**May 2015**

# York economic forecasts

This briefing note has been prepared by Oxford Economics for the City of York Council. It sets out Oxford Economics' May 2015 long term forecasts for York, and compares these to forecasts prepared by Oxford Economics in 2014 and those available from the Regional Economic and Intelligence Unit (REIU). Two alternative growth scenarios are also described. The analysis is presented in four sections:-

1. An overview of the latest Oxford Economics' forecasts for York

2. An assessment of how Oxford Economics' current forecasts compare to those produced in 2014

3. A comparison of the Oxford Economics' forecast to those provided by the REIU

4. A comparison of the Oxford Economics' forecast with two alternative growth scenarios

5. A summary of the methodology used by Oxford Economics to produce the forecasts

This briefing note is accompanied by a detailed database of economic, labour market and demographic forecasts for York, Yorkshire & the Humber region and the UK. The database contains both the baseline forecasts and two alternative growth scenarios described in this briefing note.

York is defined as the City of York Unitary Authority District

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# The economic outlook for York

This section provides an overview of Oxford Economics' May 2015 forecasts for the York economy, set within the broader UK and regional outlook.

## Context

The UK's economic recovery is well established. GDP grew by 2.8% in 2014, the strongest rate of expansion since before the recession. The labour market has performed impressively with employment now at a record high, boosted by the creation of 1,085,000 jobs – most full time – in 2014. This has facilitated a sharp fall in the unemployment rate[1] from close to 3.5% at the start of 2014 to 2.4% in the first quarter of 2015.

The recovery is being felt across the UK, albeit with the gains being felt unevenly. Whilst it is true that London and the wider south east have achieved stronger than average rates of growth since the recovery took hold, the story is more complicated that a simple north/south divide. The North West for example created jobs at a faster pace than any other part of the UK through 2014, being particularly successful in creating professional services jobs. By contrast, employment in the North East and Yorkshire & Humber grew by just a third of the UK rate, showing that disparities within the north are as evident as between the north and the south.

Conditions remain supportive of relatively strong growth over the remainder of the decade. UK GDP is forecast to rise on average by 2.6% per year, with further, albeit more modest, increases in employment. The key drivers of the forecast are:-

- Stronger household spending power as inflation remains very low and a tightening labour market and growing recruitment difficulties slowly feed into a pickup in wage growth.
- Improving export outlook as both the US and Eurozone economies are forecast to strengthen over the short to medium term.
- Strong corporate finances supporting investment as businesses act on firm investment intentions and corporate finances are in a robust position.
- Sustained strength in house building will provide direct support to economic growth as well as helping to keep a lid on house prices.
- Low inflation means there is little pressure on the MPC to dramatically tighten monetary policy. The first interest rate rise is likely in the first half of 2016 and we assume the subsequent tightening comes at the very measured pace of 50bps per year such that rates end the decade at 3%.

This means consumer spending will continue to play an important role in driving the UK economy forward. But its contribution to overall growth is unlikely to be as large as it was in the decade leading up to the recession. Some of this gap will be filled by stronger investment as businesses increase spending to compensate for a number of years of very weak investment. Stronger demand from key export markets and slower growth in imports means net trade is

**UK: Contributions to GDP growth**
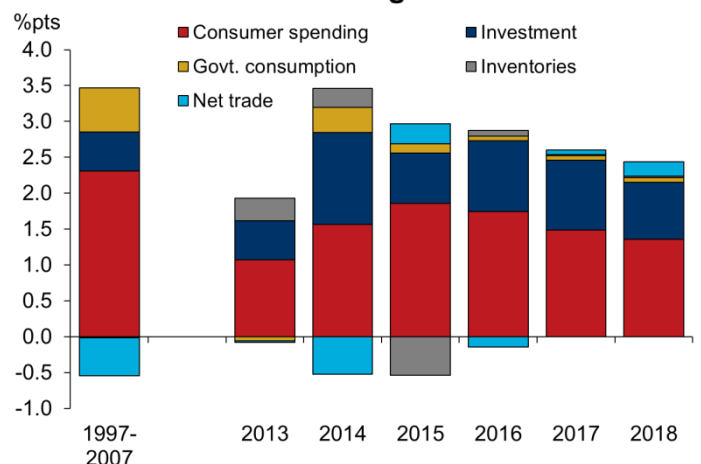


Source : Oxford Economics

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[1] Claimant count unemployment rate defined as the number of people collecting unemployment-related benefits expressed as a percentage of the working age population (persons aged 16-64).

unlikely to provide the drag on GDP growth that has been seen in recent years.

One of the key features of the UK's recent economic performance has been stronger than expected employment, both during the recession and through the subsequent recovery. A consequence of this has been very weak productivity growth. Many explanations have been offered to explain why productivity has been so weak. These include a collapse in investment as a result of many businesses having limited access to finance or the confidence to invest; strong labour supply growth, fuelled by migration, which has restricted wage growth and encouraged labour hoarding; and a suspicion that the official statistics underreport the true level of GDP and therefore productivity growth. Our forecast assumes the recent recovery in business investment, demand and confidence, alongside weaker labour supply growth and recovery in wages, will facilitate stronger productivity growth of around 2% per year.

The General Election yielded a surprise with the Conservatives winning a small majority. The result removed short term concerns that lengthy coalition negotiations would foster a climate of uncertainty which would be detrimental to growth. But attention will quickly turn to the substantial challenges the government face over the course of the next parliament, with fiscal policy coming towards the top of the list. These plans will be firmed up in July's emergency Budget, but it is clear a further period of government austerity is in prospect, and this means public spending will provide a much smaller contribution to growth over the medium term than has historically been the case.

The longer term outlook for the UK economy is influenced by supply side structural factors. Chief amongst these is demographics. Unlike many of its European peers, the UK is set to benefit from a rising population, most importantly among working age people, and this helps to support sustained job creation and economic growth. Between 2020 and 2031, GVA growth is forecast to average 2.5% per year, and employment 0.4%.

Of course, the forthcoming EU referendum provides a degree of uncertainty to the economic outlook. The baseline forecast is predicated on the UK remaining in the EU. But should the public vote for to leave the EU, whether an exit would be good or bad for the UK would depend on what terms of exit were negotiated. The UK could leave on good terms, preserve free trade with the EU, save on its contributions to the EU budget, remove some red tape for business – and see a boost to its economy. Equally, leaving on bad terms might result in EU tariffs with adverse consequences for exports and the economy. Or just as likely is that the impact would be negligible, with benefits largely offsetting costs. Ultimately, the success or otherwise of the UK economy, including our ability to sell to the European market, largely comes down to domestic issues around controlling costs, maximising productivity and producing goods and services that people want to buy.

## York economic outlook – headline figures

The recession had a more detrimental impact on the York economy than nationally. The number of jobs in York fell by almost 5% between 2007 and 2010 compared with a reduction of less than 2% across the UK. And since then, employment growth has been weaker and more erratic in York than it has been nationally. The number of jobs in York is currently below its pre-recession peak, a benchmark already passed across the UK as a whole.

Workplace based people in employment remained fairly flat throughout the recessionary period, despite the fall in job numbers. This suggests a fall in the number of jobs held by one person. Residence based employment on the other hand, has enjoyed continual growth over recent years and is currently above pre-recession levels, thus implying a fall in net commuting.

The outlook for employment is encouraging. Building on a year of strong job creation in 2014, employment in York is forecast to grow by 0.7% in 2015 and at a similar rate in 2016 and 2017.

The long term view for employment is for growth to average around 0.6% per year to 2025, slowing thereafter to nearer 0.3% per year as demographic developments, most notably a slowdown in the growth of the working age population, become less supportive of employment growth. On this basis it is likely to be around 2021/22 that the number of jobs in York returns to the high recorded in 2007. Nonetheless, employment in York in 2031 is forecast to be 125,900, more than 10,000 higher than in 2014. This is equivalent to a change of 11,220 jobs between 2013/14 to 2030/31[2].
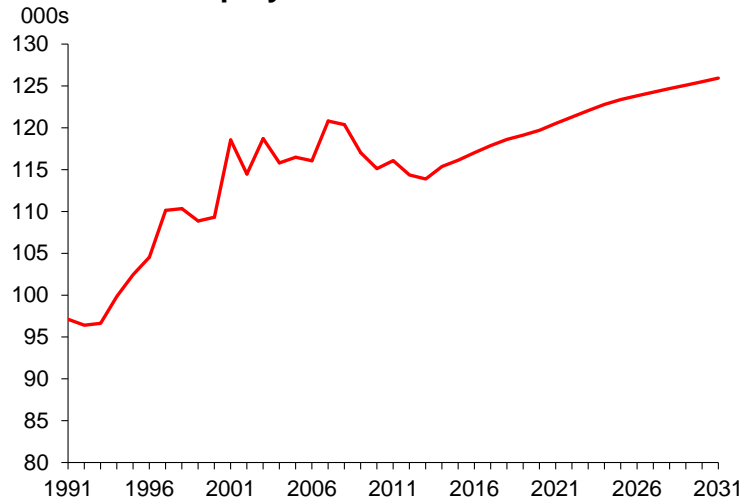
Job creation in York will be to the benefit of the local population. The number of York residents in employment is forecast to grow by 0.3% per year between 2014 and 2031, equivalent to an additional 6,200 local residents in work[3]. This will be accompanied by a modest reduction in the rate of unemployment.

