in £ millions at 2012 prices.

**Table 3: Summary of Oxford Economics Headline Results 2016-36**

	Swindon	Wiltshire	Swindon & Wiltshire
<b>Employment Change</b>			
2016-36 Total Change	9,600	18,800	28,500
Average Annual	480	940	1,425
<i>Historic 2000-13 comparison</i>	75	1,695	1,770
CAGR	0.4%	0.4%	0.4%
<i>Historic 2000-13 comparison</i>	-0.3%	0.7%	0.4%
<b>GVA Change</b>			
2016-36 Total Change	£3,421m	£5,472m	£8,894m
CAGR	2.1%	2.1%	2.1%
<i>Historic 2000-13 comparison</i>	0.9%	1.9%	1.5%
<b>Productivity Change</b>			
2016-36 Total Change	£21,391	£16,812	£18,323
CAGR	1.7%	1.7%	1.7%
<i>Historic 2000-13 comparison</i>	1.1%	1.2%	1.1%

What does this tell us about the potential future of the Swindon and Wiltshire economy?

Overall OE projects higher GVA growth in the forecast period than in the 2000-13 historic period. The level of GVA growth projected is similar to that forecast by CE. OE also project jobs growth in line with the historic period. The corollary of this is that growth in labour productivity is driving the increased levels of GVA growth. OE and CE therefore project consistently in terms of higher GVA growth but similar employment growth to their historic assessments. Both GVA growth and employment growth are projected to be 0.1% lower per annum than the CE forecasts.

- Average GVA growth of 2.1% per annum is projected across the plan period. This is slightly lower than CE by 0.1% pa. In common with CE, this projection is higher than the 2000-13 average as assessed by OE's own model (1.5% per annum) and is also higher than the historic ONS data (1.3% per annum). At 0.6 percentage points per annum above its historic assessment this is more optimistic than the CE

assessment which assessed future growth prospects at 0.4 percentage points per annum above historic.

- OE is projecting no variation between Wiltshire and Swindon. This is slightly different to CE which projects higher GVA growth in Wiltshire than Swindon and the ONS historic data which shows this pattern.
- GVA growth is driven by both employment growth and increases in the output per job (productivity). 81% is attributable to productivity and 19% employment. This is a higher proportion attributable to productivity than within the CE model. In keeping with the CE model, OE project a higher proportion of future growth to be attributable to productivity growth than historically (63% 2000-13).
- Total jobs growth is projected at 0.4% per annum across the Swindon and Wiltshire area. This is lower than CE's projection of 0.5%. It is consistent with OE's assessment of historic jobs growth. Jobs growth is also forecast to be even across both Swindon and Wiltshire in percentage terms, which is in stark contrast to historic OE data which showed negative jobs growth (decline in jobs) in Swindon and very strong jobs growth in Wiltshire. At the local level, employment growth in Swindon is above CE (by 0.1 percentage points pa) but lower for Wiltshire (by 0.2 percentage points pa).
- Average annual jobs growth is forecast at 1,425 jobs per annum. This is lower than the CE forecast of 1,900.
- OE projects productivity growth of 1.7% per annum. This is in line with the CE model and slightly above the 2000-13 historic figure OE assesses for the combined area of 1.5% per annum.
- Productivity growth is projected to be equal in both Swindon and Wiltshire. This is different to CE which projects marginally higher productivity growth in Swindon.
- Productivity variations by sector are included within the model, with factors applied to groups of sectors. This is a substantial difference in approach between OE and CE. Swindon generally has higher productivity per job assumed in the OE model. However, there is virtually no variation in productivity growth rates between the two areas when the aggregate position is considered.

## 4 Swindon Sector Level Forecast Review

This section considers the sectoral level projections. Sectors are considered in light of consultation responses and other evidence as appropriate.

### 4.1 Headline Employment Growth

Overall OE forecast 9,600 additional jobs and CE 8,100 additional jobs. Initial comparison with demographic projections emerging from the SHMA suggests this scale of job growth is below the projected growth in workforce in Swindon. It should be noted that the two forecasters develop forecasts using models which are internally consistent. OE and CE make their own projections of demographic and workforce change nationally and locally. Supply and demand are therefore in balance within their own models. Some caution should be shown when comparing them directly with alternative demographic projections. If the forecasters took a view that a higher level of workforce growth was likely, it is in turn likely that a higher rate of employment growth would follow (and vice versa).

