OXFORD ECONOMICS

Worcestershire Employment Forecasts

Briefing note

November 2013

Prepared for Wychavon District Council

OXFORD ECONOMICS

Contents

Introduction

Oxford Economics were commissioned by Wychavon District Council to produce sector-based employment forecasts for the Worcestershire and its subsequent local authorities. This briefing note provides a summary of these forecasts and the key assumptions underpinning them, and is accompanied by a detailed database of sectoral employment forecasts for each location.

This report has 3 sections:-

1 A summary of the forecasts for the Worcestershire economy;

2 An overview of Oxford Economics' Local Model of Administrative Districts (LOMAD);

3 Data sources and assumptions;

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1 Forecast summary: Worcestershire economy

This section summarises the outlook for the Worcestershire economy. Worcestershire is defined here to include:-

- Bromsgrove
- Malvern Hills
- Redditch
- Worcester
- Wychavon
- Wyre Forest

The forecasts presented below are based upon our November 2013 release. These forecasts at the UK level are presented alongside forecasts from other organisations in the November 2013 edition of The Treasury's '*Forecasts for the UK economy: comparison of independent forecasts'*

Furthermore, to help to set the forecasts in context, Table 1.1 sets out Oxford Economics forecasts for GVA and employment for Worcestershire, West Midlands and UK.

GVA growth (% pa)	2013-2015	2015-2020	2020-2030
Worcestershire	2.4	2.8	2.5
West Midlands	2.6	2.8	2.5
UK	2.9	3.1	2.7
Employment growth (% pa)	**2013-2015**	**2015-2020**	**2020-2030**
Worcestershire	0.4	0.5	0.1
West Midlands	0.5	0.5	0.1
UK	0.8	0.8	0.3

The outlook suggests that employment within Worcestershire is expected to increase by 0.3% pa (an additional 12,000 jobs) between 2013 and 2030. This ranks above the West Midlands average of 0.2% pa but below the UK average of 0.5%pa.

Within Worcestershire, Bromsgrove is expected to experience the fastest rate of employment growth over the forecast (0.6% pa). This is followed by Malvern Hills (0.3%pa). Wychavon, Redditch and Wyre Forecast are all expected to experience employment growth of 0.2%pa, with the slowest rate of employment growth expected within Worcester (0.1%pa).

2 Local Model of Administrative Districts

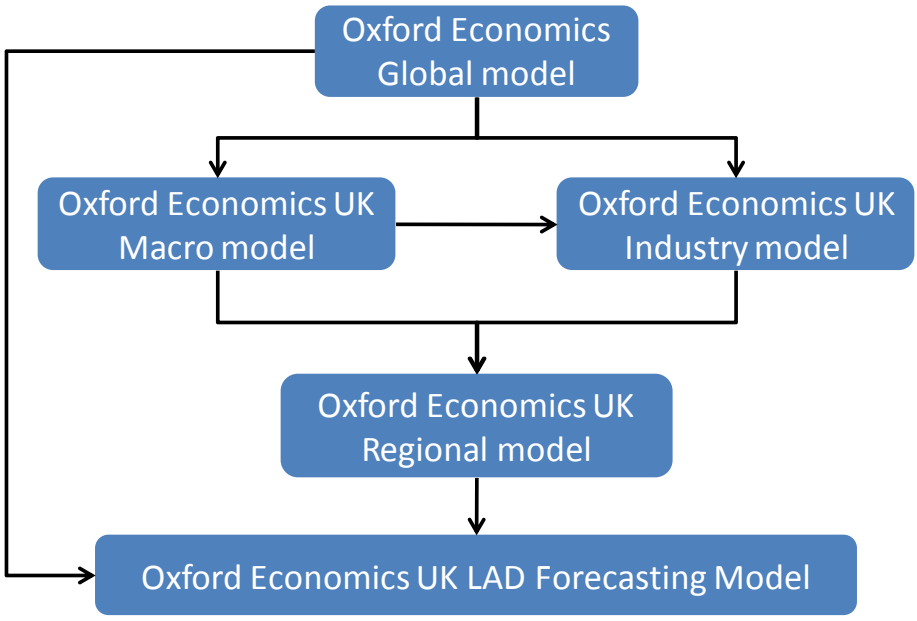
1.1 Model overview

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 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. In the current economic climate this means most, if not all, local areas will face challenges in the short-term, irrespective of how they have performed over the past 15 years.

Figure 2.1: Hierarchal structure of Oxford Economics' suite of models



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 Worcestershire and its local authority economies. 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. However it must be realised that there are inherent difficulties in using the forecasts as a 'policy-off' baseline. In particular 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.