York GVA is forecast to grow at an average annual rate of 2.4% between 2014 and 2031, well ahead of the 1.6% per year recorded on average over the last 5 years. This equates to an additional £2.3bn of economic activity (measured in constant 2011 prices) and means the York economy will be almost 50% larger in 2031 than it was in 2014. Productivity growth over this period is forecast to average 1.9% per year. Whilst this is a little below the UK average it represents a marked improvement on the lacklustre productivity growth achieved in recent years and, alongside a tightening labour market and low inflation, should support a recovery in real wage growth.

**York total employment**

000s



Source: ONS, Oxford Economics

**Headline economic growth 2014-31**

% annual average growth



- York
- Yorkshire & Humber
- UK

Source : Oxford Economics

The long term outlook for York compares favourably to the regional average. GVA growth is forecast to be stronger than across Yorkshire & Humber and ahead of almost all districts in the region – only Leeds and Harrogate are expected to have a clear growth premium over York.
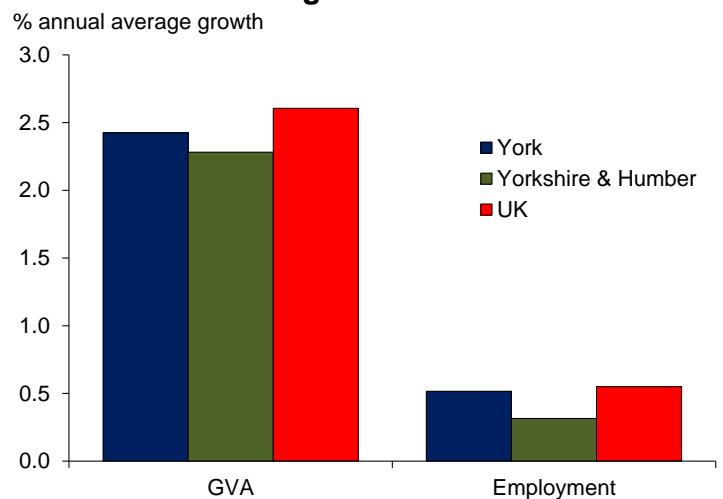
A similar comparison can be drawn for employment, with growth in York at 0.5% per year in the period to 2031 well above the 0.3% Yorkshire & Humber average. Nevertheless, job creation in York is unlikely to match the national average on either measure as strong performances by London and the wider south east boost the UK aggregate.

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[2] The figure quoted is on a financial year basis
[3] The growth in the number of jobs in York is different to the growth in the number of York residents in employment. This is because some of the new jobs created in York will be filled by in-commuters, and some of York's working residents will be employed outside of the local authority. Furthermore, the number of people in employment is lower than the number of jobs as some people hold more than one job. The ratio of jobs to the number of people in work is likely to rise over time as jobs creation becomes more heavily concentrated in sectors with higher incidence of part time or flexible employment.

## York economic outlook – sectoral composition

The sector composition of economic development in York is shaped by the wider UK trend of growth being centred on consumer spending and investment, particularly in the short to medium term. This means the private sector, and private services in particular, are expected to account for a significant proportion of growth. More than 80% of GVA growth in York will be provided by private services with the largest contributions from wholesale & retail trade, real estate and professional, technical & scientific services. Each of these sectors is expected to grow faster than the total economy, with professional, technical & scientific services the strongest growing (average 4.3% per year). Information & communication (4.0% per year) is also forecast to grow significantly faster than the rest of the economy.

Public services account for almost a quarter of York GVA, compared with less than a fifth of the national economy. The outlook for public services is mixed. Public administration, and to a lesser extent education, will feel the impact of restrained government spending over the next five years, with pressures easing as we move into the next decade. Health and social work will not be immune to austerity, but the impact will be less severe as front line NHS spending is protected and an ageing and growing population increases demand for health and care services.

Construction and manufacturing each account for around 5% of the York economy. Construction is likely to be the faster growing of the two, particularly in the short term as the sector benefits from the pick-up in business investment and more buoyant housing market. But neither sector is expected to match the pace of growth achieved by private services over the medium to long term, so their contribution to overall growth is relatively small.

The sector profile of employment growth in York is skewed even more heavily towards private services. This is largely underpinned by growth of around 1.5% per year in professional, technical & scientific services and administrative & support services, which equate to 4,500 more jobs in these two sectors alone by 2031.

The jobs outlook for other sectors is largely positive. Retail & wholesale trade is forecast to see a 1,600 rise in employment by 2031, although this is as much a reflection of the size of the sector rather than a particularly strong rate of growth. Around 1,000 jobs are expected to be created in each of construction, transport & storage and accommodation & food services. A smaller rise in absolute terms is forecast in information & communication despite the pace of job creation being twice the all economy average.

### Sector contributions to GVA growth 2014-31



Source : Oxford Economics
% annual contribution to GVA growth
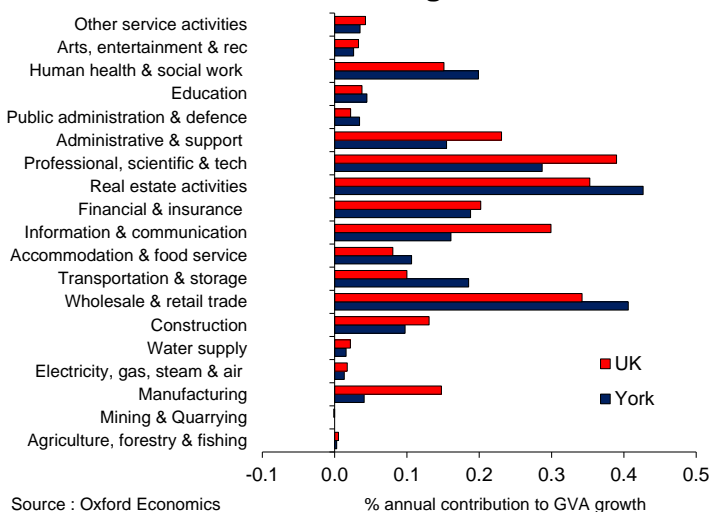
By contrast, around 700 public administration jobs are expected to be lost by 2020 with employment in the sector remaining flat thereafter. A more modest reduction in education employment is anticipated and health & social care again bucks the wider public sector trend with a 1,200 increase in employment by 2031. And it is our view that rising manufacturing activity will be achieved through the adoption of new technologies and increased productivity rather than through higher employment, a feature that will be important to maintain competitiveness in increasingly competitive international markets. Indeed, manufacturing employment in York is forecast to be 1,100 lower by 2031.

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## York employment - baseline forecast

| | Level | | Change 2014-31 | |
| --- | --- | --- | --- | --- |
| | 2014 | 2031 | % | level |
| Agriculture, forestry & fishing | 669 | 534 | -20.2 | -135 |
| Mining & Quarrying | 0 | 0 | - | - |
| Manufacturing | 4,291 | 3,160 | -26.3 | -1,131 |
| Electricity, gas, steam & air | 92 | 111 | 19.9 | 18 |
| Water supply | 390 | 351 | -9.9 | -39 |
| Construction | 5,605 | 6,784 | 21.0 | 1,179 |
| Wholesale & retail trade | 18,347 | 19,922 | 8.6 | 1,575 |
| Transportation & storage | 10,914 | 11,929 | 9.3 | 1,015 |
| Accommodation & food service | 10,185 | 11,237 | 10.3 | 1,052 |
| Information & communication | 2,818 | 3,284 | 16.5 | 466 |
| Financial & insurance | 4,303 | 4,346 | 1.0 | 43 |
| Real estate activities | 1,890 | 2,265 | 19.9 | 375 |
| Professional, scientific & tech | 8,725 | 11,472 | 31.5 | 2,747 |
| Administrative & support | 6,324 | 8,028 | 26.9 | 1,704 |
| Public administration & defence | 6,141 | 5,355 | -12.8 | -787 |
| Education | 12,440 | 12,340 | -0.8 | -100 |
| Human health & social work | 15,861 | 17,073 | 7.6 | 1,212 |
| Arts, entertainment & rec | 3,020 | 3,836 | 27.0 | 815 |
| Other service activities | 3,364 | 3,914 | 16.3 | 550 |
| **Total** | **115,377** | **125,937** | **9.2** | **10,560** |

Source: Oxford Economics

Note: Data presented is on an annual basis

## York demographic outlook

The population of York averaged 203,700 in 2014 having risen consistently throughout the past decade. Population growth in York has been above the Yorkshire & Humber and national averages in recent years, rising by 0.9% per year since 2005. The working age population of York has grown at a similar pace.

York's rising population has been predominately fuelled by positive net migration, adding around 1,400 to the population each year over this period. Natural change – the number of births less deaths – has made a smaller, yet still positive contribution, to population growth.