### 4.2 Broad Sectoral Groupings

The services sector is forecast to deliver the majority of job growth. OE forecast 11,800 additional jobs in the service sector and CE growth of 10,100. Both project a decline in manufacturing and relatively little change in primary industries or utilities. The construction sector is projected to grow by both forecasters.

Sector	Oxford Economics	Cambridge Econometrics
Primary Industries	0	-400
Manufacturing	-3,200	-3,500
Utilities & Waste	-300	100
Construction	1,400	1,900
Services	11,800	10,100
<b>Total</b>	<b>9,600</b>	<b>8,100</b>

### 4.3 Detailed Sectoral Change

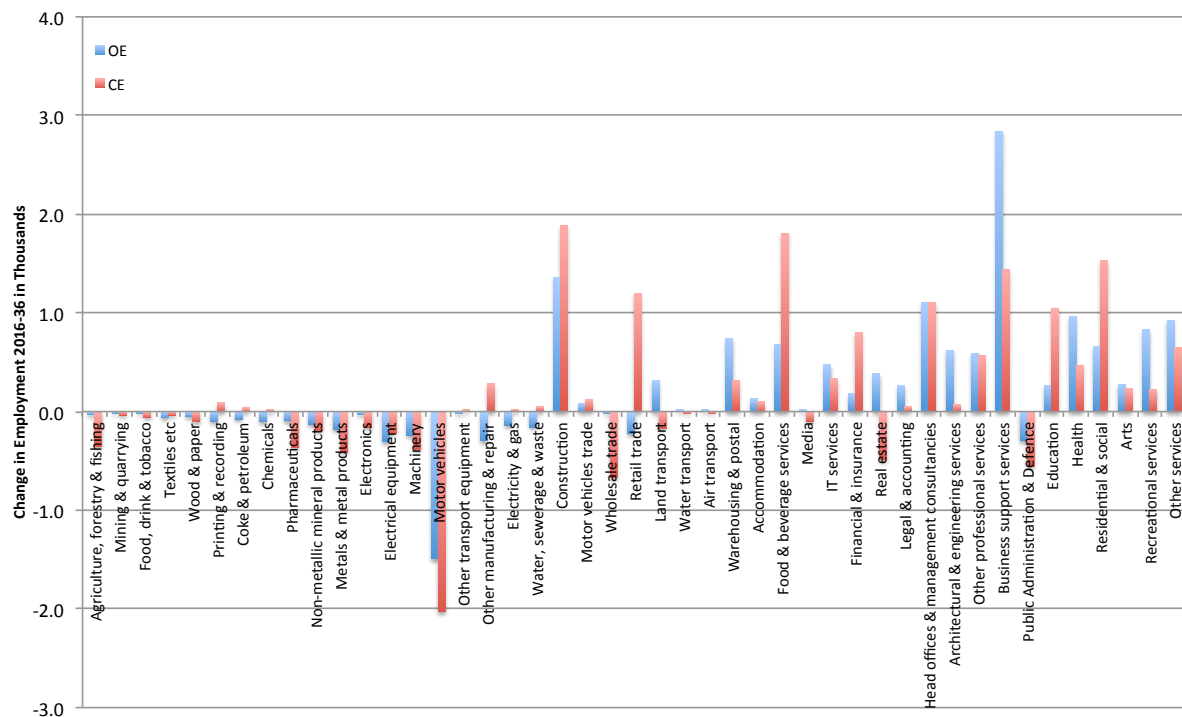
Figure 1 shows change in employment by sector for Swindon over the period 2016-36. This sets out the data for 45 sectors of the economy. This quite clearly illustrates the different expectations for primary and production sectors (left hand end of the chart) and the service sectors (right hand end of the chart).

For many sectors the forecasts by both OE and CE indicate relatively modest changes in the total level of employment. That does not mean there will not be churn and replacement demand within the sectors, of both jobs and sites and premises, but the net change is less substantial than for other parts of the economy. This also reflects the size of the sector relative to the total economy and the way in which the data is broken down, for example there are lots of subdivisions within the manufacturing sector.

Commentary of sector groupings is set out below the chart. This uses the key sectors identified in policy documentation as a starting point (see Appendix 1 for a table of key sectors). In absolute

terms it is clear to see from the chart that CE (red bars) are far more positive about the scale of growth in construction, retail, food and beverage, financial and insurance, education and residential and social care than OE. However, OE are far more positive about warehousing and postal, a number of professional services activities, business support services, health, recreational services and other services.