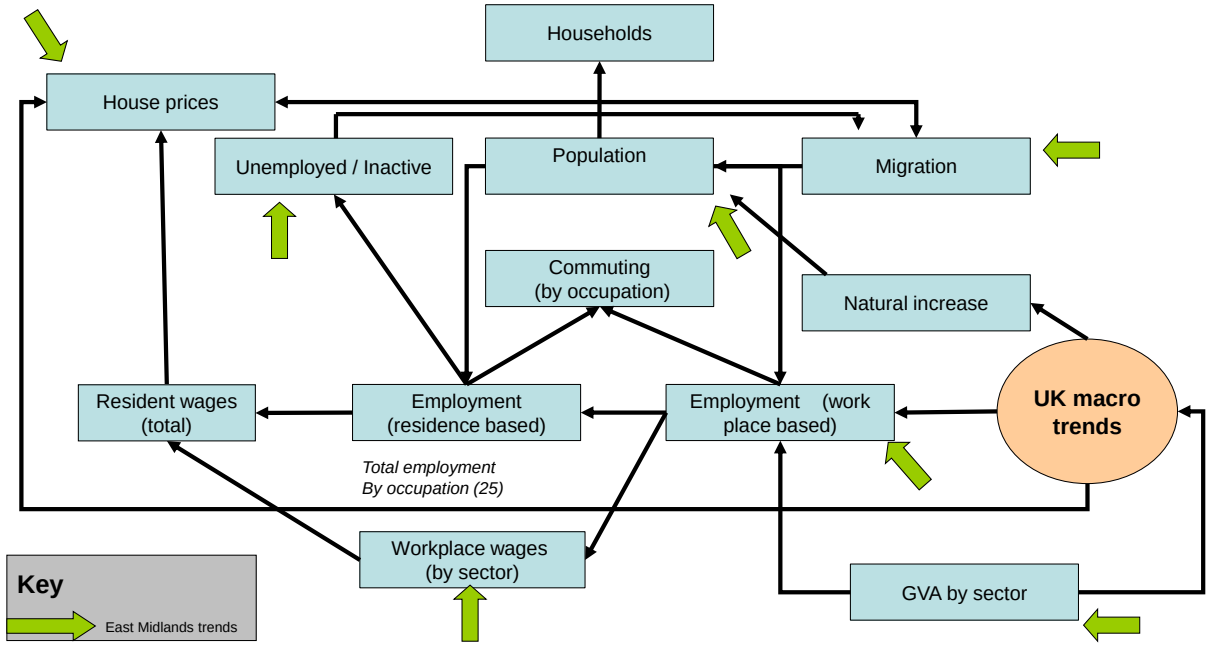
Our local forecasting model depends essentially upon three factors:

- 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.

2.1 Model structure

The main internal relationships between variables are summarised in Figure 2.2. Each variable is related to others within the models. Key variables are also related to variables in the other Oxford Economics models.

Figure 2.2: Main Relationships between variables in the LAD Forecasting Model



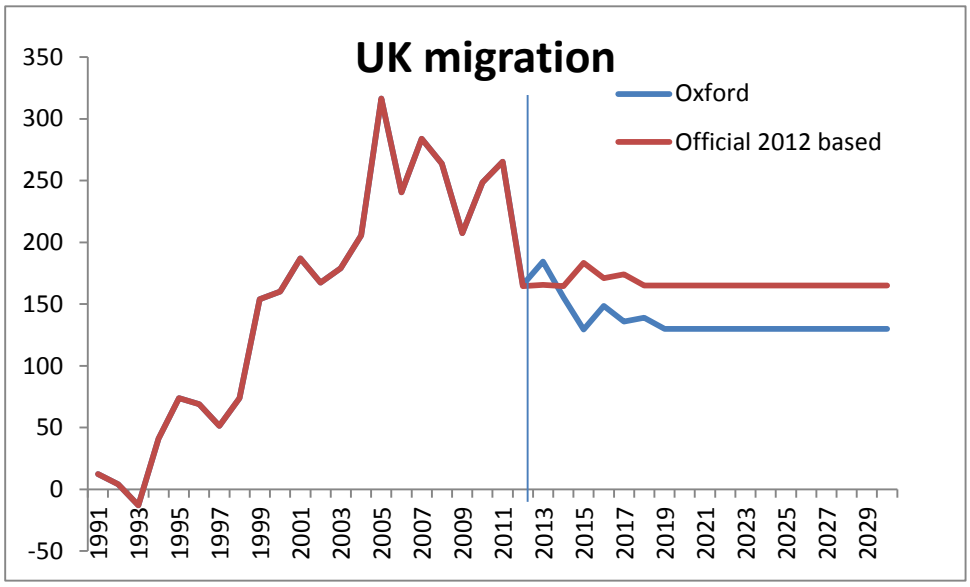
3 Data sources and assumptions

3.1 Data sources and assumptions

Population and migration

Population and migration data are collected from the Mid-Year estimates (MYE) for each area. These have been revised in line with the 2011 Census results. The latest data available is for 2012.

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 but we have our own view on UK migration. 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 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 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 West Midlands 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 (MYE) for each area up to 2012. It is defined at 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 West Midlands forecast from our UK Regional Model. This is applied to the total population forecast and scaled to be consistent with the working age population for West Midlands.

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 2013 Q3.
- The 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 2008-12. 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, due to 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 2009-12, 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 in producing employment forecasts is the determination of workplace-based employees in employment in each of broad 19 SIC2007 based sectors consistent with the West Midlands 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. 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 West Midlands

- Mining and quarrying - share of the West Midlands
- Manufacturing - share of the West Midlands
- Electricity, gas, & steam - share of the West Midlands
- Water supply; sewerage, waste management - share of the West Midlands
- 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 West Midlands
- Financial and insurance activities - share of the West Midlands
- 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 West Midlands is taken from Workforce jobs (19 sector detail). The data is broken down into detailed sectors using both employee trends and the UK data for self-employment by 2 digit SIC2007 sector. Data for the local authorities is Census based (and scaled to the West Midlands self-employed jobs estimates) and is broken down using the employees in employment sectoral structure. The sectors are 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).

Gross Value Added

GVA forecasts are available for detailed sectors for the West Midlands region from our UK Regional Model. For areas within the region, data on total GVA is available at NUTS 3 level. 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 West Midlands 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 West Midlands sectoral forecasts from the UK Regional Model.

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