York's population is forecast to grow on average by 0.6% per year between 2014 and 2031, less than the 0.9% per year recorded over the past decade.

### York total population

000s

2031 population 223,786

2014 population 203,701
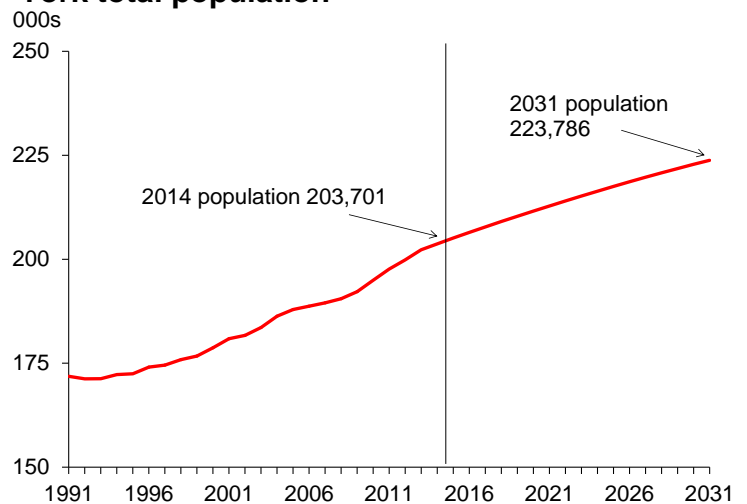
Source: ONS, Oxford Economics

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This will see the number of people living in York rise to 223,800 in 2031, an increase of 20,100 compared to 2014 (this is equivalent to a change of 20,370 people between 2013/14 to 2030/31).Growth in York will be in line with the UK and above the Yorkshire & Humber average (0.4%). This forecast is comparable to the ONS 2012 projections. These show the population in York rising by 20,600 between 2014 and 2031, just 500 more than in the Oxford Economics forecast, again at an annual average growth rate of 0.6%.

Population growth in York will continue to be underpinned by a combination of natural change and net migration. Fertility and mortality rate assumptions used in the forecast are consistent with those incorporated in the ONS 2012 population projections.

**York components of population change**

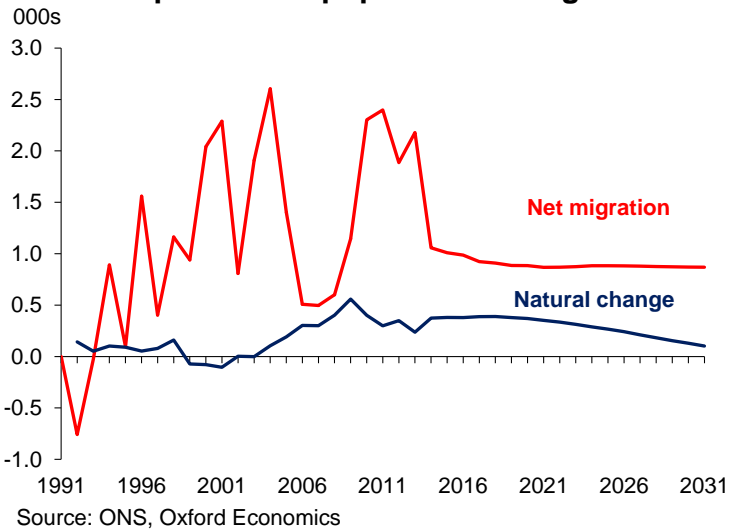000s

Source: ONS, Oxford Economics

These show natural change making a modest yet positive contribution to York population growth, accounting on average for a rise of 300 people per year between 2014 and 2031. Falling birth rates mean the rise in population from this source weakens towards the end of the forecast period.

Net migration is affected by local economic prospects, the rationale being that migrants are attracted to areas where there is perceived to be relatively strong employment opportunities. We expect net migration into York to be weaker over the next decade than recently, averaging 900 people per year in the period to 2031. This reflects a general reduction in net migration into the UK as the one-off influence of EU enlargement fades and economic growth on the continent improves, thereby reducing the relative attractiveness of the UK as a place to find work.
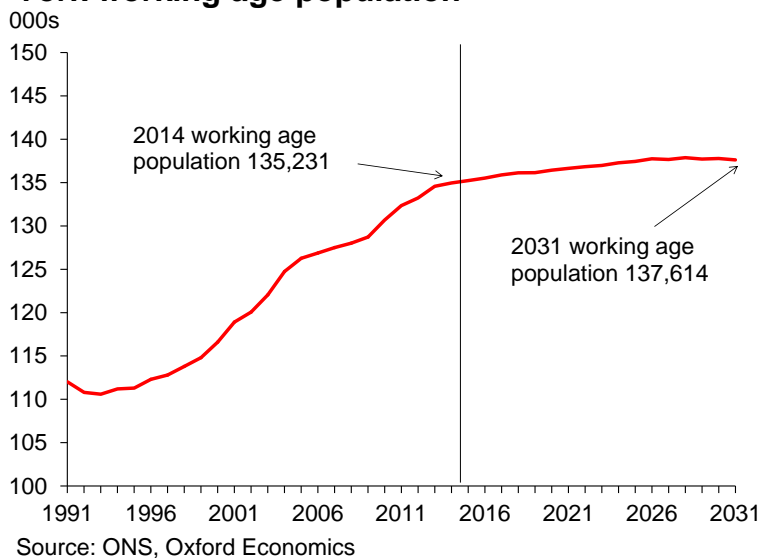
The working age population[4], whilst influenced by the development of the existing population, is especially affected by migration as a high proportion of migrants are of working age. Therefore, lower net migration in the future is illustrated by a slowdown in the growth of York's working age population over the forecast period.

The working age population is forecast to rise from 134,900 in 2014 to 137,600 in 2031, an increase of 2,700 at an average annual rate of 0.1%. This compares to an increase of 10,200 at a rate of 0.8% per year over the past decade, and is also set against a modest fall in Yorkshire & Humber's

**York working age population**

000s

2014 working age population 135,231

2031 working age population 137,614

Source: ONS, Oxford Economics

working age population. This means the working age will account for a falling proportion of York's total population – from 66% in 2014 61% in 2030.

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[4] The working age population is defined as people aged 16 to 64.
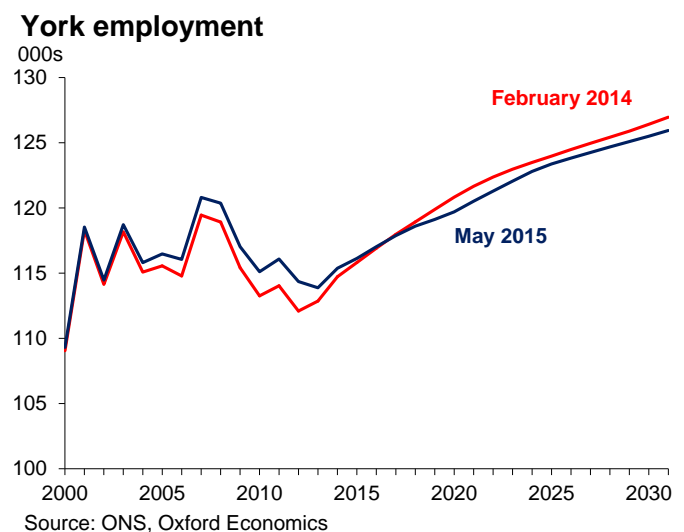
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# Forecast comparisons

This section compares Oxford Economics' forecasts for York presented in the first section of this paper with alternative datasets. The first is a set of forecasts produced by Oxford Economics in February 2014. The second comparison is against a forecast produced by Experian in May 2015 for the Regional Economic Intelligence Unit (REIU). Finally, two alternative growth scenarios are presented relative to the latest Oxford Economics' baseline.

## 1    Oxford Economics' forecast February 2014 and May 2015

Differences between the two Oxford Economics' datasets are largely explained by two factors:-

1.  **Changes to historical data.** The historical data underpinning the two datasets is different. Changes to the historical data affect the starting point for the forecasts and the structural composition of the economy upon which the forecast is based. Between February 2014 and May 2015 two key data sources provided new information. The BRES[5] – which provides detailed employment for York – provided data to 2012 when the February 2014 dataset was compiled, with 2013 data and revised 2012 data available for the May 2015 forecast. Secondly, the most recent Oxford Economics' dataset includes a broad range of information from the 2011 Census which wasn't available in February 2014. This includes information on commuting, self-employment and population.

2.  **Revisions to the economic outlook.** The forecast for any location is predicated on assumptions about the scale and composition of future economic growth. These encompass a wide range of factors including an assessment of international growth prospects (for example, the strength of the global economy and risks to the outlook), domestic growth factors (such as the influence of government and monetary policy on national and local economic growth) and local demand and supply conditions. For example, very low inflation is currently providing a boost to real household disposable incomes and this means the short term outlook for UK consumer spending growth has been revised up in our latest forecasts.