**Figure 1: Forecast Employment Change by Sector in Swindon 2016-36**



### 4.3.1 Manufacturing

Manufacturing in its broadest sense includes a wide range of activities. Advanced Engineering and Manufacturing is listed as a key sector in many policy documents. Motor vehicle manufacture is clearly a very important sector in Swindon. Health & Life Sciences is also listed as a key sector, including pharmaceuticals manufacturing.

Both OE and CE forecast declines in manufacturing employment in Swindon. CE project very small increases in employment within two small sub-sectors of manufacturing. OE projects a decline of 3,200 jobs and CE a decline of 3,500 jobs across all manufacturing. The largest single sub-sector is within motor vehicle manufacture with declines of 1,500 projected by OE and 2,000 by CE. Both OE (-100) and CE (-400) project declines in pharmaceuticals manufacture in Swindon over the analysis period. However, in percentage terms the declines in pharmaceuticals manufacture employment are some of the lowest. The manufacturing related industries are not therefore identified as a major employment growth opportunity in the forecasts in either percentage or absolute terms.

It should be noted that in GVA terms growth is forecast. Across the whole manufacturing sector CE forecast GVA growth of more than 40% in the manufacturing sector. In absolute terms the largest single growth sub-sector is Motor Vehicle manufacture. Other sub-sectors forecast to grow substantially in GVA terms (either absolute or relative) are printing & recording, chemicals,



pharmaceuticals and other manufacturing & repair. OE forecast more subdued GVA growth across manufacturing, at 12% across the forecast period. OE forecasts Pharmaceuticals as the single largest growth sector in absolute and relative terms, with a 44% growth.

There are clear expectations and ambitions emerging from consultations that elements of the manufacturing sector will grow in both employment and value terms across the analysis period in Swindon. In particular this relates to the motor vehicle industry, pharmaceuticals and other advanced engineering and manufacturing activities. It is not straightforward to identify from the forecasts whether the projections are for losses in low value activities with partial replacement by higher value activities. Standard Industrial Classification (SIC) does not allow easy assessment of the value of activities within sectors. However, whilst different OE and CE both identify motor vehicles and pharmaceuticals as growth sectors in GVA terms.

Of greatest potential concern is the treatment of the Motor Vehicle manufacturing sector. Consultations indicate that employment is concentrated within two key employers (Honda and BMW), rather than an extensive supply chain<sup>6</sup> of firms within this detailed sector. Honda has recently announced investment of some £267 million in infrastructure to develop its Swindon operation, which is now the global centre for production of its Civic model. This is a clear commitment to on-going production at the plant and Honda expects to increase employment by 500 persons in the coming years. BMW has also made recent investments in its Swindon plant which produces parts for the Mini. The forecast decline of 1,500 – 2,000 jobs in this sector is in clear contrast with the expectation based on local knowledge and committed investments. As the employment is concentrated within two firms and a local supply chain that will also benefit from this expansion. It is also clear that the investments in these two large firms will not be offset by declines in other firms in the same sector. There is therefore a compelling case for adjustment to the forecasts, which have been produced using the econometric models.

It should also be recognised that global market conditions can change and alternative investment decisions can be made. There are no hard and fast guarantees for either the BMW or Honda plants to remain in Swindon or for employment to be sustained at a particular level. Recent investment announcements provide a clear rationale for positivity for the next 5-10 years. There is also potential in the longer term for increased mechanisation and automation of processes. We cannot therefore rule out falls in employment in the longer term. Equally we cannot rule out further growth if global demand for these products continues and the plants continue to receive investment.

#### **4.3.2 Energy, Low Carbon and Environmental Technologies**

These sectors cover a range of activities including elements of manufacturing, energy, waste, utilities and service sector activities. The detail of the forecasts does not make fine-grained analysis easy. Employment in the energy and utilities (including waste) sector is forecast to change by -300 (OE) to +100 (CE) over the analysis period. The sector is assessed to support around 1,500 jobs at the start of the analysis period. It is not therefore identified as a major employment growth opportunity in the forecasts in either percentage or absolute terms.

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<sup>6</sup> There are supply chain businesses within the local economy, but the two tier 1 businesses are the major operations within this narrow sectoral definition.

### **4.3.3 Construction**

Construction is listed as a key sector in the recently updated Strategic Economic Plan. The sector is forecast to grow in employment terms by 1,400 (OE) – 1,900 (CE) jobs over the analysis period. This is an increase of around 25% projected by both forecasters. This is therefore an important growth sector in employment terms.

