



Economic outlook for the West of England LEP

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Prepared for the West of England LEP

Contents

Introduction

Oxford Economics were commissioned by the West of England LEP to produce sector-based employment and GVA forecasts and scenario analysis for the West of England LEP, South West and UK. This report provides a summary of these forecasts, and is accompanied by a detailed database of economic, labour market and demographic variables for each location.

This report has 4 sections:

1. An overview of the current performance and outlook for the UK economy. This provides the context within which the West of England LEP economy will be operating over the medium to long term;
2. The current demographic and labour market structure of the South West economy, and the outlook to 2036;
3. The current demographic and labour market structure of the West of England LEP economy, and the outlook to 2036;
4. An overview of the scenario assumptions and key results.

The annex to this report provides a technical section setting out data sources and assumptions.

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The macroeconomic context

Global environment

- The global economy is emerging from a period of weak economic activity and there are signs that growth prospects are improving in advanced economies. Leading this is a strong recovery in the US economy which is being supported by consistently rising employment, confidence and consumer spending.
- The Eurozone emerged from recession in 2013Q2. According to Eurostat's flash estimates, GDP rose by 0.3% on the quarter in Q2, a significant improvement from the 0.3% drop in Q1. The tentative signs of stability across Europe point to better times ahead. The pace of recovery will remain weak however as a significant number of headwinds, including fiscal tightening, private sector deleveraging and the spectre of persistently high unemployment, will combine to restrict the pace of growth.

	Annual GDP growth (%)			
	2012	2013	2014-2018	2018-2030
US	2.4	2.0	3.0	2.6
Japan	1.6	0.4	1.4	0.7
China	8.4	7.7	7.3	6.7
Eurozone	0.4	-0.9	1.2	1.4
Germany	1.7	0.2	1.5	1.2
France	0.9	-0.2	1.1	1.4
Italy	-1.1	-2.5	0.8	0.9
Ireland	1.8	-1.0	2.9	3.4
Greece	-6.2	-6.4	0.8	2.3
Spain	-0.4	-1.8	1.1	1.8
UK	0.6	0.4	2.4	2.5
Brazil	1.2	1.6	3.2	3.6
OPEC	5.1	4.6	4.3	3.9

Source: Oxford Economics

- GDP in the European Union, the UK's most important trading partner, is expected to average just 1% growth per year over the medium term, significantly below pre crisis rates. Another potential area of concern is the weakening of growth prospects in emerging countries, and whilst this will reduce the pace of global growth in the short term, it is unlikely to prove to be a sufficient headwind to derail the global recovery.
- Underlying these aggregate figures are wide disparities between European countries. Southern Eurozone economies, including the large economies of Spain and Italy as well as smaller peripheral countries such as Greece, are set to post the weakest outturns, as they have over the past few years. The economic outlook is a little stronger for non-Eurozone members in western and northern Europe and are brighter still in the developing economies in central and eastern Europe which continue to benefit from economic modernisation.

UK: is the recovery secure?

- The UK economy emerged from recession at the beginning of 2013. Growth of 0.3% in the first quarter was followed by 0.7% in the second quarter, dispelling any fears the UK economy was set to suffer a triple-dip recession (indeed, the ONS also 'revised away' the double-dip recession that was originally reported for the start of 2012). The latest figures were particularly encouraging in so much that all four main industry groupings within the economy (agriculture, production, construction and services) saw increased activity. Early data for Q3 suggests that the recoveries in the consumer and housing sectors have continued to gain momentum. Retail sales grew by 1.1% in July, building on increases in both of the preceding months, while a raft of consumer surveys have also reported stronger results. But with the level of GDP in 2013Q2 more than 3% below the pre-recession peak achieved in 2008Q1, there remains much to be done before the economy can truly be said to have healed.
- Nonetheless, the latest official data supports our view that a sustained economic recovery in the UK is under way. This is expected to be driven by:
- **Real income growth and lower household saving.** With the large increase in the personal income tax allowance and rising employment providing support, and with inflation set to slow through 2013 and remain subdued, real incomes should rebound firmly over the medium term with growth expected to average 2.0% per annum for the remainder of this decade. With confidence recovering and the worst of the deleveraging over, we also expect the savings ratio to drop back from recent high levels. These factors support a recovery in consumer spending, the largest component of UK GDP.
- **Corporate confidence strengthening, supporting investment.** We believe that there is sizeable pent up investment demand in the UK and we expect this to be released as corporate confidence improves, encouraging firms to spend their accumulated cash surpluses.
- **Improving export outlook.** We expect annual growth in world trade (weighted by UK export shares) to accelerate from 1.3% in 2013 to 4.7% next year and 6% in 2015, underpinned by a strong US rebound and the Eurozone slowly recovering. As a result we expect UK exports to rise by 2.5% in 2014 and 4.0% in 2015.

UK: medium to long term outlook

- The initial stages of the UK recovery are likely to be relatively slow however – GDP is expected to grow by around 1% in 2013 and 2% in 2014. Empirical research suggests that recessions associated with financial crises tend to be unusually severe and that recoveries from such recessions are typically slow. The slow pick-up in economic growth will mean it is early 2015 before UK GDP returns to its pre-recession peak. Whilst this is likely to be a year earlier than for the Eurozone, it compares to early 2010 and mid 2011 for the global and US economies respectively.
- Growth will accelerate in medium term. We estimate that the UK currently has an output gap of around 6.5%, implying a large amount of spare capacity in the economy. This should help to keep inflation low, once short-term external pressures have eased, while also allowing the Bank of England to maintain a very loose policy stance for a prolonged period, supporting a stronger recovery over the medium term. We expect GDP growth to accelerate to 2.7% per year between 2015 and 2017. UK employment is forecast to grow on average by 0.7% per year over the remainder of the decade.
- Longer-term growth will also be supported by:
- **Helpful demographics.** The UK is expected to see its working age population continue to expand strongly, driven by natural increase, persistent net inward migration and further rises in the state pension age.
- **Leading position in several service sectors.** The UK economy has strong representation in dynamic private services sectors and is a global leader in the provision of several parts of financial and business services.

UK: drivers of the UK economy

- During the decade leading up to the financial crisis and recession the UK economy enjoyed one of its longest periods of sustained economic expansion. Growth over this period was fuelled by strong domestic demand, with consumers, businesses and government making the most of cheap and readily available credit to finance spending. Strong domestic demand was in part satisfied by high imports, and with exports failing to provide sufficient compensation, net trade provided a negative contribution to UK GDP growth.
- The need to ‘rebalance’ the economy is both a government aim and necessity. It is also a feature of the UK forecast. In the near term, consumer spending is expected to make a relatively small contribution to growth, at least by historical standards, as consumers continue to spend with care. Even once the recovery has become well established, the contribution of consumer spending to GDP growth is expected to be only two thirds of that recorded during the decade leading up to the recession. Government spending, another key support of growth in recent years, will also make a much smaller contribution. Indeed, the government’s austerity programme will suck demand out of the economy for several years as efforts to reduce the deficit prevail. By contrast, both net-exports and investment will play an increasingly important role in supporting growth.
- One consequence of these trends is for growth in the UK economy to become increasingly dependent on the private services sector. UK GVA growth is forecast to average 2.7% per year over the forecast period. Professional, scientific & technical activities, which include a range of business services including legal, accounting and consulting services, is expected to be the fastest growing sector over the forecast period. Other sectors expected to provide significant contributions to growth include the wholesale & retail sector, real estate, information & communications and financial & insurance activities. As a consequence, more than half of all economic growth in the UK is expected to be restricted to just 5 sectors of the economy, and this has direct implications for local economies through their ability to attract and maintain activity in these sectors. Elsewhere, manufacturing and construction, two of the UK’s largest sectors, are expected to post positive growth over the forecast period, but with smaller contributions than from private services. Growth in public services, especially public administration and to a lesser extent education, will be weak over the short to medium term given the pressures on the public purse.

UK: sectoral outlook

- UK employment is forecast to be almost 11% higher in 2036 than today, equivalent to an extra 3.3 million jobs. The sectoral composition of these jobs will be similar to the outlook for GVA by sector.
- Professional, scientific & technical activities (an additional 1million jobs by 2036), administrative & support service activities (847,000) and wholesale & retail trade (538,000) are forecast to provide the largest absolute increases in jobs over the forecast period. Most other sectors are expected to see employment rise over this period, including the relatively small but rapidly growing information & communications sector, and also a recovery for the long suffering construction industry.
- But unlike for GVA, some sectors of the UK economy are expected to suffer falling employment. The most significant reduction in absolute terms is forecast for the manufacturing sector, where more than 707,000 jobs are expected to be lost across the UK by 2036.