The long term outlook for the York economy is broadly comparable between the two Oxford Economics' datasets. In February 2014, Oxford Economics' forecast total employment in York in 2031 to be 127,000, up from 114,700 in 2014. This represented an increase of 12,200 jobs at an average annual growth rate of 0.6%. New and revised official employment data for York, alongside a stronger than anticipated labour market over the past 18 months, means employment in York in 2014 is currently estimated at 115,400, 700 higher than predicted in February 2014. The latest forecast is for an increase in the number of jobs in York to 125,940 by 2031, equivalent to an additional 10,600 jobs at an average growth rate of 0.5% per year. The modestly weaker growth profile reflects a combination of a higher starting

**York employment**



Source: ONS, Oxford Economics

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[5] The Business Register and Employment Survey (BRES) is the official source of employees in employment data for York. This is combined with Oxford Economics' estimates of self-employment to create a measure of total employment. See the methodological guide in the annex of this report for more information.

point for employment and smaller increase in the population.

These factors are reflected in the long term GVA forecasts. In February 2014, York GVA was forecast to grow at an average annual rate of 2.8% per year. The corresponding figure in the May 2015 dataset is 2.4%, with the downgrade reflecting the modest reduction in the pace of employment growth and stronger than anticipate growth over the past 18 months.

As noted above, the May 2015 economic forecast is accompanied by a smaller population increase for York than was presented in February 2014. In February 2014, York's population was forecast to be 226,800 in 2031, an increase of 24,100 from 202,600 in 2014. The latest forecast incorporates a revised 2014 estimate of 203,700, rising by 20,100 to 223,800 in 2031.

The projection for the growth York's working age population is largely unchanged. In February 2014 an increase of 2,900 was forecast between 2014 and 2031. This has been revised to 2,700 in the May 2015 dataset. But as with total population, the starting level in 2014 is higher than anticipated in February 2014, and given the similar growth profile, so too will it be in 2031.

**York total population**



Source: ONS, Oxford Economics
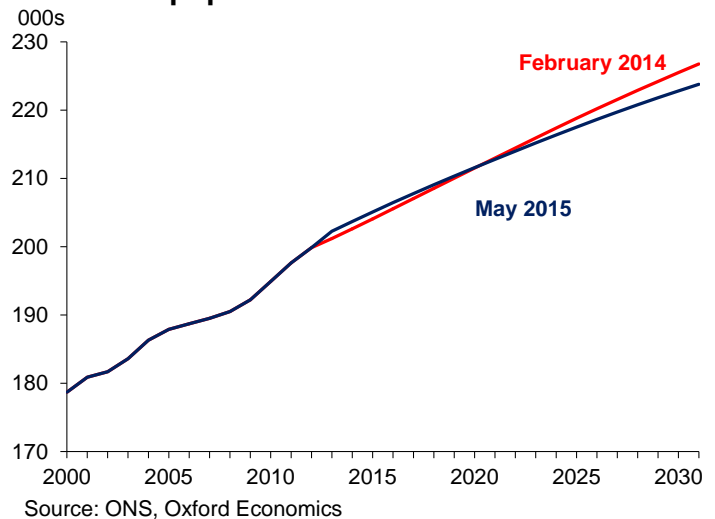
The sector profile of growth is similar in the two Oxford Economics' forecasts with a number of key trends remaining the same:-

- Private services dominate job creation in York. In both forecasts, more than half on net job creation in York is forecast to be in just three sectors – Professional, scientific & technical services, administrative & support services and wholesale & retail trade. Health & social work is the fourth largest contributor to job creation in both forecasts.
- Other private services sectors, especially transport & storage and accommodation & food services, and construction are forecast to create significant numbers of new jobs in York in both forecasts.
- Manufacturing and public administration remain the two sectors that are forecast to record the largest reductions in employment by 2031.

The smaller increase in total employment in the latest Oxford Economics forecast means most sectors are also expected to see more modest growth than was forecast in February 2014. The most notable revisions to the sector forecasts, and the reasons for the revisions, are:-

- The May 2015 forecast has education employment in York marginally lower in 2031 than 2014. This is in contrast to a small increase in the February 2014 forecast. The downward revision to growth reflects two factors. First, education employment in York is currently significantly higher than we had anticipated it would in February 2014. Second, the latest forecast incorporates a slightly lower population forecast and this has a modest impact on the growth in education employment. Nonetheless, the May 2015 forecast has a higher level of education employment in 2031 than previously forecast.
- The lower population forecast has implications for other parts of the public sector. In particular, the May 2015 forecast incorporates a larger fall in public administration jobs and smaller increase in health & social work than

forecast in February 2014. The level for public administration employment in 2014 is also higher than originally envisaged, and this too is factored into the latest outlook.

- The scale of employment growth in accommodation & food services has been increased in the latest forecasts to reflect an upward revision to growth at the UK level.

## York employment

| Oxford Economics' forecasts comparison Feb 2014 and May 2015 | Level - Feb 2014 | | Level - May 2015 | | Level change 2014-31 | | |
|---|---|---|---|---|---|---|---|
| | 2014 | 2031 | 2014 | 2031 | Feb 2014 | May 2015 | Diff |
| Agriculture, forestry & fishing | 566 | 471 | 669 | 534 | -95 | -135 | -40 |
| Mining & Quarrying | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Manufacturing | 4,202 | 2,923 | 4,291 | 3,160 | -1,279 | -1,131 | 149 |
| Electricity, gas, steam & air | 137 | 60 | 92 | 111 | -77 | 18 | 96 |
| Water supply | 369 | 340 | 390 | 351 | -28 | -39 | -10 |
| Construction | 5,268 | 6,291 | 5,605 | 6,784 | 1,023 | 1,179 | 155 |
| Wholesale & retail trade | 17,550 | 19,174 | 18,347 | 19,922 | 1,624 | 1,575 | -49 |
| Transportation & storage | 10,937 | 12,290 | 10,914 | 11,929 | 1,353 | 1,015 | -338 |
| Accommodation & food service | 10,158 | 10,918 | 10,185 | 11,237 | 761 | 1,052 | 291 |
| Information & communication | 2,964 | 3,661 | 2,818 | 3,284 | 697 | 466 | -231 |
| Financial & insurance | 5,168 | 5,391 | 4,303 | 4,346 | 224 | 43 | -181 |
| Real estate activities | 1,243 | 1,786 | 1,890 | 2,265 | 543 | 375 | -168 |
| Professional, scientific & tech | 8,796 | 11,685 | 8,725 | 11,472 | 2,890 | 2,747 | -143 |
| Administrative & support | 6,232 | 7,978 | 6,324 | 8,028 | 1,746 | 1,704 | -43 |
| Public administration & defence | 5,536 | 5,170 | 6,141 | 5,355 | -366 | -787 | -420 |
| Education | 11,779 | 11,902 | 12,440 | 12,340 | 122 | -100 | -222 |
| Human health & social work | 16,987 | 18,573 | 15,861 | 17,073 | 1,586 | 1,212 | -374 |
| Arts, entertainment & rec | 3,742 | 4,735 | 3,020 | 3,836 | 992 | 815 | -177 |
| Other service activities | 3,096 | 3,613 | 3,364 | 3,914 | 518 | 550 | 32 |
| **Total** | **114,729** | **126,961** | **115,377** | **125,937** | **12,232** | **10,560** | **-1,672** |

Source: Oxford Economics

## 2 Oxford Economics' forecast May 2015 and REIU

This section compares the Oxford Economics' forecast for York to those produced by the REIU. The REIU figures were provided to Oxford Economics in June 2015.

Oxford Economics' June 2015 long term employment forecasts for York are similar to those provided by the REIU. Oxford Economics forecast an additional 10,560 jobs in York between 2014 and 2031 compared with the REIU projection of 11,977, a difference of approximately 1,417 jobs. These absolute changes in the level of employment are equivalent to an average annual growth rate of 0.5% in the Oxford Economics' forecast compared with 0.6% from the REIU. The starting level (2014 estimate) of employment in York underpinning these forecasts is lower in Oxford Economics' dataset (115,377) than in the REIU dataset (117,699).

### York total employment index
2014=100



Source: ONS, REIU, Oxford Economics
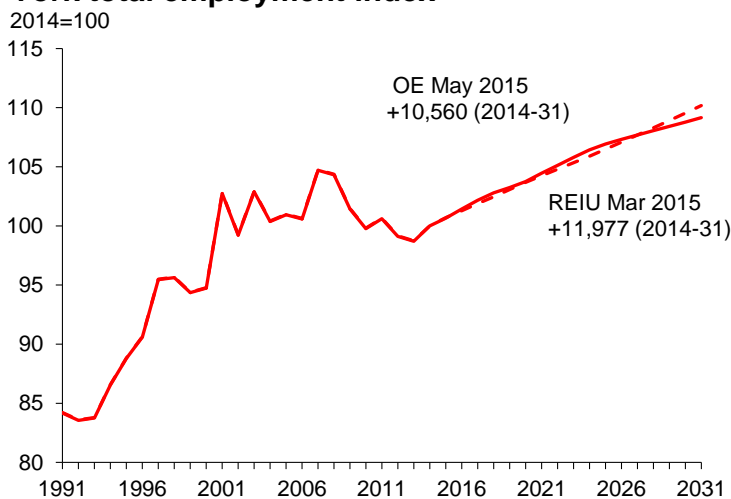
Despite the employment outlook's being similar, the sectoral composition of employment growth differs considerably between the two datasets. Oxford Economics' forecast is for job creation in York to be led by the private services sector, with about 46% of new jobs being created in professional, scientific & technical activities and administrative & support services activities (Professional and other private service in the table below). Forecasts from the REIU have a much smaller proportionate contribution from these sectors. The REIU forecasts suggest that growth will be led by public services, accounting for over 90% of growth. Oxford Economics' assumes public sector employment growth will be restricted by government austerity, particularly in the short run, and forecast less than 5% of new jobs created in York by 2031 coming from these sectors. .