### **4.3.4 Retail**

Retail is identified as a key sector for Swindon in its existing Local Plan and Economic Strategy. The two forecasters project substantially different expectations for employment in the sector. OE project a decline of 200 jobs over the analysis period, with CE projecting a growth of 1,200 jobs.

There are clear policy ambitions to deliver large-scale town centre regeneration in Swindon over the analysis period. A town centre masterplan has been drawn up. This includes developing the office sector, as well as leisure, retail and other town centre uses. There are also wider policy ambitions through developing the housing mix in Swindon to capture increased footfall and expenditure within the town centre. Consultees expressed clear positivity about the likelihood of delivering on this expectation given the current momentum behind joint working and proposed action, although recognising it would take time to deliver on the full scale of planned development. On this basis the CE forecast is better aligned to expectations.

Swindon's current retail evidence base is substantially out of date and being updated at the present time. Typically the fortunes of the retail sector are assessed through consideration of spending patterns and population projections, rather than via economic forecasts.

### **4.3.5 Distribution and Logistics**

Distribution and Logistics is identified as a key sector in the Swindon Local Plan, Economic Strategy and Workspace Strategy. Economic forecasts for this sector cover a range of transport, warehouse and storage and wholesaling activities. OE project growth of some 1,000 jobs over the analysis period, with growth in the land transport and warehousing sub-sectors. CE project a decline in employment of -600 jobs, largely fuelled by a -700 job loss in the wholesale sector and -200 jobs in the land transport sector, with a rise of 300 jobs in the warehousing sector. This shows a clear difference in expectation between the two forecasters.

Consultations highlighted recent logistics investments and existing activities in the area as well as further large scale land development opportunities to support a significant investment in the sector in the Swindon area. The strong transport infrastructure gives reason to believe further growth in these activities could take place. The OE forecast does not therefore appear unreasonable.

### **4.3.6 Tourism and Leisure**

Tourism and Leisure is identified as a key sector across all the Swindon and Wiltshire policy and strategy documentation. This includes the accommodation, food and beverage service sectors and parts of arts and recreational services. All elements of this key sector are projected to grow in employment terms by both forecasters. OE forecast 1,900 additional jobs and CE 2,400 additional jobs. OE projects the majority of employment growth in food and beverage (700 jobs) and recreational services (800 jobs, largely within sports activities and amusement sector). CE projects

the major growth in food and beverage activities (1,800). No major employment growth in the accommodation sector is forecast.

Whilst the sub-sectoral growth profile differs between the two forecasters, both indicate substantial growth potential in employment terms over the analysis period.

#### **4.3.7 Creative Industries**

The Creative Industries is identified as a key sector in the Swindon Borough Local Plan. This is another sector which does not easily relate to SIC sector definitions, particularly not at the level of granularity available in the forecast models. For the purposes of this analysis comment is made in respect of the media and arts sectors. Media is forecast to have negligible change in employment by either forecaster. Arts is forecast to grow by 200 – 300 jobs by both forecasters. A project to develop a new Swindon Museum and Art Gallery is well established which could form the catalyst for the sector. Whilst the sector may not be a major contributor to growth in jobs terms, it may play a role in shaping Swindon in other ways.

#### **4.3.8 Digital and ICT**

The digital and ICT sector is identified as a priority across the strategy and policy documents. The IT Services sector is assessed to support some 4,000 jobs at the start of the analysis period. Both forecasters project around 10% growth i.e. 300 – 500 jobs over the analysis period in Swindon.

#### **4.3.9 Financial and Professional Services**

Financial and Professional Services is identified as a key sector across the strategy and policy documentation. The forecasters assess 21,000 – 23,000 jobs in the sector at the start of the analysis period. OE forecast growth of 3,200 over the analysis period and CE 2,100. There are a number of sub-sectoral variations between the two forecasters, with the majority of the discrepancy within the real estate sector with OE forecasting a 400 job growth and CE a 500 job decline. CE take a more positive view of financial and insurance, OE take a more positive view of legal and accounting and architectural and engineering services. Both OE and CE project 1,100 job growth in head office functions, which is the single largest sub-sectoral component. This builds on Swindon's existing strength in this sector, with growth of around 30% in employment terms forecast by both OE and CE.

#### **4.3.10 Business Support Services**

This sector has been considered separately to financial and professional. However, it is forecast to support job growth of 1,400 (CE) to 2,800 (OE) which represents approximately 15%- 20% growth in employment. There is something of a notable discrepancy between the forecast levels of growth between OE and CE. However, both are forecasting strongly positive employment growth.