Employment change by sector	2013 - 2023		2023 - 2036	
	000s	%	000s	%
Agriculture, forestry and fishing	-35	-9.6	-39	-11.8
Mining and quarrying	-18	-26.0	-18	-35.7
Manufacturing	-281	-10.8	-426	-18.3
Electricity, gas, steam	-15	-12.6	-15	-14.4
Water supply; sewerage	-23	-11.7	-25	-14.4
Construction	237	11.8	202	9.0
Wholesale and retail trade	469	9.5	69	1.3
Transportation and storage	162	10.3	-8	-0.5
Accommodation and food service	202	9.8	48	2.1
Information and communication	145	10.9	48	3.3
Financial and insurance activities	15	1.3	11	0.9
Real estate activities	99	19.3	74	12.2
Professional, scientific and technical	543	21.1	459	14.7
Administrative and support services	488	18.9	359	11.7
Public administration and defence	-168	-10.9	2	0.2
Education	-138	-5.0	46	1.8
Human health and social work	32	0.8	325	7.8
Arts, entertainment and recreation	166	18.6	112	10.6
Other service activities	125	14.2	53	5.3
Total	2004	6.2	1277	3.7

Source: Oxford Economics

- Parts of the public sector, most notably public administration and education are expected to employ fewer workers due to government spending restraint. The majority of cuts in these sectors will occur early in the forecast period, with a modest recovery, albeit to below current levels, over the longer term. The healthcare sector is likely to be less restrained as political pressure to maintain front line services and an ageing population help spare the sector from the worst of the forthcoming spending cuts.

UK: risks to the outlook

There are a number of risks to the international economy which would have a detrimental effect on the outlook for the UK economy. These include:

- **A break-up of the Eurozone.** This represents the single largest threat to the global economy. High and rising unemployment in the Eurozone could give rise to escalating social and political tensions, the result being governments in the worst affected countries being toppled by pro-exit parties. The subsequent breakup of the Eurozone would bring the world economy to a halt and would tip the UK back into recession.
- **Weaker than anticipated growth in emerging markets.** Growth in emerging markets has been slower in the first half of 2013 than anticipated. There is a risk China's investment slowdown proves more marked and prolonged than anticipated, while poor institutions and policy errors hold back development in other key developing markets. This would imply weaker world investment and demand, hitting exporters and commodity producers. The overall impact on the UK would be noticeable but not pronounced, with growth remaining positive but below the baseline view.
- **An inflationary shock.** The Bank of England, like many central banks in advanced economies, has implemented monetary easing on an unprecedented scale. So far, slow or impaired transmission has meant that growth and inflation have remained subdued. In this scenario, the monetary stimulus finally contributes to a sharp increase in growth which the central banks fail to respond to. Bond markets might become increasingly concerned about rising inflation, market interest rates would rise sharply and central banks would need to respond by tightening monetary policy very quickly. An unexpected policy shift would increase uncertainty, raising financial stress. Growth in the UK economy would slow appreciably as a result.

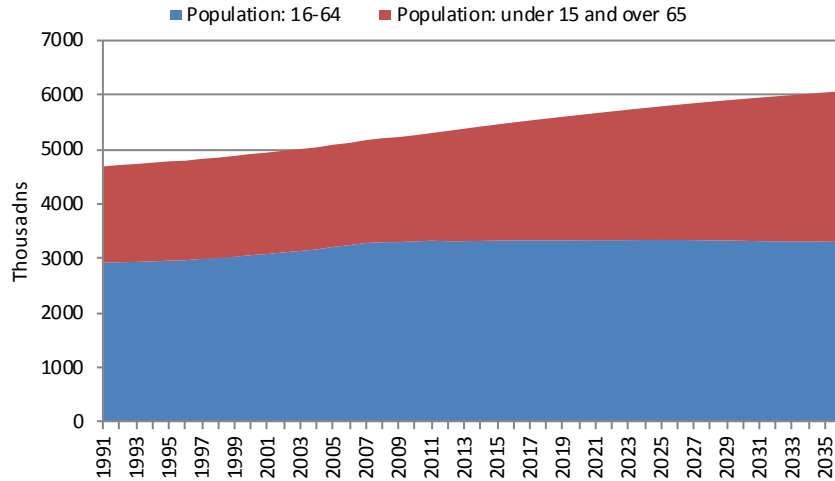
The probability of each of these shocks is relatively low. Nonetheless, they illustrate how the UK's economic recovery could be put at risk. Under such conditions, the South West and West of England LEP economies would be detrimentally affected by these developments.

South West

This section summarises the outlook for the South West region, focusing on demographic and labour market developments, including comparisons with the UK economy.

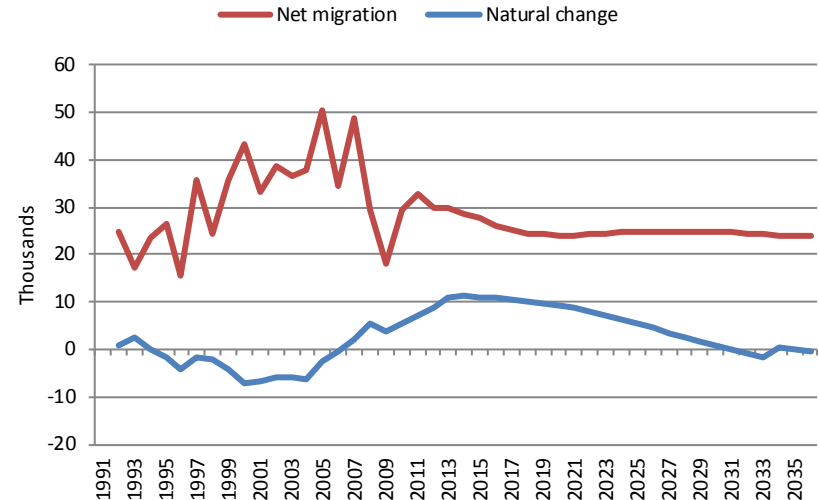
South West: demographic profile

Population projections



Source: Oxford Economics

Migration and natural change

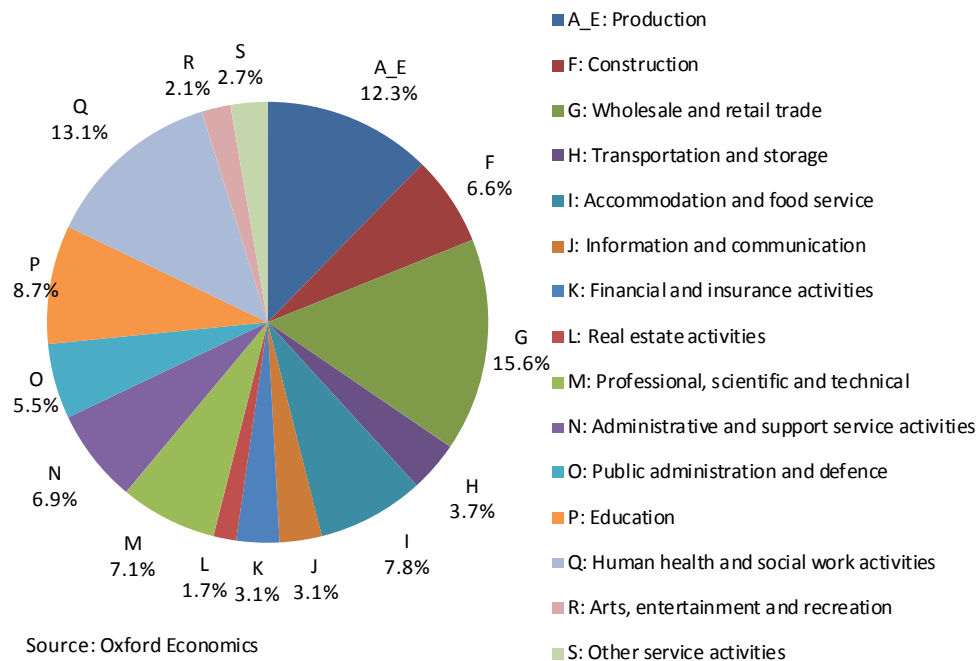


Source: Oxford Economics

- The population of the South West currently stands at just over 5.3 million, of which almost 3.2 million are of working age. The number of people living in the region has risen consistently over the last decade with growth averaging 0.7% per year, in line with the national average. Population growth was driven by strong net-in migration which offset the natural falls recorded in the first half of the decade.
- Population growth is expected to ease over the medium to long term. The population of the South West is forecast to rise at an average rate of 0.7% per year between 2013 and 2020, and by 0.5% per year in the following decade. Population is projected to exceed 6.0 million people by 2036, an increase of 688,000 on the current level. However, the rise will be limited to the dependent population, those aged 15 and under and over 65, as the working age population is expected to remain broadly flat.