## York employment

| Oxford Economics' May 2015 and REM Mar 2015 forecast comparison | Level - OE May 2015 | | Level - REM Mar 2015 | | Level change 2015-31 | | |
|---|---|---|---|---|---|---|---|
| | 2015 | 2031 | 2015 | 2031 | OE | REM | Diff |
| Accomodation, Food Servs & Rec | 16,815 | 18,986 | 13,958 | 12,830 | 2,171 | -1,128 | 3,299 |
| Agriculture, Forestry & Fishing | 642 | 534 | 745 | 472 | -108 | -273 | 164 |
| Construction | 5,628 | 6,784 | 5,841 | 6,160 | 1,156 | 319 | 837 |
| Extraction & Mining | 0 | 0 | 2 | 1 | 0 | -1 | 1 |
| Finance & Insurance | 4,296 | 4,346 | 5,655 | 4,990 | 49 | -664 | 714 |
| Information & communication | 2,867 | 3,284 | 2,733 | 2,321 | 416 | -412 | 829 |
| Manufacturing | 4,303 | 3,160 | 4,298 | 3,475 | -1,143 | -822 | -321 |
| Professional & Other Private Servs | 17,142 | 21,765 | 22,781 | 24,832 | 4,622 | 2,051 | 2,571 |
| Public Services | 34,416 | 34,768 | 35,909 | 46,903 | 352 | 10,994 | -10,643 |
| Transport & storage | 11,101 | 11,929 | 8,479 | 9,522 | 828 | 1,043 | -215 |
| Utilities | 485 | 462 | 407 | 421 | -23 | 14 | -37 |
| Wholesale & Retail | 18,434 | 19,922 | 17,709 | 17,747 | 1,487 | 38 | 1,449 |
| **Total** | **116,130** | **125,937** | **118,516** | **129,675** | **9,807** | **11,160** | **-1,352** |

Source: Oxford Economics, REIU

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2015

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Other notable differences in the sectoral composition of growth include the Oxford Economics forecast suggesting growth within the consumer sectors of wholesale & retail and accommodation, food service & recreation activities, where these are expected to account for 38% of growth. The REIU projections suggest a fall in employment within accommodation, food service & recreation activities and employment in wholesale & retail is expected to remain broadly flat. Other notable differences in the sectoral composition of growth include the Oxford forecast having a higher proportion of new jobs being created by construction than incorporated in the REIU projections. By contrast, Oxford Economics' forecast modest growth within information & communications and finance & insurance, whereas the REIU projections suggest a contraction. There is broad consensus between the two datasets that transport & storage will be an important source of new jobs, and that job shedding is likely to continue from the manufacturing sector.

Oxford Economics' projections show York residence-based employment growing at an average rate of 0.3% per year between 2014 and 2031. This is slower than Oxford Economics' forecast for workplace employment, which implies a rise in the number of jobs held by commuters. The REIU forecast has resident employment growing at a faster pace – 0.5% per year on average – broadly in line with workplace employment in the REIU dataset.

Oxford Economics forecast York GVA to grow on average by 2.4% per year in York between 2014 and 2031. This is in line with the REIU projection, despite REIU projecting faster employment growth. Oxford Economics' forecast productivity growth to average 1.9% per annum over the forecast period, above the REIU projection of 1.8% per year. This productivity differential is likely to be explained by the sectoral composition of growth assume in each forecast dataset. The REIU forecasts suggest almost all job creation in York over the next two decades will be from public services. These activities tend to exhibit low levels of productivity, at least in terms of their contribution to measured GVA, and the implication will be to significantly hold back overall productivity and therefore economic growth.

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# 3 Oxford Economics' forecast May 2015 and scenario 1: Higher migration and faster recovery

As part of this analysis, Oxford Economics assessed the impact of an alternative outlook for the UK and consequently Yorkshire & Humber and thus York. Under this scenario there is little in the way of policy influence to attract disproportionate shares of the alternate growth sectors to any given location – rather past performance in these sectors will generate future growth. The assumptions were applied at the UK level, with the model estimating the impact upon York.

Scenario 1 assumes higher migration and a faster recovery of the UK economy. The assumptions remain the same as per the original analysis in February 2012, namely:

- 0.4pp higher growth per annum 2014 onwards at UK level;
- Gradual productivity improvement (1.0% higher productivity by 2020, rising to 2.5 % higher by 2030); and
- 60% of additional jobs will be taken by migrants.

A summary of the impacts compared with the Oxford Economics May 2015 baseline forecast are set out below. The scenario assumes that UK recovery accelerates with GVA growth increasing from 2.6% per annum to 3.0% per annum over the period 2014-2031. York is impacted by a similar magnitude with average growth also increasing by 0.4 percentage points. Faster rates of growth are also accompanied by productivity increases, with York's productivity growth expected to increase to 2.1% per annum.

## GVA growth 2014-31
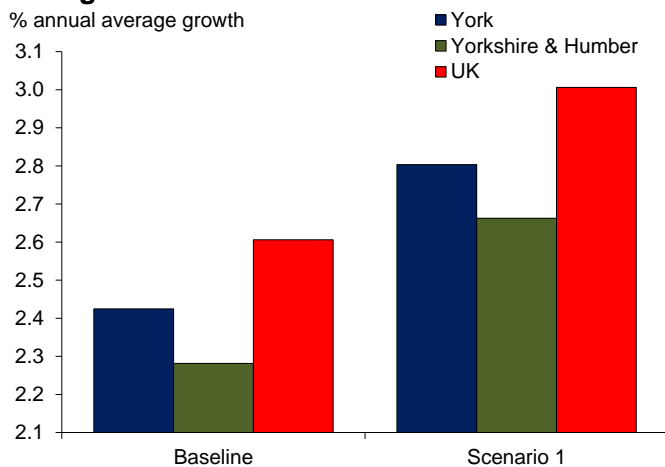


Source : Oxford Economics
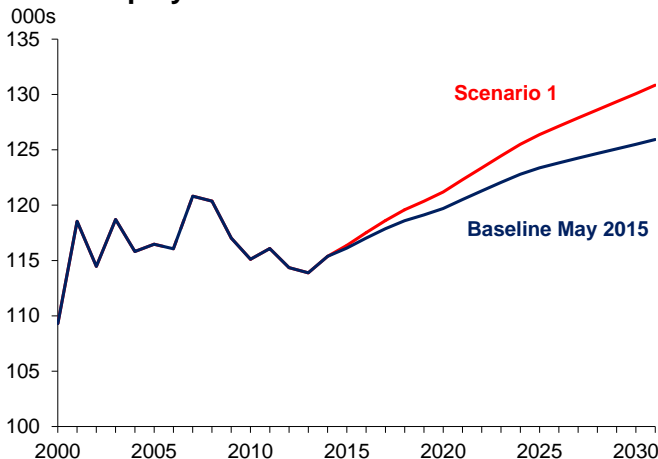
## York employment



Source: ONS, Oxford Economics

The employment outlook is much stronger than the baseline, with the results suggesting an increase of 15,500 jobs, an additional 4,900 above the baseline. The employment level within York is thus expected to exceed 130,000 by 2030. Employment growth is expected to average 0.7% per annum compared with 0.5% under the baseline. This is equivalent to a change of 15,920 jobs between 2013/14 to 2030/31.

Within York, all sectors are expected to benefit under the scenario. Wholesale & retail trade is expected to enjoy the biggest gains in absolute terms, with a net additional 2,400 jobs forecast by 2031. Consumer confidence is assumed to rise given the improvements in wider economic conditions, accompanied with improved access to finance helping to boost consumer spending. This in turn benefits consumer led sectors including wholesale and retail trade and accommodation and food services.

The scenario assumes increased investment and higher exports performance. This provides a significant boost to manufacturing, information & communications and professional services. Thus the contraction within manufacturing employment is expected to slow with the scenario suggesting a fall of 1000 jobs by 2031 compared with 1,130 under the baseline. Job creation within professional services and information and communications

are expected to increase from 2,750 and 470 net jobs to almost 3,160 and 595 under the scenario.

Given the improved economic conditions, the government benefits from increased revenue and is able to ease the austerity program. As a result the contraction within the public sector employment slows. Health and social work will enjoy considerable gains with employment increasing to over 17,700 by 2031.