#### **4.3.11 Public Administration and Defence**

Military and Defence is listed as a key sector in the original Strategic Economic Plan for Swindon and Wiltshire. The forecasts do not split out defence from the wider sector. Both forecasters anticipate employment declines in this sector in the region of 10%. This represents a total decline in jobs of 300 to 600 over the analysis period.

#### **4.3.12 Education**

Education is not listed as a key sector in any policy documentation, however, it is one of the most talked about sectors during stakeholder consultations. The lack of a dedicated Higher Education (HE) presence in the Swindon and Wiltshire area is recognised as a key barrier to growth and moves are afoot to increase the HE offer locally.

The sector is forecast to grow by 300 (OE) to 1,000 (CE) jobs over the analysis period. If there was a substantive HE investment this may increase the scale of local education job growth as a transformational project.

#### **4.3.13 Health and Social Care**

Health and Social Care is listed as a key sector in the latest Strategic Economic Plan and the Swindon Local Plan and Economic Strategy. The sector is forecast to grow by 2,000 to 2,200 jobs over the analysis period. Both forecasters are projecting a similar scale of growth highlighting the employment potential in this sector as the population grows and ages.

### **4.4 Swindon Summary and Recommendations**

Total projected employment growth of 8,100 to 9,600. This in part could be influenced by the high variation in employment in Swindon over the last decade as the town, with high dependence on advanced manufacturing, was badly affected by the global economic slowdown. Stakeholder consultations are very positive about the potential for future growth to outstrip historic performance. A number of opportunities and investments are cited to underpin this confidence. However, not all plans are yet fully funded. Consultees have also cited the potential for increased out-commuting to London following electrification of the Great Western Mainline as a potential risk, albeit of unknown significance. On balance, Swindon could have potential to deliver growth above the baseline forecasts. This would also tally with demographic analysis which shows a larger growth in economically active population in Swindon than Wiltshire. At the headline level there is some imbalance between jobs and workers in Swindon. Increasing Swindon based employment opportunities may therefore be a more sustainable policy position.

On this basis we would recommend adopting the average of the two forecasts for each sector, based on the two forecasting houses as a starting point. A further manual adjustment should be made:

- To reduce the scale of decline in the manufacturing sector – setting the employment change in the motor vehicle manufacturing sector to zero.
- To adopt the top of the range for retail
- To adopt the top of the range for distribution and logistics

## 5 Wiltshire Sector Level Forecast Review

### 5.1 Headline Employment Growth

The total jobs forecasts for Wiltshire are 18,800 (OE) and 29,900 (CE). Initial comparison with demographic analysis emerging from the SHMA suggests the higher level of growth may be beyond what can be sustainably supported by workforce growth. The OE and CE models will be internally consistent with workforce and job growth nationally and locally. Detailed data on demographic assumptions have not been provided by the forecasters. If their models forecast lower workforce growth it would act as a brake on job growth. This suggests a far greater positivity in respect of workforce growth by CE.

### 5.2 Broad Sectoral Groupings

As is clear from the table below, service sector job growth is forecast to dominate, alongside job growth in the construction sector. Job losses are forecast in the primary industries, manufacturing and utilities sector.

Sector	Oxford Economics	Cambridge Econometrics
Primary Industries	-900	-1,400
Manufacturing	-5,800	-3,800
Utilities & Waste	-400	100
Construction	4,400	4,700
Services	21,600	30,200
<b>Total</b>	<b>18,800</b>	<b>29,900</b>