South West: current structure

Employment structure: 2012



Key indicators: 2012

	South West	UK
Population (000s)	5340	63705
Population 16-64 (000s)	3317	40881
Net migration (000s)	30	166
Employment (000s)	2757	32103
Resident employment rate (%)	78.0	74.4
Unemployment rate (%)	2.7	3.9
GVA (£m2010)	102275	1327075

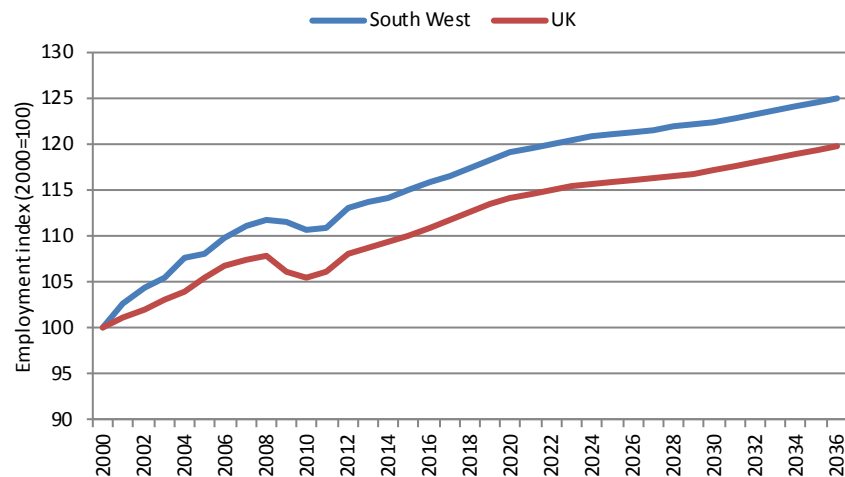
Source: Oxford Economics

- In 2012, 2,757,000 people were employed in the South West. At the same time, 2,586,000 people living in the region were in employment, signifying net-in commuting to the region. 89,000 residents of the South West were registered as unemployed on the claimant count measure in 2012, equivalent to 2.7% of the working age population. This was well below the UK average of 3.9% and was the second lowest UK Government Office Region, above only the South East.
- The service sector dominates employment in the South West. In 2012, it accounted for 81% of jobs in the region, just below the UK average of 83%. Within services, the largest employers in the region are wholesale & retail trade (15.6% of jobs), health & social work (13.1%), education (8.7%) and accommodation & food services (7.8%). The manufacturing sector is the largest non-service sector employer in the region, accounting for 8.8% of jobs, with construction following at 6.6%.

South West: outlook

- The South West enjoyed a relatively strong labour market in the years leading up to the recession. Between 2000 and 2008, employment in the region grew at an average annual rate of 1.2% per year, outstripping the national average of 1.0%. Employment fell through 2009 and 2010, but the declines were much shallower than the UK average due to the limited exposure to the sectors most impacted by the recession, particularly manufacturing and construction. The job losses endured over this period have already been recovered owing to strong job creation in 2012, though the number of unemployed remains elevated from pre-crisis levels.

Employment performance



Source: Oxford Economics

- Total employment in the South West is forecast to rise by 0.5% in 2014 and 0.7% in 2015, a pace it will maintain on average over the remainder of the decade. This outlook is broadly in line with our expectations for the national economy, and consequently the region will continue to account for around 8.6% of UK employment. The pace of growth in the region is expected to slow post 2020, averaging 0.3% per year. The number of jobs in the region is forecast to exceed 3 million towards the end of the forecast period, more than a quarter of million higher than current levels. Growth will be constrained by a shrinking working age population, which will limit the available workforce, and there will be little scope to increase labour market participation which is already high (unemployment is low and the employment rate is above average).
- In terms of economic activity, the South West economy is expected to see a gradual acceleration in growth in the coming years, with GVA growth of 1.3% and 2.3% in 2013 and 2014 respectively. This will result in GVA returning to pre-recession levels in 2014. The longer term outlook sees the South West marginally underperform the national level trends with GVA growth averaging 3.1% per year for the rest of the current decade, followed by 2.5% per year between 2020 and 2036.

South West: sector outlook

Employment outlook

Employment change by sector	2013	2036	Change 2013 - 36	
	000s	000s	%	000s
Agriculture, forestry and fishing	53.2	40.7	-23.6	-12.6
Mining and quarrying	4.5	1.9	-57.9	-2.6
Manufacturing	241.9	177.6	-26.6	-64.4
Electricity, gas, steam	8.2	6.0	-26.6	-2.2
Water supply; sewerage	21.3	15.8	-25.8	-5.5
Construction	181.0	221.1	22.2	40.1
Wholesale and retail trade	436.7	492.7	12.8	56.0
Transportation and storage	103.1	119.2	15.7	16.2
Accommodation and food service	212.0	239.7	13.1	27.7
Information and communication	88.6	96.6	8.9	7.9
Financial and insurance activities	86.7	89.7	3.5	3.1
Real estate activities	48.0	64.3	33.9	16.3
Professional, scientific and technical	201.8	292.3	44.9	90.6
Administrative and support services	191.2	250.5	31.0	59.3
Public administration and defence	151.3	141.1	-6.7	-10.2
Education	238.1	227.5	-4.5	-10.7
Human health and social work	367.2	401.7	9.4	34.5
Arts, entertainment and recreation	60.1	80.3	33.7	20.2
Other service activities	75.4	90.9	20.5	15.5
Total	2770.2	3049.5	10.1	279.3

Source: Oxford Economics

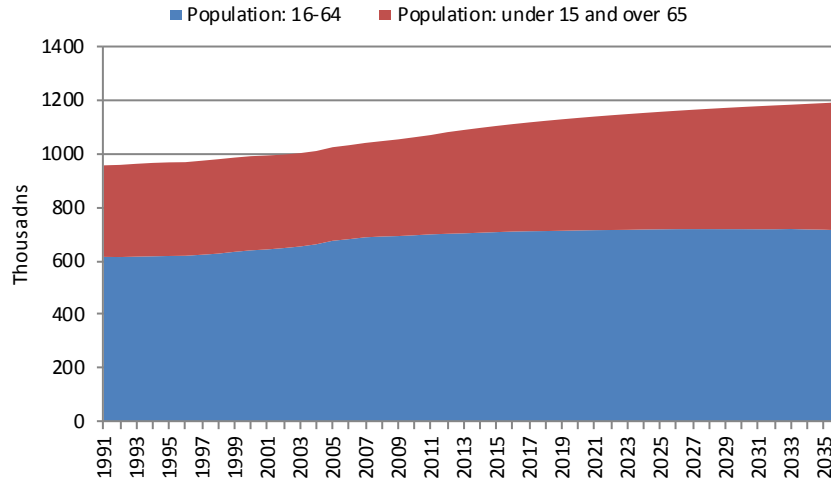
- Private services will contribute the majority of new jobs in the South West over the forecast period. The largest gains in absolute terms between 2013 and 2036 are expected in professional, scientific & technical activities (90,600 additional jobs), administrative & support activities (59,300) and wholesale & retail trade (56,000).
- Falling employment within the production industries are expected to partially offset these gains. In particular, the manufacturing sector is likely to post the most significant losses with 64,400 fewer jobs in the region by 2036, equivalent to a quarter of current manufacturing employment, though the rate of decline will be consistent with the UK average. Despite the downbeat employment outlook, manufacturing output will gather pace from 2014, with annual growth averaging 2.5% for the rest of this decade as productivity gains gather pace.
- The public sector will experience mixed fortunes. Public administration & defence and education will continue to shed jobs, particularly in the short term, as the government reins in spending. However, there will be increased demand for health and social care owing to the growing elderly population, which will result in additional jobs being created.

West of England LEP

This section summarises the outlook for the West of England LEP, focusing on demographic and labour market developments.

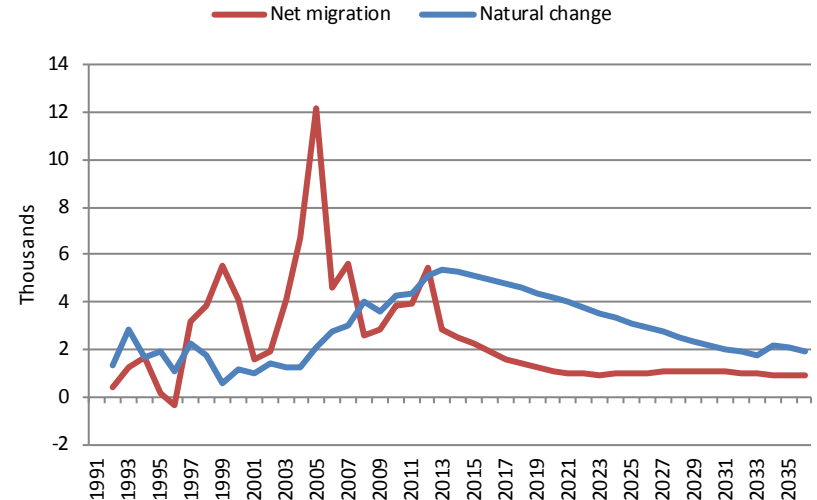
West of England LEP: demographic profile