## York employment

| Oxford Economics' forecasts comparison May 2015 & Scenario 1 | Level - May 2015 2014 | Level - May 2015 2031 | Level - Scenario 1 2014 | Level - Scenario 1 2031 | Level change 2014-31 May 2015 | Level change 2014-31 Scenario 1 | Level change 2014-31 Diff |
|---|---|---|---|---|---|---|---|
| Agriculture, forestry & fishing | 669 | 534 | 669 | 555 | -135 | -114 | 21 |
| Mining & Quarrying | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Manufacturing | 4,291 | 3,160 | 4,291 | 3,294 | -1,131 | -997 | 134 |
| Electricity, gas, steam & air | 92 | 111 | 92 | 116 | 18 | 23 | 5 |
| Water supply | 390 | 351 | 390 | 366 | -39 | -24 | 15 |
| Construction | 5,605 | 6,784 | 5,605 | 7,039 | 1,179 | 1,434 | 256 |
| Wholesale & retail trade | 18,347 | 19,922 | 18,347 | 20,755 | 1,575 | 2,408 | 833 |
| Transportation & storage | 10,914 | 11,929 | 10,914 | 12,415 | 1,015 | 1,501 | 486 |
| Accommodation & food service | 10,185 | 11,237 | 10,185 | 11,683 | 1,052 | 1,498 | 446 |
| Information & communication | 2,818 | 3,284 | 2,818 | 3,413 | 466 | 595 | 129 |
| Financial & insurance | 4,303 | 4,346 | 4,303 | 4,546 | 43 | 244 | 201 |
| Real estate activities | 1,890 | 2,265 | 1,890 | 2,340 | 375 | 450 | 75 |
| Professional, scientific & tech | 8,725 | 11,472 | 8,725 | 11,885 | 2,747 | 3,160 | 413 |
| Administrative & support | 6,324 | 8,028 | 6,324 | 8,334 | 1,704 | 2,010 | 306 |
| Public administration & defence | 6,141 | 5,355 | 6,141 | 5,556 | -787 | -585 | 201 |
| Education | 12,440 | 12,340 | 12,440 | 12,765 | -100 | 325 | 425 |
| Human health & social work | 15,861 | 17,073 | 15,861 | 17,718 | 1,212 | 1,857 | 645 |
| Arts, entertainment & rec | 3,020 | 3,836 | 3,020 | 3,983 | 815 | 962 | 147 |
| Other service activities | 3,364 | 3,914 | 3,364 | 4,081 | 550 | 717 | 167 |
| **Total** | **115,377** | **125,937** | **115,377** | **130,842** | **10,560** | **15,464** | **4,904** |

Source: Oxford Economics

## 4    Oxford Economics' forecast May 2015 and scenario 2: Re-profiled sectoral growth

The second scenario considered was the impact of faster growth in professional services, financial & insurance, and information & communication accompanied with lower growth within wholesale & retail trade and accommodation & food services. The scenario assumes that the UK outlook remains unchanged from the baseline, with the assumptions being applied at the local level and thus aims to align future sectoral trends with the Strategic Economic Plans. The assumptions used are set out below:

- 20% higher growth than the baseline projection within professional services, financial & insurance, and information & communication
- 10% lower growth than the baseline projection within wholesale & retail trade, accommodation & food services

### GVA growth 2014-31
% annual average growth



Source : Oxford Economics

### York employment
000s
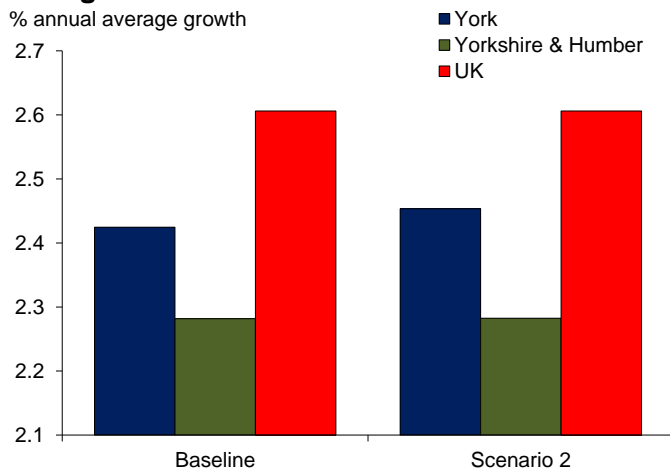


Source: ONS, Oxford Economics

Under scenario 2, there is a positive impact on GVA growth within York, with minimal impact upon employment growth. GVA growth within York increases from 2.4% per annum to 2.5% per annum over the period 2014-2031. GVA growth with Yorkshire & Humber and the UK remains unchanged from the baseline.

Employment growth is slightly higher under scenario 2, though considerably below the rate assumed within scenario 1. The results suggest an increase of over 11,050 jobs within York by 2031, 490 above the baseline. The employment level within York is expected to exceed 126,000 by 2031, with jobs growth forecast to average 0.54% per annum, slightly above the baseline rate of (0.52%). Such growth is equivalent to a change of 11,680 jobs between 2013/14 to 2030/31.
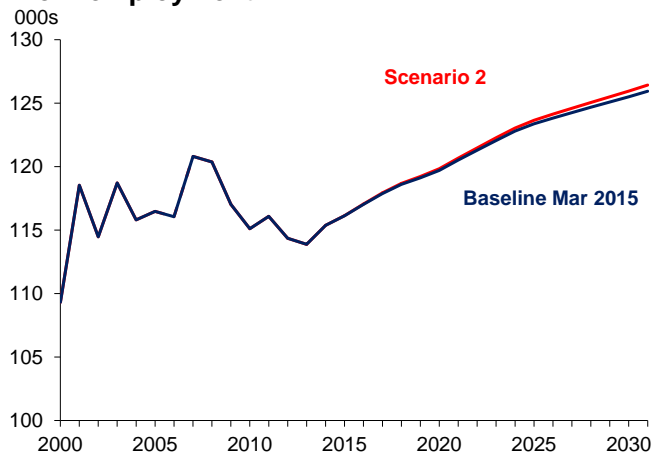
Within York, professional services are expected to enjoy the biggest gains under scenario 2, with employment expected to increase by almost 3,300 by 2031. Growth within information & communications is also faster, an increase of almost 570 jobs within York by 2031, over 100 above the baseline. As a result of the increased level of activity in these sectors, a number of other sectors including administrative & support and construction are also expected to enjoy small indirect gains compared to the baseline.

Under the scenario, wholesale & retail trade is expected to increase by 1,412 jobs by 2031, 163 jobs below the baseline. Growth within accommodation & food services is also slower; around 950 additional jobs are expected by

2031, over 100 below the baseline.

## York employment

| Oxford Economics' forecasts comparison May 2015 & Scenario 2 | Level - May 2015 | | Level - Scenario 2 | | Level change 2014-31 | | |
|---|---|---|---|---|---|---|---|
| | 2014 | 2031 | 2014 | 2031 | May 2015 | Scenario 2 | Diff |
| Agriculture, forestry & fishing | 669 | 534 | 669 | 534 | -135 | -135 | 0 |
| Mining & Quarrying | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Manufacturing | 4,291 | 3,160 | 4,291 | 3,160 | -1,131 | -1,131 | 0 |
| Electricity, gas, steam & air | 92 | 111 | 92 | 111 | 18 | 18 | 0 |
| Water supply | 390 | 351 | 390 | 351 | -39 | -39 | 0 |
| Construction | 5,605 | 6,784 | 5,605 | 6,808 | 1,179 | 1,203 | 25 |
| Wholesale & retail trade | 18,347 | 19,922 | 18,347 | 19,759 | 1,575 | 1,412 | -163 |
| Transportation & storage | 10,914 | 11,929 | 10,914 | 11,950 | 1,015 | 1,037 | 21 |
| Accommodation & food service | 10,185 | 11,237 | 10,185 | 11,132 | 1,052 | 947 | -105 |
| Information & communication | 2,818 | 3,284 | 2,818 | 3,387 | 466 | 569 | 103 |
| Financial & insurance | 4,303 | 4,346 | 4,303 | 4,355 | 43 | 52 | 9 |
| Real estate activities | 1,890 | 2,265 | 1,890 | 2,273 | 375 | 384 | 8 |
| Professional, scientific & tech | 8,725 | 11,472 | 8,725 | 12,020 | 2,747 | 3,295 | 548 |
| Administrative & support | 6,324 | 8,028 | 6,324 | 8,057 | 1,704 | 1,733 | 30 |
| Public administration & defence | 6,141 | 5,355 | 6,141 | 5,355 | -787 | -787 | 0 |
| Education | 12,440 | 12,340 | 12,440 | 12,340 | -100 | -100 | 0 |
| Human health & social work | 15,861 | 17,073 | 15,861 | 17,073 | 1,212 | 1,212 | 0 |
| Arts, entertainment & rec | 3,020 | 3,836 | 3,020 | 3,843 | 815 | 822 | 7 |
| Other service activities | 3,364 | 3,914 | 3,364 | 3,921 | 550 | 557 | 7 |
| **Total** | **115,377** | **125,937** | **115,377** | **126,428** | **10,560** | **11,050** | **490** |

Source: Oxford Economics

# Oxford Economics' forecast methodology

## Model overview

This section provides technical information on the structure of Oxford Economics' Local Authority District Forecasting Model and details of the data sources and definitions of variables within the model. The model should be viewed as one piece of evidence in making policy decisions and tracking economic and demographic change. It is not intended to be used on its own to set employment targets for local authority areas. Such targets will need to take account of local opportunities, constraints and community aspirations. As with all models it is subject to margins of error which increase as the level of geographical detail becomes smaller, and relies heavily upon published data.