### 5.3 Detailed Sectoral Change

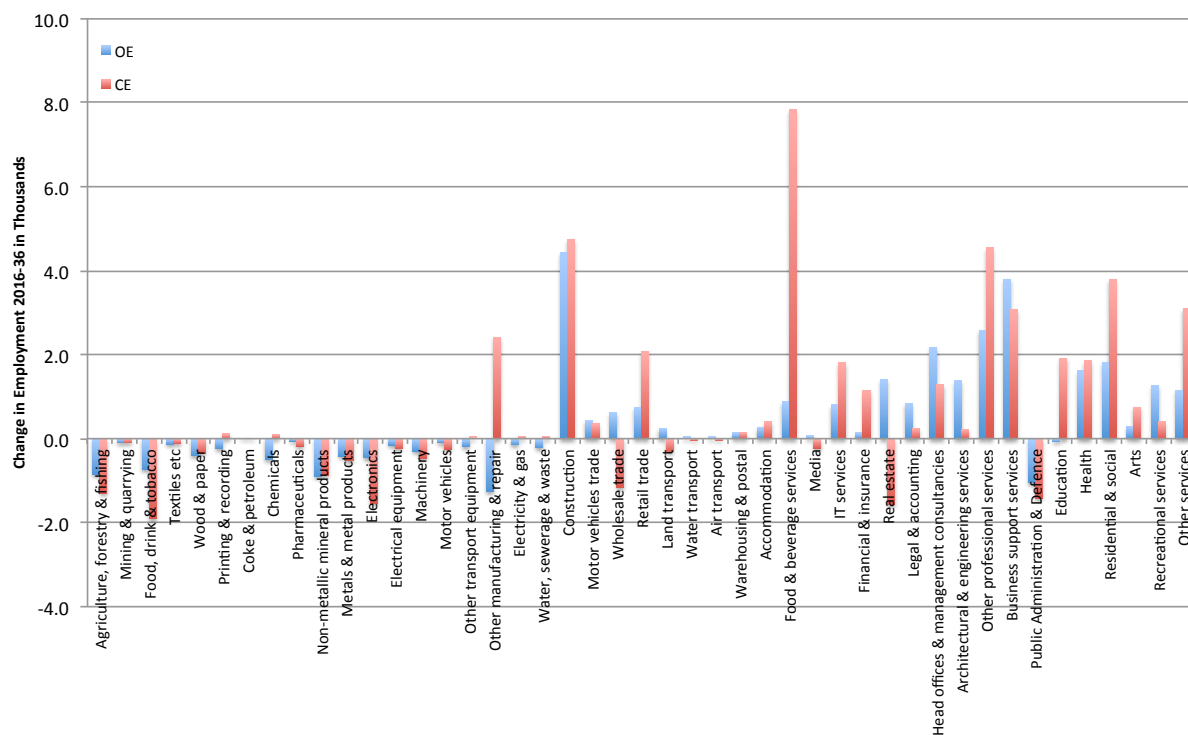
Figure 2 shows change in employment by sector for Wiltshire over the period 2016-36. This sets out the data for 45 sectors of the economy. This quite clearly demonstrates the different expectations for primary and production sectors (left hand end of chart) and the service sectors (right hand end of chart). It also highlights a number of differences in sectoral prospects by OE and CE.

For many sectors the absolute scale of net employment change is relatively modest. However, this will mask churn in the sectors as jobs are created and lost, and as workers leave jobs through retirement or choice and are replaced by others.

Commentary on sector groupings is set out below the chart. This uses the key sectors identified in current policy documentation as a starting point (see Appendix 1 for a table of key sectors).

From an initial review it is quite clear that CE (red bars) are far more positive about the scale of employment growth in other manufacturing, retail, food and beverage services, IT services, financial and insurance, other professional services, education, residential and social care, arts and other services. OE are more positive about wholesale, real estate, head offices and management consultancy, architectural and engineering services, business support services and recreational services. These variations arise from the modelling techniques used by the forecasters.

**Figure 2: Forecast Employment Change by Sector in Wiltshire 2016-36**



### 5.3.1 Land Based Industries

Land Based Industries are identified in the Wiltshire Core Strategy and the original and revised Strategic Economic Plan (SEP). The forecasters estimate employment of 5,000 – 6,000 in Wiltshire at the start of the forecast period. Both forecasters project employment decline in the region of 20% over the forecast period, approximately a 900 – 1,300 job decline.

### 5.3.2 Manufacturing

Advanced Engineering and Manufacturing is a key sector in all the relevant policy and strategy documents. This also includes the food and drink sector, which clearly relates to land based industries. Parts of the Health and Life Sciences sector also fall within manufacturing.

Both forecasters project net employment decline across the manufacturing sector in its broadest sense. CE forecast some growth in three sub sectors, printing and recorded media, chemicals and other manufacturing and repair.

OE projects GVA growth across the manufacturing sector of 7%, with pockets of notable growth in food and drink, wood and wood products, printing and reproduction of recorded media, chemicals and pharmaceuticals, and a number of equipment manufacture sub-sectors. CE project GVA growth of 45%, much more substantial than OE. This is primarily driven by growth in the chemicals manufacture sector and other manufacturing and repair. However, there is forecast GVA growth across many manufacturing sub-sectors. The more positive view taken by CE is partly driven by its greater expectations of employment growth in some sub-sectors and also by a slightly more positive expectation of productivity growth than OE (c70% growth CE vs c60% growth OE).