Population projections



Source: Oxford Economics

Migration and natural change

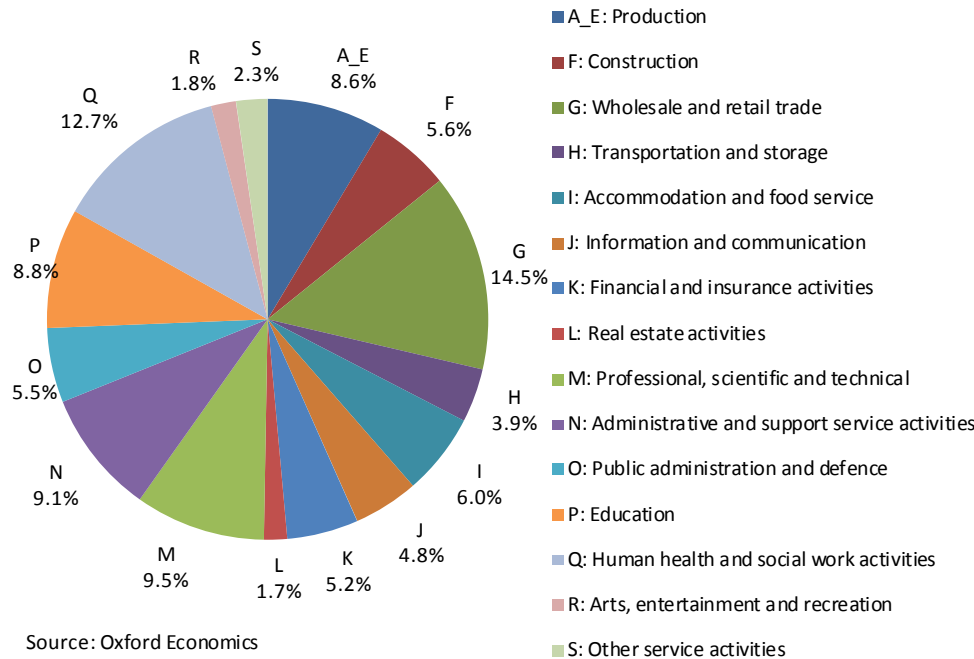


Source: Oxford Economics

- The population of the West of England LEP currently stands at almost 1.1 million, of which 700,000 are of working age. This accounts for 20% of people living in the South West. The number of people living in the LEP has risen consistently over the last decade with growth averaging 0.8% per year, marginally ahead of the South West and UK averages. Population growth was predominantly driven by strong net-in migration. In contrast to the wider South West region however, the natural change in population also provided a positive contribution to growth.
- The pace of population growth will continue at a similar pace in the short term, but will begin to fade beyond 2020. In the short term, and against the trend recorded over the last decade, natural change will be the most important element. This is principally due to a rising birth rate and net migration falling significantly below the highs witnessed in the mid-2000s. Population is projected to reach 1.2 million people by 2036, an increase of 100,000 on the current level. Much of the rise will be limited to the dependent population as the working age population is expected to remain broadly flat, resulting in the dependency ratio rising 5% to 40% by 2036. However, the region's demographic profile remain more favourable than the South West, where the dependency ratio will rise to 46%.

West of England LEP: current structure

Employment structure: 2012



Key indicators: 2012

	West of England LEP	South West
Population (000s)	1081	5340
Population 16-64 (000s)	701	3317
Net migration (000s)	5	30
Employment (000s)	617	2757
Resident employment rate (%)	75.7	78.0
Unemployment rate (%)	3.2	2.7
GVA (£m2010)	25989	102275

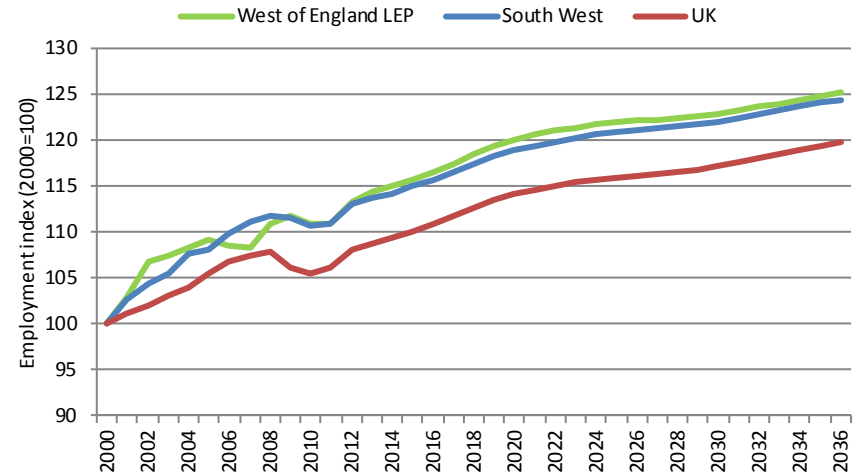
Source: Oxford Economics

- In 2012, 617,000 people were employed in the West of England LEP region. At the same time, 535,000 people living in the region were in employment, signifying net-in commuting to the region. 22,000 residents were registered as unemployed on the claimant count measure in 2012, equivalent to 3.2% of the working age population. This compares favourably against the UK average of 3.9%, but is elevated in comparison to the South West average.
- The service sector dominates employment in the West of England LEP region. In 2012, it accounted for 86% of jobs in the region, above both the South West and UK averages of 81% and 83% respectively. Within services, the largest employers in the region are wholesale & retail trade (14.5% of jobs), health & social work (12.7%) and professional, scientific and technical (9.5%).
- The West of England LEP region has above average concentrations of the 5 sectors expected to drive UK economic activity, notably financial activities and professional, scientific and technical services.

West of England LEP: outlook

- The West of England LEP economy enjoyed a period of strong employment growth through much of the early to mid 2000s. Employment in the region increased by 60,000 between 2000 and 2008, equivalent to an annual average increase of around 1.3% per year. The region's sectoral mix, with high concentrations of services and limited production sectors, shielded the economy from the brunt of the recession, with job shedding limited to 2010. Employment rebounded strongly in 2012 and returned to its pre-recession peak. Despite this, the unemployment rate peaked at 3.2% in 2012 – over double the pre-recession rate. GVA has lagged employment, with levels still 2% below their peak in real terms.

Employment performance



Source: Oxford Economics

- In line with the rest of the UK, the West of England LEP economy is expected to see a gradual acceleration in growth in the coming years. GVA is estimated to have been relatively flat in 2012, and is forecast to grow by 1.2% in 2013, 2.4% in 2014 and 3.1% in 2015. The pace of growth in these years will be in line with both the South West and UK averages. The longer term outlook sees the West of England LEP outperform both the South West and UK averages, with GVA growth averaging 3.4% per year for the rest of the current decade, followed by 2.7% per year between 2020 and 2036.
- Total employment in the West of England LEP is forecast to rise by 0.6% in 2014 and 0.7% in 2015, before averaging this pace over the remainder of the decade. This outlook is broadly in line with our expectations for the national economy and marginally exceeds the South West average. The pace of growth in the region is expected to slow post 2020, averaging 0.3% per year. On this basis, the number of jobs in the region is forecast to be 681,000 in 2036, 59,000 higher than current levels. The region's working age population will begin to fall towards the end of the forecast period, which will introduce a supply-side constraint to how far employment can grow, as a shrinking working age population puts pressure on the size of available labour force.

West of England LEP: sector outlook

Employment outlook

Employment change by sector	2013	2036	Change 2013 - 36	
	000s	000s	%	000s
Agriculture, forestry and fishing	3.1	2.4	-23.1	-0.7
Mining and quarrying	0.3	0.1	-56.1	-0.1
Manufacturing	42.8	31.8	-25.6	-11.0
Electricity, gas, steam	1.2	0.8	-35.5	-0.4
Water supply; sewerage	4.8	3.5	-27.4	-1.3
Construction	34.6	39.6	14.5	5.0
Wholesale and retail trade	90.2	94.1	4.3	3.9
Transportation and storage	24.5	26.4	8.1	2.0
Accommodation and food service	36.3	40.0	10.1	3.7
Information and communication	30.4	32.0	5.2	1.6
Financial and insurance activities	32.3	34.7	7.4	2.4
Real estate activities	10.9	16.2	47.9	5.2
Professional, scientific and technical	61.1	94.4	54.6	33.4
Administrative and support services	56.7	74.2	30.7	17.4
Public administration and defence	33.5	31.2	-6.7	-2.2
Education	53.7	46.0	-14.4	-7.7
Human health and social work	79.9	80.7	1.0	0.8
Arts, entertainment and recreation	11.5	15.5	34.2	3.9
Other service activities	14.4	17.6	22.4	3.2
Total	622.2	681.2	9.5	59.0

Source: Oxford Economics

- The West of England LEP economy is expected to become even more reliant on the service sector. Employment growth in the West of England LEP will mainly be concentrated in private services over the forecast period. The largest gains in absolute terms between 2013 and 2036 are expected in professional, scientific & technical activities (33,400 additional jobs), administrative & support activities (17,400) and real estate activities (5,200). Construction will also add 5,000 jobs over this period.
- The public sector and production industries are expected to record falling employment. The manufacturing sector is likely to post the most significant losses with 11,000 fewer jobs in the West of England LEP by 2036, though the rate of decline will be consistent with job losses expected in the wider South West region. Parts of the public sector are also expected to shed jobs, particularly in the short term, as the government keeps a firm grip on spending.