Models, though predominantly quantitative, also require a degree of local knowledge and past experience, or more generally forecasting art, to make plausible long term projections. To this end the Oxford Economics' model has been developed by a team of senior staff who have a long history in model building and forecasting at both local and regional levels.

The Local Authority District Forecasting Model sits within the Oxford suite of forecasting models. This structure ensures that global and national factors (such as developments in the Eurozone and UK Government fiscal policy) have an appropriate impact on the forecasts at a local authority level. This empirical framework (or set of 'controls') is critical in ensuring that the forecasts are much more than just an extrapolation of historical trends. Rather, the trends in our global, national and sectoral forecasts have an impact on the local area forecasts. For example, in the current economic climate of government austerity, this means most, if not all local areas in the UK will face challenges in the short-term, irrespective of how they have performed over the past 15 years.

**Hierarchal structure of Oxford Economics' suite of models**

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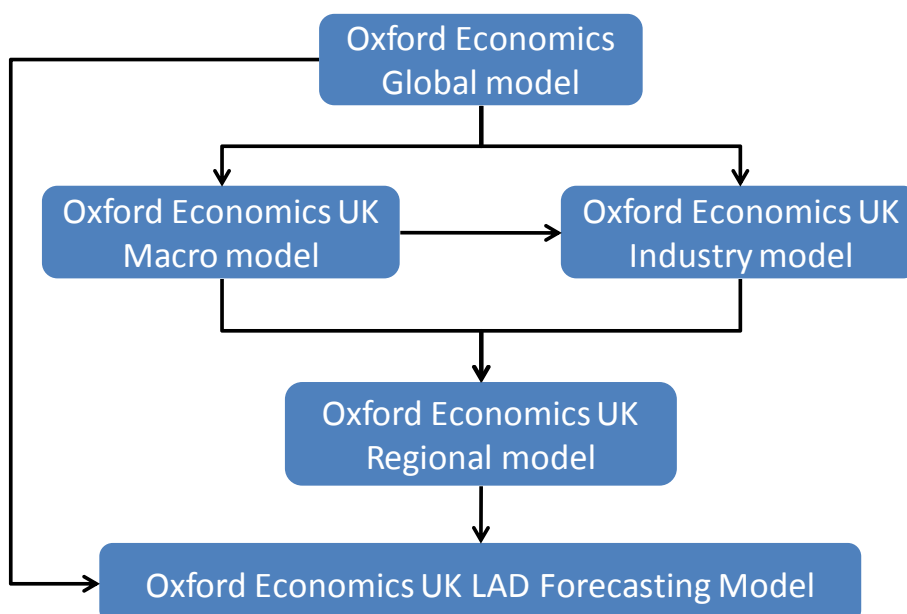
The Local Authority District Forecasting Model produces base forecasts, which can be compared with other published forecasts (though care should be taken over data definition issues), and as a guide to aid commentary or analysis of a local economy. These forecasts can in one sense be considered to provide baseline 'policy off' projections with which the actual outturn under policy initiatives could be compared. The base projections are 'unconstrained' in the sense that they make no allowance for constraints on development which may be greater than in the past.

Our local area forecasts essentially depend on three factors:

- National/regional outlooks – all the forecasting models we operate are fully consistent with the broader global and national forecasts which are updated on a monthly basis;

- Historical trends in an area (which implicitly factor in supply side factors impinging on demand), augmented where appropriate by local knowledge and understanding of patterns of economic development built up over decades of expertise, and

- Fundamental economic relationships which interlink the various elements of the outlook.

## Model structure

The main internal relationships between variables are summarised in Figure 1.2. Each variable is related to others within the models. Key variables are also related to variables in the other Oxford Economics models.

**Main Relationships between variables in the Local Authority District Forecasting Model**
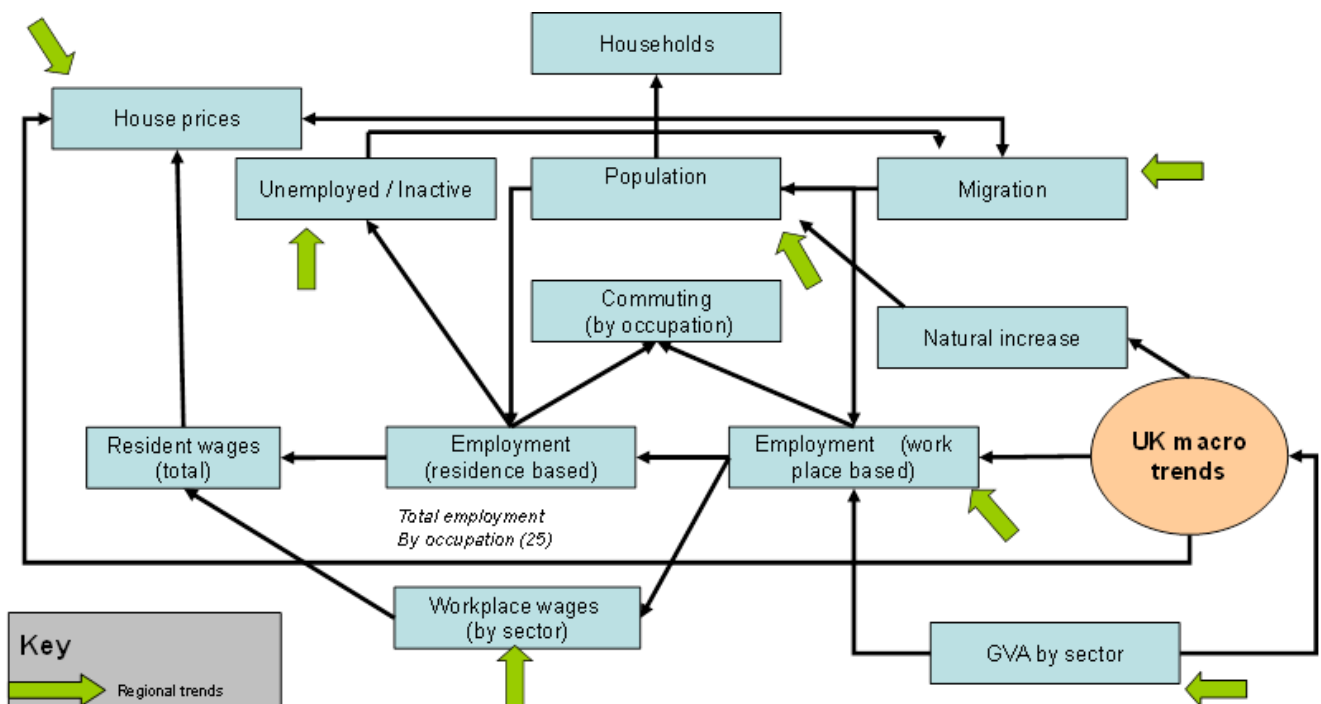
## Data sources and assumptions