Consultations indicate positivity about manufacturing sector potential in the A350 corridor, examples of specific potential investments cited<sup>7</sup>.

### **5.3.3 Environmental Technologies**

Environmental Technologies covers a range of sectors including utilities, waste, parts of manufacturing and professional services (design and consultancy). The core elements of utilities and waste are forecast to decline slightly by OE and grow slightly by CE in job terms.

### **5.3.4 Construction**

Construction is listed as a key sector in the recently updated SEP. The sector is forecast to grow in employment terms by 4,400 (OE) – 4,700 (CE) jobs over the analysis period. This is an increase of around 25% projected by both forecasters. This is therefore an important growth sector in employment growth terms. This is a consistent scale of growth with Swindon.

### **5.3.5 Retail**

Retail is not listed as a key sector for Wiltshire in current policy documentation. However, it is forecast for employment growth of 2,100 by CE. It is forecast to grow by 700 jobs by OE. These forecasts are in the range of 5%-10% growth over the analysis period.

### **5.3.6 Distribution and Logistics**

Distribution and Logistics is not listed as a key sector for Wiltshire in current policy documentation. However, it is estimated to employ 16,000 – 19,000 persons in Wiltshire at the start of the analysis period. OE forecast growth of 1,000 jobs over the 2016-36 period. CE forecast a loss of 1,300 jobs over the same period. There is therefore some discrepancy, but it is not identified as a major growth sector in jobs terms. The major driver of growth in the OE model is wholesaling. The scale of change in transport, storage and postal/courier activities is relatively muted.

Consultations have indicated some potential for logistics activities in either the Chippenham area, given its accessibility to the M4, and the A303 corridor around Solstice Park.

### **5.3.7 Tourism and Leisure**

Tourism and Leisure is identified as a key sector across all the Swindon and Wiltshire policy and strategy documentation. This includes the accommodation, food and beverage service sectors and parts of arts and recreational services. All elements of this key sector are projected to grow in employment terms by both forecasters. OE forecast 2,400 additional jobs and CE 8,600 additional jobs. OE projects the employment growth spread across all three components including accommodation (300 jobs, 6%) food and beverage (900 jobs, 6%) and recreational services (1,300 jobs, 24%). CE projects the major growth in food and beverage activities (7,800, 49%), 400 jobs in the accommodation sector (8%) and 400 jobs in recreational services (10%).

CE indicates that the strong growth in food and beverages services reflects its strong growth relative to the regional average over the period 2000-2014. The historic data includes one or two major fluctuations. The scale of growth in the sector projected by CE would appear to be above what

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<sup>7</sup> At time of writing these remain commercially confidential.

might be considered reasonable, with no clear rationale for why the scale of sector growth in the future would be so high.

### **5.3.8 Creative Industries**

The Creative Industries is identified as a key sector in the Wiltshire Core Strategy. This is another sector which does not easily relate to SIC sector definitions, particularly not at the level of granularity available in the forecast models. For the purposes of this analysis comment is made in respect of the media and arts sectors.

OE forecast growth of 400 jobs and CE 500 jobs over the analysis period. This represents growth of 5% - 15% by the two forecasters. This is not therefore forecast to be a large growth sector in absolute jobs terms.

### **5.3.9 Digital and ICT**

Digital and ICT is listed as a key sector across all the policy documentation. The forecasters indicate employment growth of 800 (OE) – 1,800 (CE) over the analysis period. This represents growth of 11% - 28%, so some difference in expectations, but both indicating growth. CE clearly suggesting higher growth in Wiltshire, with a greater percentage growth than in Swindon. This would fit with ambitions around Corsham to build a greater IT and Digital sector.

### **5.3.10 Financial and Professional Services**

The Financial and Professional Services sector is identified as key across all the relevant policy documentation in Swindon and Wiltshire. The sector is forecast to grow by 6,000 (CE) to 8,500 (OE) over the analysis period. This includes the elements of Health and Life Sciences discussed below.

At the sub-sectoral level there are a number of differences between OE and CE. CE project a decline of 1,600 jobs in real estate services, compared to a growth of 1,400 by OE. This in itself more than explains the total discrepancy. CE forecast greater growth in financial and insurance, this may be at risk given recent divestments from Salisbury in this sector. OE forecast greater growth in legal and accounting, head offices and management consulting, and architectural and engineering services.

Overall this is clearly a sector with employment growth potential. With the exception of financial and insurance OE project employment growth in excess of 20% for each sub-sector.