LEP comparison: sector variation

Location quotient: 2012	Greater Cambridge and Greater					
	West of England LEP	Peterborough LEP	Oxfordshire LEP	Thames Valley Berkshire LEP	Gloucestershire LEP	Swindon and Wiltshire LEP
Agriculture, forestry and fishing	0.5	1.5	0.8	0.2	1.7	1.4
Mining and quarrying	0.2	0.2	0.2	0.1	0.5	0.2
Manufacturing	0.9	1.3	0.9	0.7	1.5	1.1
Electricity, gas, steam	0.5	0.7	0.8	1.1	1.5	0.8
Water supply; sewerage	1.2	1.2	1.0	1.2	1.2	1.3
Construction	0.9	0.9	0.8	0.8	1.0	0.9
Wholesale and retail trade	0.9	1.1	0.9	1.1	1.0	1.0
Transportation and storage	0.8	1.1	0.6	1.0	0.6	1.0
Accommodation and food service	0.9	0.8	1.1	1.0	1.0	1.0
Information and communication	1.2	0.9	1.2	2.9	0.8	0.9
Financial and insurance activities	1.5	0.7	0.4	0.5	0.9	1.0
Real estate activities	1.1	1.0	1.0	1.2	0.9	1.2
Professional, scientific and technical	1.2	1.0	1.5	1.6	0.9	1.1
Administrative and support services	1.1	1.0	0.8	1.0	0.9	0.9
Public administration and defence	1.1	0.9	1.1	0.6	1.0	1.6
Education	1.0	1.1	1.5	0.8	1.1	0.9
Human health and social work activities	1.0	0.9	0.9	0.7	1.0	0.8
Arts, entertainment and recreation	0.7	0.8	1.0	1.1	0.7	0.7
Other service activities	0.8	1.1	1.1	1.1	1.0	1.0

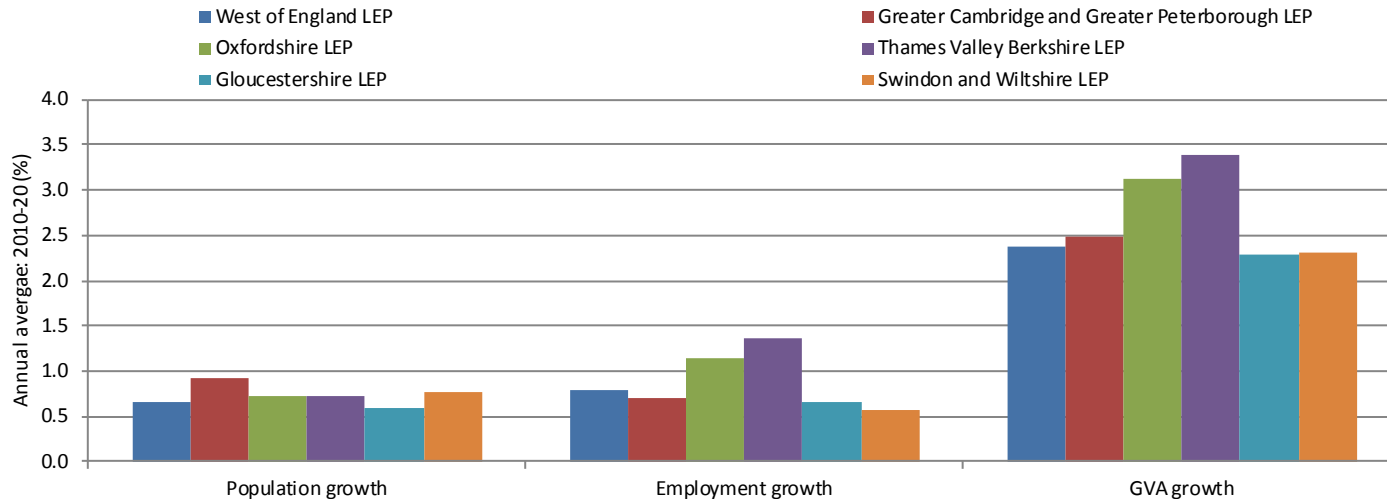
Red shading indicates a location quotient above 1.3. Blue shading indicates a location quotient below 0.7.

The location quotient (LQ) for each sector is calculated as its proportion of total employment relative to the same proportion at the UK level. An LQ of 1 signifies the sector has the same concentration in the region as the national average. An LQ above 1 highlights a relatively high concentration of the sector in the region. An LQ below 1 signifies a relatively low concentration of the sector in the region.

LEP comparison: outlook

Key indicators: 2012	West of England LEP	Greater Cambridge and Greater Peterborough LEP	Oxfordshire LEP	Thames Valley Berkshire LEP	Gloucestershire LEP	Swindon and Wiltshire LEP
Population (000s)	1081	1382	661	871	602	689
Population 16-64 (000s)	701	877	428	567	378	434
Net migration (000s)	5.4	4.9	2.6	0.1	2.6	2.0
Employment (000s)	617	720	392	546	319	349
GVA (£m2010)	30149	29263	16055	29922	12253	14126

Source: Oxford Economics



Source: Oxford Economics

Scenarios

As the economic outlook is uncertain, we have looked at four potential scenarios. Our baseline forecast has a 50% probability.

Upside scenario assumptions

High growth scenario (5% probability). This scenario assumes that faster growth can be achieved through:

- **Increased investment and exports performance at the UK level.** This provides a significant boost to manufacturing, information & communications and professional services.
- **Consumers play a big role in the recovery.** The faster growth of the above sectors raises consumer confidence and produces a multiplier effect through local economies with high concentrations of those sectors, which benefits consumer led sectors including wholesale & retail trade and accommodation & food services.
- **No further public spending cuts.** Given the improved economic conditions, the government benefits from increased revenue and is able to ease the austerity program. As a result public sector employment remains relatively flat, rather than falling.

Medium-high growth scenario (17.5% probability). This scenario assumes that faster growth can be achieved through:

- **Increased investment and exports performance at the UK level.** This provides a significant boost to manufacturing, information & communications and professional services.
- **Consumers play less of a role in the recovery than in the high growth scenario.** The faster growth in the above sectors fails to raise consumer confidence significantly and the multiplier effect on consumer led sectors is dampened.
- **Public spending cuts remain.** Despite the improved economic conditions, the government sticks to the austerity program outlined in our baseline view.

Downside scenario assumptions

Low growth scenario (5% probability). This scenario assumes that growth will be limited by:

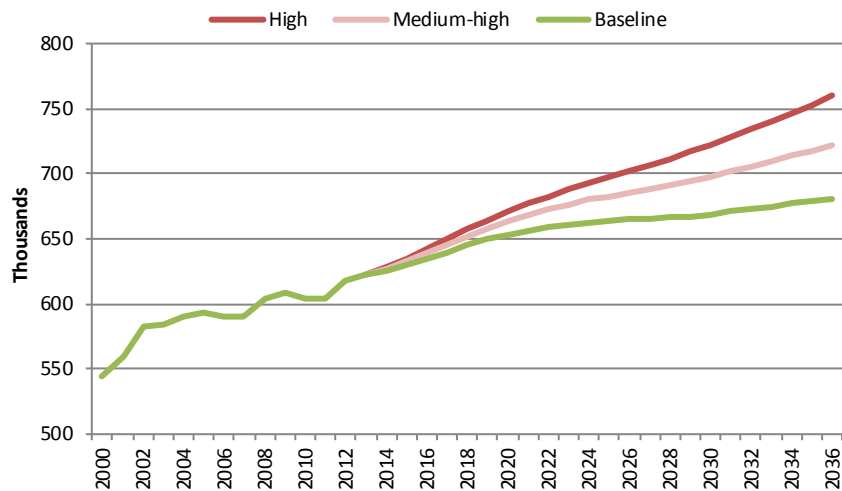
- **Lower investment and exports at the UK level.** This results in a slower growth profile for manufacturing, information & communications and professional services.
- **Consumers rein in spending.** The weaker growth of the above sectors knocks consumer confidence and produces a negative multiplier effect through local economies with high concentrations of those sectors, which harms consumer led sectors including wholesale & retail trade and accommodation & food services.
- **Public spending cuts are more severe.** Given the weaker economic conditions, government revenues are reduced and the austerity program is extended. As a result public sector employment falls more sharply.

Medium-low growth scenario (22.5% probability). This scenario assumes that growth will be limited by:

- **Lower investment and exports at the UK level.** This results in a slower growth profile for manufacturing, information & communications and professional services.
- **Consumers are less impacted than in the low growth scenario.** Consumer confidence proves more resilient than in the low growth scenario and consumer led sectors are dampened to a lesser degree.
- **Public spending cuts remain unchanged.** Despite the weakening economic conditions, the government sticks to the austerity program outlined in our baseline view.