### Population and migration

Population and migration data are collected from the national Mid-Year estimates (MYE) for each area. These have been revised in line with the 2011 Census results. The latest data available is for 2013. Oxford Economics produce their own forecasts of population which are economically driven and thus differ from the official population projections. Official births and deaths projections from 2012-based population projections are used. The chart below sets out the Oxford migration forecast for the UK compared with the 2012-based population projection. Oxford Economics expect UK net migration to average 130,000 per annum in the long-term compared to 165,000 in the official projections.
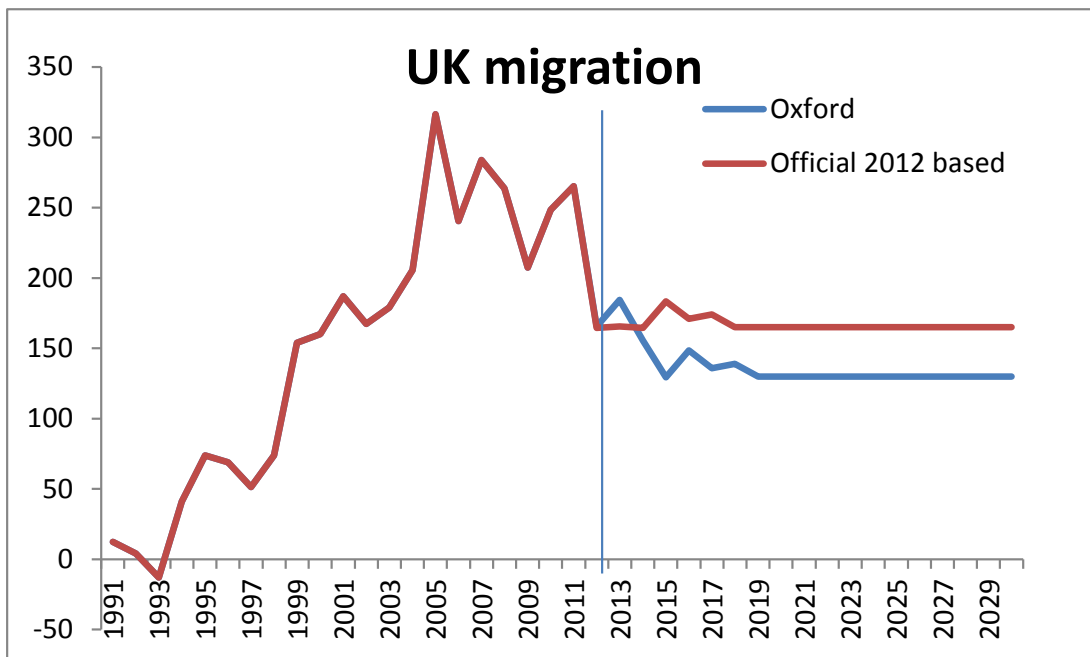


The divergence reflects the removal of one-off effects from EU enlargement and weaker economic prospects. Oxford Economics' population forecasts are derived from an economically driven model whereas official projections are trend based and do not consider how demand in the economy (and the likely impact on employment rates) affects migration. At the local authority level, migration is linked to the employment rate forecast. If the employment rate within an area is falling too fast, migration reacts as the model assumes that people would not be attracted into this area to live, given that the employment prospects are weak. This approach ensures that the relationship between the labour market outlook and the demographic forecasts is sensible. This series is scaled to be consistent with the migration forecast for the respective region from the UK Regional Model. The total population forecast is then constructed using the forecast of migration and the natural increase assumptions. Natural increase for local areas is forecast based upon recent trends in both the historical data and the official projections.

### Working age population

Working age population data is also collected from the Mid-Year estimates for each area up to 2013. It is defined as all people aged 16 to 64. The share of working age to total population is forecast using both trends in the official projections and trends in the forecast for the respective region from our UK Regional Model. This is applied to the total population forecast and scaled to be consistent with the working age population for the respective region.

**Employees in employment**

There are two key sources for the employee jobs data – ONS Workforce Jobs (WFJ) and the Business Register and Employment Survey (BRES):

- The WFJ series is reported on a quarterly basis, providing estimates of employee jobs by sector (based on the 2007 Standard Industrial Classification – SIC 2007) for the UK and its constituent government office regions, over the period 1981 Q3 to 2014 Q4.

- The Business Register and Employment Survey (BRES) is an employment survey which has replaced the Annual Business Inquiry (ABI). Similar to WFJ, BRES data is based upon SIC 2007, but it is only published for the years 2008-13. Prior to this, ABI and Annual Employment Survey (AES) data is available for employee jobs data, however this is based on an older industrial classification (SIC 2003). Data is available at local authority level and more detailed sector definitions. It is worth noting that the BRES is first and foremost a survey and is therefore subject to volatility, particularly when the level of detail becomes more refined. The survey is collected in September of each year and not seasonally adjusted.

There are a number of steps in constructing regional employee jobs. These address changes in sectoral classifications across the various sources and restrictions on data availability over particular periods of time. Initially, we take employee jobs data for each sector directly from the BRES over the years 2009-13, which reflects recent methodological changes to the BRES in accounting for working proprietors. This relates to September figures and is based upon SIC 2007 sectors. In 2008, levels of employee jobs are constructed by extrapolating back the trend in the old BRES. Data from the ABI and AES is used to construct the data back to 1991. This constructed local dataset is then scaled to be consistent with the UK employee jobs series from WFJ, by applying an adjustment factor to all sectors which converts the data to annual average values (seasonally adjusted). This is measured on a workplace basis.

The starting point for producing local authority employment forecasts is the determination of workplace-based employees in employment in each of broad 19 SIC2007 based sectors consistent with the regional and UK outlooks. At local authority level some of the sectors are driven predominantly by population estimates, others by total employment in the area, and the reminder relative to the regional performance (largely exporting sectors). All sectors are also influenced by past trends in the local area, and care is taken to ensure the forecast is not effected by volatility in the historical data. Taken in totality, employment is cross referenced with a number of variables (including population, relative performance across similar areas, historical cyclical performance and known policy) for checking and validation purposes. Where necessary, manual adjustments are made to the projected trends to reflect this validation process. The methods of sectoral projection are as follows, each of which are forecast based upon recent trends:

- Agriculture - share of the region
- Mining and quarrying - share of the region
- Manufacturing - share of the region
- Electricity, gas, & steam - share of the region
- Water supply; sewerage, waste management - share of the region
- Construction - location quotient based upon total employment
- Wholesale and retail trade - location quotient based upon consumer spending
- Transportation and storage - location quotient based upon consumer spending
- Accommodation and food service activities - location quotient based upon consumer spending
- Information and communication - share of the region

- Financial and insurance activities - share of the region

- Real estate activities - location quotient based upon total employment

- Professional, scientific and technical activities - location quotient based upon total employment

- Administrative and support service activities - location quotient based upon total employment

- Public administration and defence - location quotient based upon population

- Education - location quotient based upon population

- Human health and social work activities - location quotient based upon population

- Arts, entertainment and recreation - location quotient based upon consumer spending

- Other service activities - location quotient based upon consumer spending

## Self-employment
Self-employment data for the region is taken from ONS Workforce Jobs survey (19 sector detail). Data for the local authorities is Census based (and scaled to the regional self-employed jobs estimates) and is broken down by sector using the employees in employment sectoral structure. Self-employment in each sector is forecast using the growth in the sectoral employees in employment data and the estimates are scaled to the regional estimate of self-employment by sector.

## Total employment (jobs)
Total employment includes employees in employment, the self-employed and Her Majesty's Forces. This is measured on a workplace basis. No specific forecasting for this measure is required - it is calculated from the forecasted elements discussed above. Note that this estimate is a jobs and not people measure (i.e. one person can have more than one job and would be counted more than once in this indicator).

## Unemployment
Claimant count unemployment data is provided by ONS, via NOMIS. Annual average values are calculated from the monthly data. The latest data available is April 2015. Unemployment (claimant count) is projected based on regional trends and a measure of overall labour market tightness (relative employment rate) in the local area. It is not at present directly affected by migration though they do impact indirectly through the employment rate (which has working age population as its denominator). The unemployment rate is defined as claimant count unemployment as a percentage of the working age population. No specific forecasting of this measure is required.

## Resident employment
This is a measure of the number of people living in an area who are in work. Resident employment data is taken from the Annual Population Survey. The latest year of available data is 2014. Given that this data is survey based and tends to be very volatile, data is 'smoothed' by taking a 3 year average. Residence employment is based on a commuting matrix taken from the 2001 Census. This matrix tells us where employed residents of an area work. Using this information each available job (see workplace employment people based above) is allocated to a resident of a given local authority. This method assumes the proportions of commuting do not change over time. Employment rate is defined as residence employment as a percentage of the population aged 16 plus. No specific forecasting of this measure is required.

## Labour force
Labour force is the sum of resident employment and unemployment (claimant count). No specific forecasting for this measure is required - it is calculated from the forecasted elements discussed above.

**Gross Value Added**

Regional GVA forecasts are available by sector from our UK Regional Model. For areas within the region, GVA is available at NUTS 3 level up 2013. This includes counties and former Metropolitan counties. Our forecasts at local authority level are obtained firstly by calculating an 'expected' GVA in each area. This is calculated by multiplying the region's GVA per employee in each sector by workplace employment in each sector within each local authority area. An adjustment factor based upon relative earnings is also applied as areas with higher wages should produce higher levels of GVA. Expected GVA is then scaled to add the GVA at NUTS 3 level and the regional sectoral forecasts from the UK Regional Model.

**Workplace based wages**

Regional data on average wages by sector is available from the Annual Survey of Hours and Earnings (ASHE), the latest year of data is 2014. At the level of individual local authorities estimates of total wages on a workplace basis and a residence basis are also available from the NES and now ASHE. The growth in UK wages by sector is applied to the local area sectoral wage series (constructed using ASHE totals for authorities and regional industry totals) to give an estimate of wages within each sector. An adjustment factor is applied to reflect the relative occupation structure of each area. Hence areas where higher paying occupations are growing faster than the regional average will have higher wages. These wages estimates are then scaled to be consistent with regional wage totals.

**Residence based wages**

Residence based wages are forecast within the model by adjusting the workplace based wages for local areas. An adjustment factor, which is based upon ASHE workplace based and residence based data, is applied to ensure consistency with the published data. This factor is held constant but can be adjusted for scenario purposes.