### **5.3.11 Health and Life Sciences**

Health & Life Sciences is a very important sector for southern Wiltshire in particular, with the presence of Porton Science Park and medical research activities at Salisbury District Hospital. This is listed as a key sector in the Wiltshire Core Strategy and the SEP. There are continued efforts to build on the location specific opportunities of MOD science related activities and existing commercial operations linked to this.

Scientific R&D and Other Professional Scientific activities are the largest part of the Other Professional Services sector. This is forecast to grow by 2,600 (OE) to 4,500 (CE) jobs over the analysis period. This is a range of 25% - 60% growth. There is clearly some discrepancy between the two forecasters but both indicate substantial growth in the sector.



### **5.3.12 Business Support Services**

Business Support Services comprises a range of functions including activities of employment agencies, travel agency, security, investigation, administrative support and other building services such as landscaping and cleaning. The forecasters indicate job growth of 3,100 (CE) to 3,800 (OE) over the analysis period. This represents growth of around 20%.

### **5.3.13 Public Administration and Defence**

Both forecasters project employment declines in the public administration and defence sectors. This may not take account of the Army Rebasing project which has the potential to substantially increase the number of HM Forces in the county. 1,000 (OE) to 1,400 (CE) declines are forecast. These represent declines of c5% - 10% over the analysis period. Some manual adjustment for Army Rebasing may be necessary.

The Army Rebasing project will not only directly increase the number of HM Forces within the county, but will increase the workforce available to support wider economic growth. An increased HM Forces presence embedded<sup>8</sup> in the area also has the potential to increase the number of Forces leavers that remain in the area. Current available information suggests c.3,800 extra troops moving to Wiltshire over the period 2016-19, accompanied by c.3,300 family members (estimated approximately 1,300 spouses and 2,000 children). The increase in service personnel is similar in scale to the reduction in service personnel as part of the Strategic Defence Review 2010. Detailed review of the OE and CE data shows reductions in employment 2010-11. There is no evidence of an uplift in relation to Army Rebasing. A manual adjustment of 3,800 needs to be made. This will predominantly affect the Salisbury/A303 FEMA, with some impact in the southern parts of the A350 corridor. Evidence suggests the impact will be felt in 2016 (700 personnel) and 2019 (3,100 personnel).

### **5.3.14 Education**

Education is not listed as a key sector. OE forecast no growth, CE forecast growth of 1,900 jobs over the analysis period (10%).

### **5.3.15 Health and Social Care**

Health and Social Care is listed as a key sector in the most recent SEP refresh. This sector is forecast to grow by 3,400 (OE) to 5,600 (CE) jobs over the analysis period. This represents 12% - 18% growth in jobs in the sector.

## **5.4 Wiltshire Summary and Recommendations**

Total employment growth of 18,800 to 29,900 is forecast. This level of employment growth may reflect strong employment growth over the period 2000-14 in the county. Stakeholder consultations are positive about future prospects, but with less conviction and supporting evidence than for Swindon. There is a strong indication that Wiltshire will retain its attraction as a place to live, which

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<sup>8</sup> There has been a change in MOD policy (Regular Army Basing Plan) to provide HM Forces with a permanent base for their period of service, rather than regularly moving service personnel and their families. This will increase the embeddedness of service families in the local area and has potential implications once those directly employed in the services leave. It is anticipated that stronger local roots including home ownership and children established in local schools will increase the number of service families which remain in the area. However, there is also evidence that high house prices in the area act as a deterrent and may have the reverse effect.

will underpin economic growth. There is particular expectation that there is potential for greater growth in the A350 corridor as well as opportunities in southern Wiltshire such as Porton Science Park.

At the headline level there is a potential imbalance between the level of jobs forecast and the potential workforce growth emerging from the demographic analysis. There is also some imbalance in the early years of the period between existing policy ambition and the level of jobs forecast, with forecasts potentially in excess of growth expectation. However, this is not the case at the combined Swindon and Wiltshire level, which may create the opportunity for continued policy effort to see some additional growth focused at Swindon, which would better match anticipated workforce growth. Headline issues at the sectoral level include:

- Positivity from stakeholders about manufacturing sector potential in the A350 corridor, with live investment inquiries.
- Strong opportunities in the Health and Life Sciences sector which are reflected in the forecasts.
- Recent changes in the financial services sector in Salisbury which may indicate the higher growth forecasts set out by CE as being challenging.
- A very clear discrepancy in respect of the food service sector, with the CE forecast appearing rather optimistic.
- A need to adjust for the Army Rebasing project