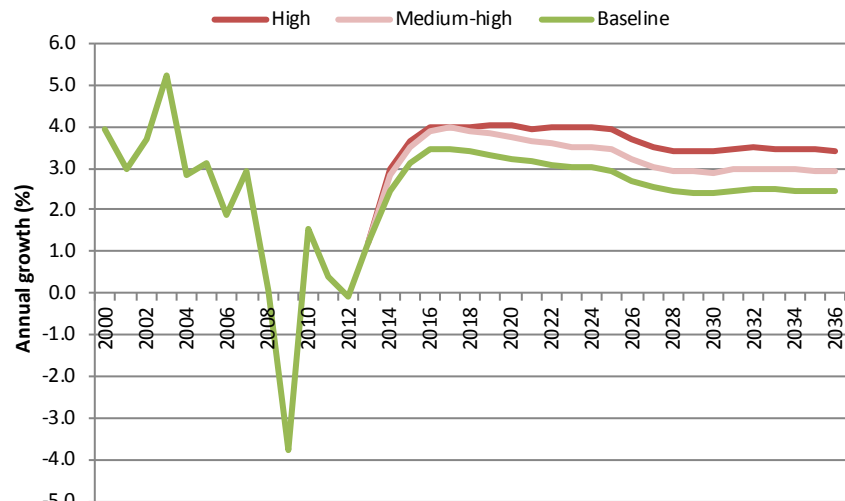
Upside scenarios: summary results

West of England LEP: employment performance



Source: Oxford Economics

West of England LEP: GVA performance

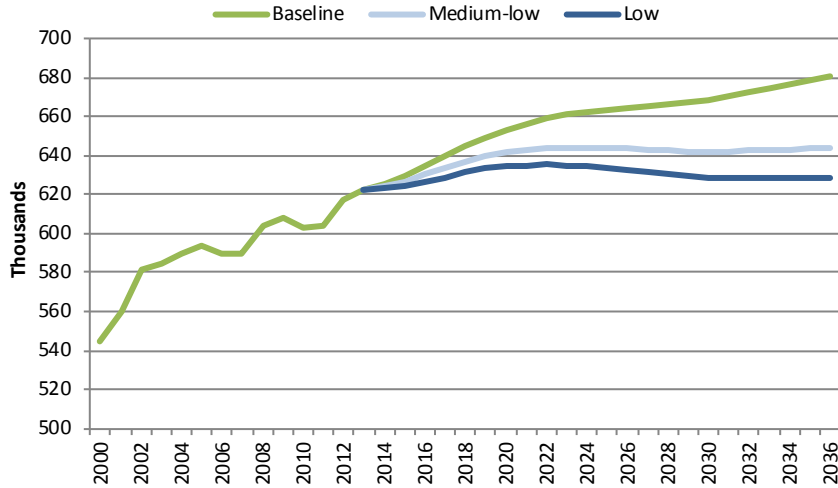


Source: Oxford Economics

- Against a brighter macroeconomic backdrop, the West of England LEP region's recovery will become firmly established in 2014 under the **high growth scenario**. The rising appetite for investment and more buoyant export demand, will directly underpin output growth in construction and manufacturing. Although the West of England is slightly underrepresented in these sectors, they provide a catalyst for growth amongst consumer led sectors. Under these conditions, annual GVA growth will average 3.8% for the rest of this decade, in comparison to the baseline forecast of 3.2%. In terms of employment, the region would expand at an annual average of 1.1%, a similar pace to that experienced during the 1998-2008 period. The region's supply-side constraint is likely to be eased under this scenario as the area would benefit from higher net-in migration.
- In the **medium-high growth scenario**, the West of England LEP economy achieves a similar growth profile to the high scenario, but activity fades in the medium and long term as a sustained upturn in consumer led services fails to materialise.

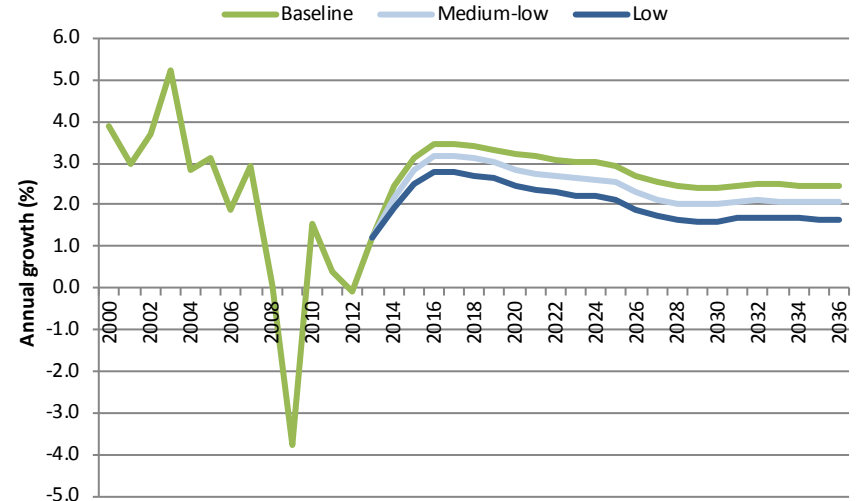
Downside scenarios: summary results

West of England LEP: employment performance



Source: Oxford Economics

West of England LEP: GVA performance



Source: Oxford Economics

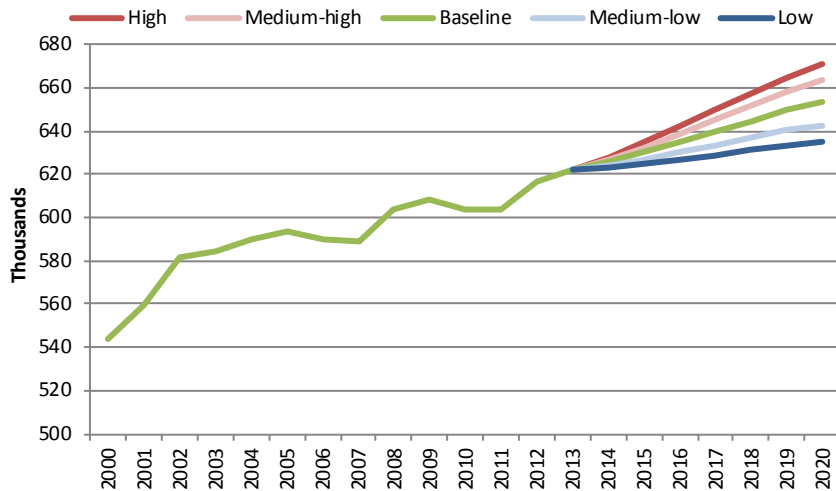
- Against a weaker macroeconomic backdrop under the **low growth scenario**, the West of England LEP region's recovery will be much slower. With investment and export demand weakening further, the output growth profiles for construction and manufacturing decrease. The underrepresentation of these sectors in the West of England LEP shields the economy from the direct impacts. However, the negative impacts from the slowing consumer sectors and further fiscal tightening will take their toll on the region. Under this scenario, annual GVA growth will average 2.5% for the rest of this decade and employment will expand by 0.3% per annum. However, employment weakens further in the longer term and results in unemployment remaining elevated for a much longer period.
- In the **medium-low growth scenario**, the knock-on effects of the weaker investment and export outlook are less severe and do not result in further government cutbacks. In this scenario, the West of England LEP economy achieves average annual GVA growth of 2.9% for the rest of this decade and employment will expand by 0.5% per annum.

Scenario comparison: 2010-20

West of England LEP Key indicators: 2010-20	Employment change		GVA change	Population change	Net migration
	(000s)	Annual average (%)	Annual average (%)	(000s)	Annual average (000s)
High	67.5	1.1	2.8	77.1	3.0
Medium-high	60.3	1.0	2.7	72.3	2.6
Baseline	49.9	0.8	2.4	72.1	2.5
Medium-low	38.7	0.6	2.2	69.1	2.3
Low	31.2	0.5	1.9	67.5	2.1

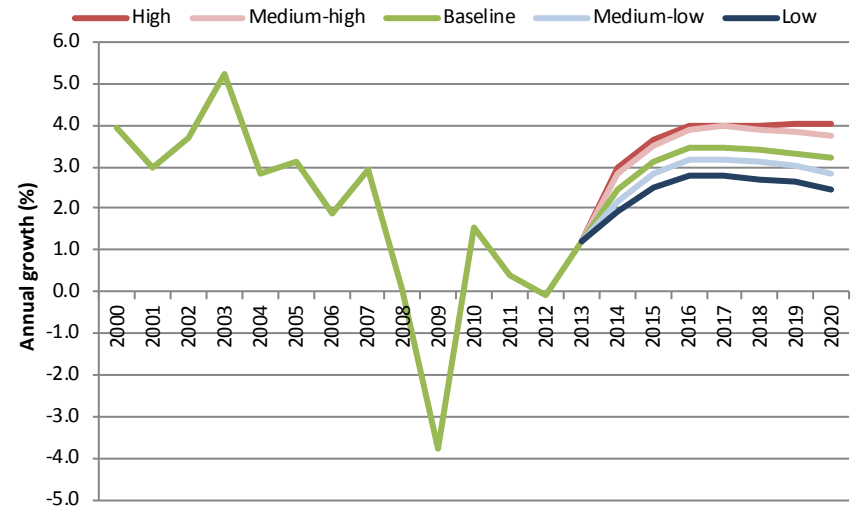
Source: Oxford Economics

West of England LEP: Employment performance



Source: Oxford Economics

West of England LEP: GVA performance



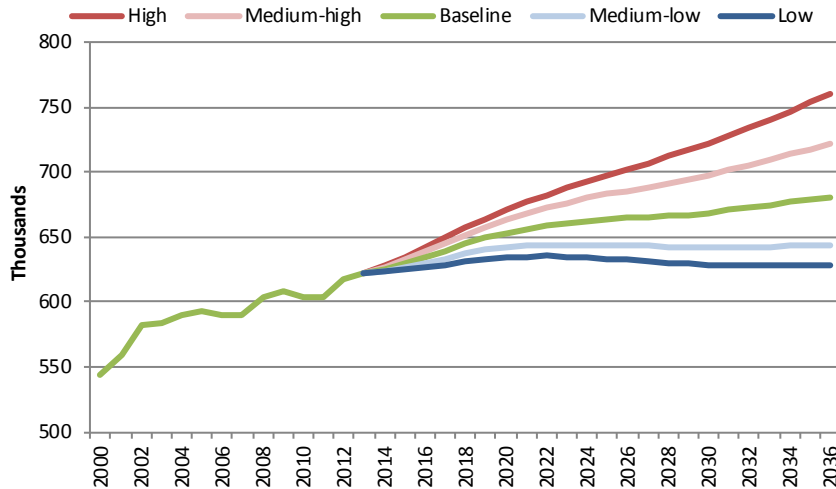
Source: Oxford Economics

Scenario comparison: 2013-36

West of England LEP Key indicators: 2013-36	Employment change		GVA change	Population change	Net migration
	(000s)	Annual average (%)	Annual average (%)	(000s)	Annual average (000s)
High	137.7	0.9	3.7	139.2	2.8
Medium-high	99.8	0.6	3.3	113.7	1.7
Baseline	59.0	0.4	2.8	103.3	1.3
Medium-low	21.6	0.1	2.5	90.4	0.7
Low	6.3	0.0	2.1	84.2	0.4

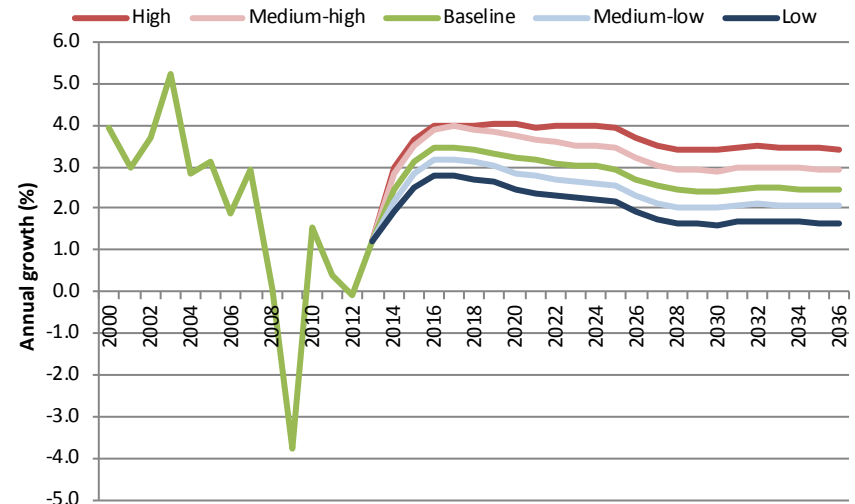
Source: Oxford Economics

West of England LEP: Employment performance



Source: Oxford Economics

West of England LEP: GVA performance



Source: Oxford Economics

Summary

Summary

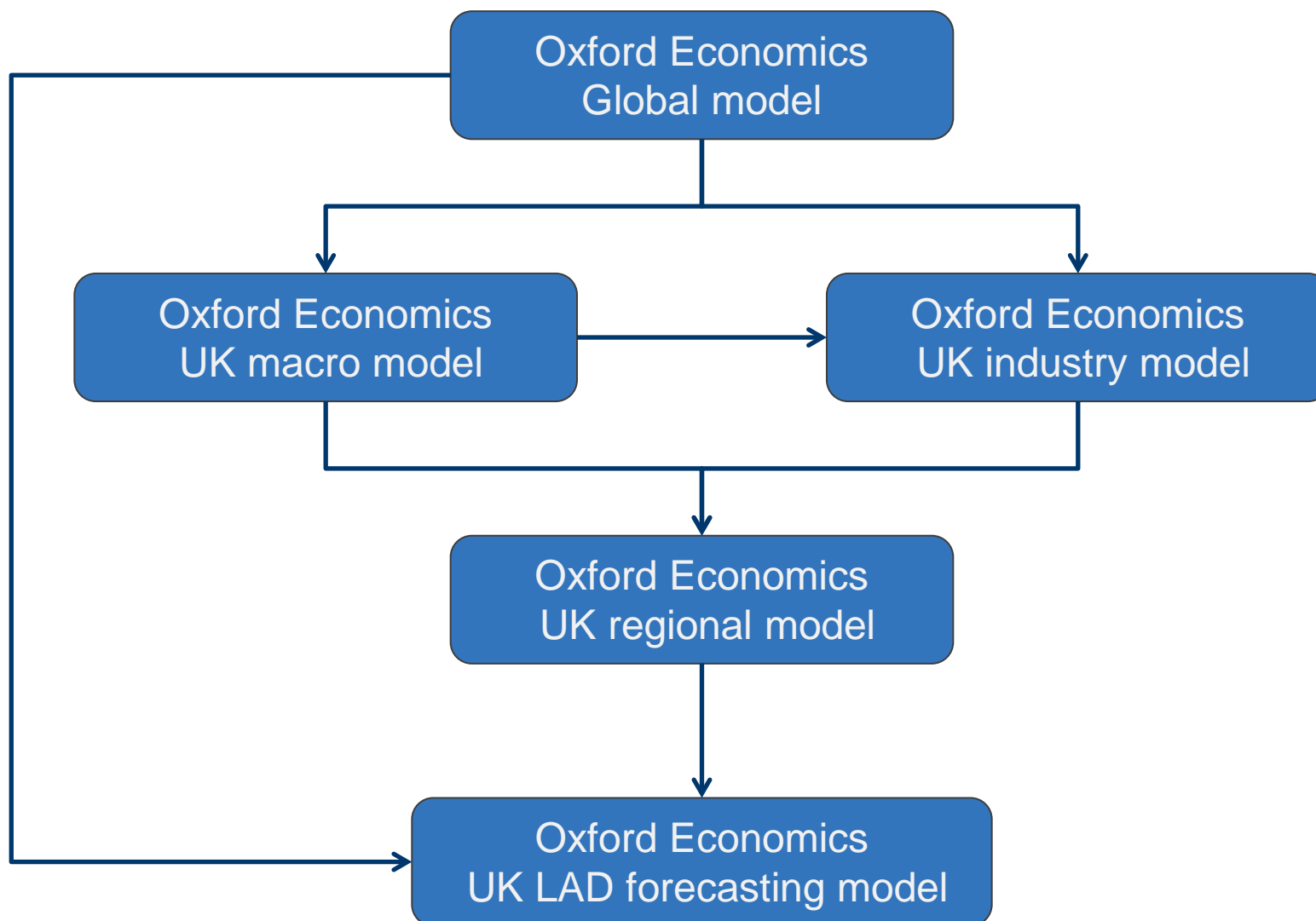
- The global economy is emerging from a period of weak economic activity and there are signs that growth prospects are improving in advanced economies. Whilst the outlook for Europe remains uncertain, there are tentative signs of stability on the horizon, with the Eurozone economy emerging from recession in 2013Q2. This is important for the UK and West of England LEP region as Europe remains a key trading partner, and developments on the continent affect demand, confidence and influence government policy.
- Optimism about the UK's economic strength has been rising in recent months. We believe a combination of real income growth, lower household saving, strengthening corporate confidence and the improving export outlook will combine to sustain an economic recovery through the remainder of 2013 and beyond. The pace of growth however is unlikely to match that achieved in the run up to the 2008/09 recession.
- Over the medium to long term, growth in the UK economy will become increasingly dependent on the private services sector, especially for employment. UK employment is forecast to rise by almost 3.3 million jobs by 2036, with 2 million of these created in financial and business related services.
- Employment in the West of England LEP is forecast to rise on average by 0.7% per year over the rest of this decade, before easing to around 0.3% per year thereafter. This will equate to an additional 59,000 jobs in the region by 2036. The largest rises in employment by 2036 will be within professional, scientific & technical activities (33,400 additional jobs), administrative & support activities (17,400) and real estate activities (5,200). These gains will be partially offset by losses within production industries and the public sector. As a result, the employment structure is likely to become further dominated by the service sector, which will account for 89% of total employment by 2036.

Annex A: Data sources and assumptions

Model overview

- This annex 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. 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.
- The analysis in this project was conducted at the LEP level. Further work analysing the LA impacts will be conducted through the West of England SHMA Review Process.

Hierarchical structure of Oxford Economics' suite of models

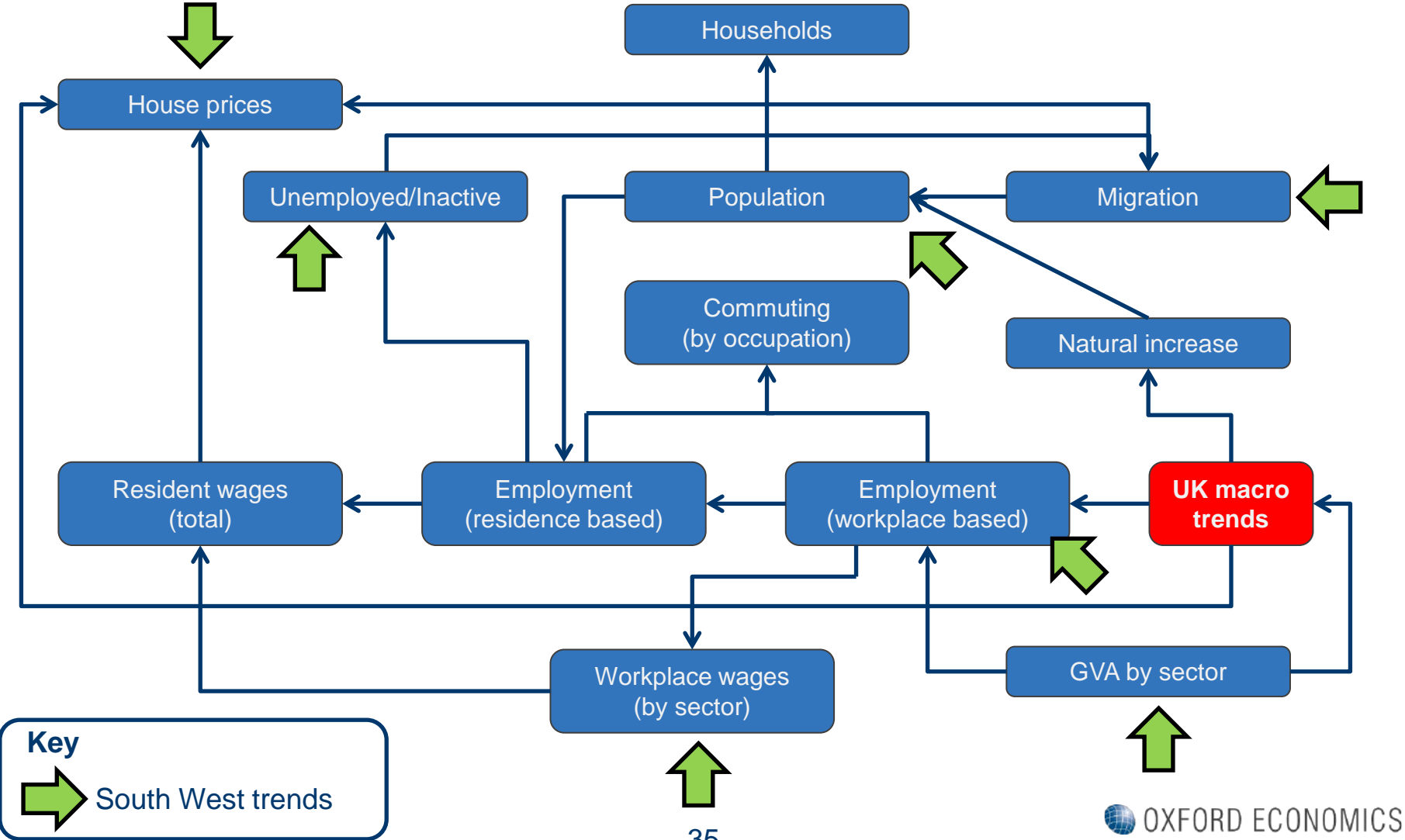


Local forecasting model

- 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 West of England LEP 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.

Model structure

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

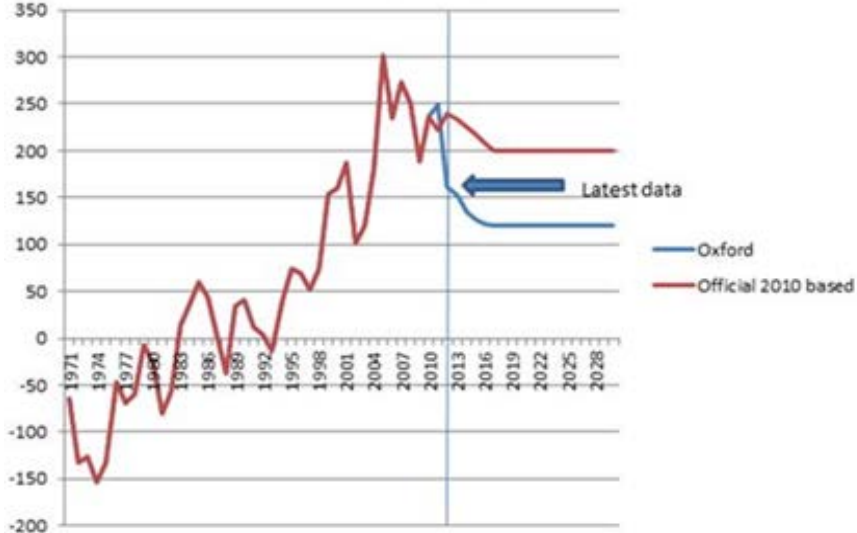


Data sources and assumptions

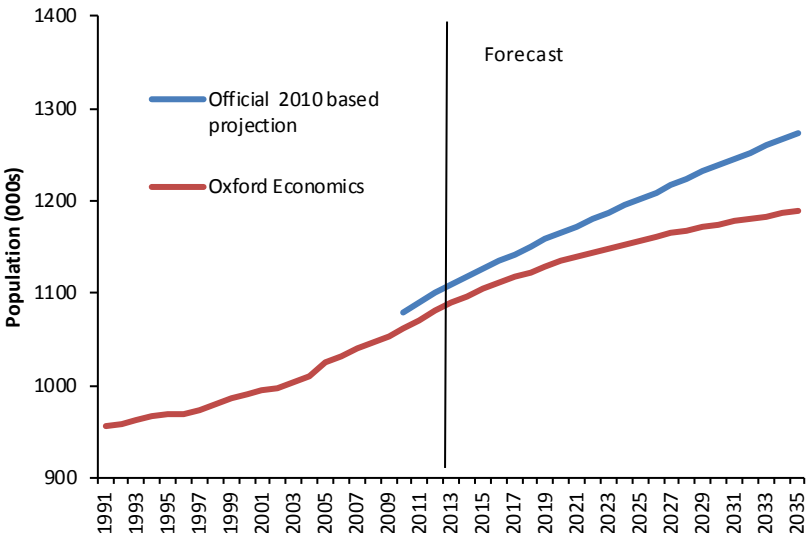
Population and migration

- 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 2010-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 2010-based population projection. Oxford Economics expect UK net migration to average 120,000 per annum compared to 200,000 in the official projections. The latest data suggests that UK net migration has slowed to 163,000 in 2012 which is already considerably below the official projections (240,000).

UK: Population projections



West of England LEP: Population projections



Data sources and assumptions

Population and migration (continued)

- 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 the South West 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 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 South West 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 the South West.

Data sources and assumptions

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 1981Q3 to 2013Q1.
- 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 2008-11. 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 2009-11, 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).

Data sources and assumptions

Employees in employment (forecasts)

- The starting point in producing employment forecasts is the determination of workplace-based employees in employment in each of the broad 19 SIC2007 based sectors consistent with the South West 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 remainder 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:
 - **Share of the South West:** Agriculture; Mining and quarrying; Manufacturing; Electricity, gas & steam; Water supply; sewerage, waste management; Information and communication; Financial and insurance activities
 - **Location quotient based upon total employment:** Construction; Real estate activities; Professional, scientific and technical activities; Administrative and support service activities
 - **Location quotient based upon consumer spending:** Wholesale and retail trade; Transportation and storage; Accommodation and food service activities; Arts, entertainment and recreation; Other service activities
 - **Location quotient based upon population:** Public administration and defence; Education; Human health and social work activities
- These sectors are then split out into their detailed 2 digit sector forecasts using shares from the raw BRES data. The shares are forecast in line with changes in the detailed sector for South West and then constrained to both the broad sector forecast within the local area and also to the detailed South West forecasts produced in the UK Regional Model.

Data sources and assumptions

Self-employment

- Self-employment data for the South West 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 South West 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

- Total employment includes employees in employment, the self-employed and Her Majesty's Forces. 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 taken from ONS, via NOMIS. Annual average values are calculated from the monthly data. The latest data available is June 2013.
- 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).
- Unemployment rate is defined as claimant count unemployment as a percentage of the working age population. No specific forecasting of this measure is required.

Data sources and assumptions

Resident employment

- Resident employment data is taken from the Annual Population Survey. The latest year of available data is 2011. 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 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.

Gross Value Added

- GVA forecasts are available for detailed sectors for the South West 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 South West 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 South West sectoral forecasts from the UK Regional Model.