

London's Economic Outlook: Autumn 2015

The GLA's medium-term planning projections

November 2015



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1. Executive summary

GLA Economics' twenty seventh London forecast¹ suggests that:

London's Gross Value Added (GVA) growth rate is forecast to be 3.4 per cent in 2015 with growth moderating to 3.2 per cent in 2016 and 2.7 per cent in 2017.

London is forecast to see rises in employment in 2015, 2016 and 2017.

London household income and spending are both forecast to increase over the next three years.

Table 1.1 summarises this report's forecasts and provides an average of independent forecasts.

Table 1.1: Summary of forecasts

Annual growth rates (per cent)	2014 ²	2015	2016	2017
London GVA (constant 2011, £ billion)	4.1	3.4	3.2	2.7
<i>Consensus (average of independent forecasts)</i>		3.1	2.8	2.8
London civilian workforce jobs	5.3	1.7	1.2	0.7
<i>Consensus (average of independent forecasts)</i>		1.6	1.2	1.0
London household spending (constant 2011, £ billion)	2.7	3.0	2.9	2.6
<i>Consensus (average of independent forecasts)</i>		3.1	2.8	2.6
London household income (constant 2011, £ billion)	1.7	3.0	2.9	2.9
<i>Memo: Projected UK RPI³ (Inflation rate)</i>	2.4	1.1	2.3	3.0
<i>Projected UK CPI⁴ (Inflation rate)</i>	1.5	0.2	1.5	1.9

Sources: GLA Economics' Autumn 2015 forecast and consensus calculated by GLA Economics

Since the publication of the May 2015 London's Economic Outlook (LEO), the economic environment in the UK and London has remained generally sound although perhaps slowing at the beginning of the year from the strong growth seen in 2014. Thus looking at a plethora of economic indicators the majority of these show a robustness in London's economy but with slight signs of moderation. This is reflected at the UK level, for example the Bank of England's agents found in the third quarter of 2015 that "activity had generally grown solidly on a year earlier, with contacts attributing increased demand to rises in real incomes and credit availability"⁵, while consumer credit conditions improved and corporate credit conditions remained unchanged⁶ and "investment intentions were unchanged, remaining consistent with

¹ The forecast is based on an in-house model built by Volterra Consulting Limited.

² All historic data for London GVA, workforce jobs, household spending and household income is from Experian Economics.

³ RPI = Retail Price Index. Although not part of the GLA Economics forecast for London, for reader information HM Treasury Consensus Forecast, August 2015 of the UK RPI inflation rate are reported.

⁴ CPI = Consumer Price Index. Although not part of the GLA Economics forecast for London, for reader information HM Treasury Consensus Forecast, August 2015 of the UK CPI inflation rate are reported. Since December 2003 the Bank of England's symmetrical inflation target has been annual CPI inflation at 2 per cent.

⁵ Bank of England, 16 September 2015, '[Agents' Summary of Business Conditions, 2015 Q3](#)'.

⁶ Bank of England, 13 October 2015, '[Credit Conditions Survey – Survey Results 2015 Q3](#)'.

modest growth in capital spending"⁷. Further, "the availability of secured credit to households was reported to have increased in 2015 Q3. Lenders expected availability to increase over Q4. Lenders reported that availability to borrowers with a loan-to-value ratio above 75 per cent increased in Q3 for the second consecutive quarter. But availability to borrowers with a loan-to-value ratio above 90 per cent, and maximum loan-to-value ratios, were reported to be unchanged". In London, consumer confidence remains positive although it has fallen back slightly from the historically very high levels seen in the middle of the year⁸, and amongst companies in London, business confidence in the service sector remained relatively strong in Q3 2015⁹.

The UK economy continues to grow, with output increasing by 0.5 per cent in Q3 2015, however this was a smaller increase than the 0.7 per cent in Q2 2015. Output in Q3 2015 was 2.3 per cent higher than a year earlier and UK GDP now stands 6.4 per cent higher than its pre-recession peak. Inflation has remained around zero in 2015 so far, with Consumer Prices Index (CPI) inflation falling by 0.1 per cent in September 2015 compared to September 2014, a decrease from the unchanged position in August¹⁰. Given the low level of inflation and sluggish global growth it seems increasingly likely that the timing of any first interest rate rise in the UK may be delayed further into 2016 than was previously expected, with the possibility of a rise not occurring till 2017. Further, the Bank of England in their August 2015 Inflation Report observed in relation to any future monetary policy tightening that "all members [of the Bank's Monetary Policy Committee] agree that, given the likely persistence of the headwinds weighing on the economy, when Bank Rate does begin to rise, it is expected to do so more gradually and to a lower level than in recent cycles. This guidance is an expectation, not a promise. The actual path Bank Rate will follow over the next few years will depend on the economic circumstances. The Committee will continue to monitor closely the incoming data"¹¹. This view was reiterated in the November Inflation Report.

Workforce jobs growth, having slowed at the end of 2014 after a remarkable number of years of very strong growth, has again resumed in London although at perhaps a more moderate pace; a similar situation is also observed in the UK as a whole. Thus in London the number of jobs increased to 5.645 million in Q2 2015, a 66,000 (1.2 per cent) increase from a year earlier¹² and the highest level since the series records began in 1996. While the employment rate in London stood at 72.5 per cent in the three months to August 2015, the highest rate for this measure since records began in 1992. Further there have been recent signs that productivity may have begun to pick up again in the UK after stagnating in the post-recession period, while real wages have also begun to grow; thus with the continued weakness in oil prices it is likely that households will continue to see a rise in their real incomes over the coming years.

Risks to the economy are at generally similar level to those seen in May 2015; however the ongoing fiscal consolidation with more expected in the upcoming Comprehensive Spending Review could potentially drag on economic growth going forward. Still as has been the case for the 2010s so far slow growth in Europe, the levels of sovereign debt and the structural problems facing individual countries and the Eurozone as a whole remain key concerns due to the impact

⁷ Bank of England, 14 October 2015, '[Agents' Summary of Business Conditions October 2015 Update](#)'.

⁸ Douglass, G. & Keijonen, M., 27 August 2015, '[London's Economy Today: Issue 156](#)'. GLA Economics.

⁹ British Chambers of Commerce, October 2015, '[Quarterly Economic Survey: 3rd Quarter 2015](#)'.

¹⁰ ONS, 13 October 2015, '[Consumer Price Inflation, September 2015](#)'.

¹¹ Bank of England, 6 August 2015, '[Inflation Report: August 2015](#)'.

¹² ONS, 16 September 2015, '[Regional Labour Market, September 2015](#)'.

these could have on the UK and London's trade and therefore growth. Despite these risks and ongoing low inflation, there is some evidence of a slight improvement in growth prospects in the Eurozone as a whole, while the immediate risk of a Greek debt default and the impact this would have for financial contagion have receded for the time being. However, a further significant risk that has arisen over the summer is the prospect of an economic downturn in China and the impact this would have on the wider global economy. If any significant slowdown in China dampened global growth then this would act as a break on the UK and London economies especially in the short term. In particular, the threat to London probably comes from the potential impact on financial companies and markets that could come from a slowdown in China given the capital's importance as a financial centre.

Lower oil and commodity prices are also acting as a drag on emerging market economies, while the beginning of a normalisation of monetary policy in some developed economies, and in particular the United States, may have further knock on negative effects on emerging market economies as was seen when the US prepared to taper its quantitative easing program in 2013. However, the likely timing of the tightening in US monetary policy has been slightly pushed back compared to what was expected in the May 2015 LEO, thus although it may still occur in December 2015 it may also be postponed until the new year.

On the whole the outlook for the London economy remains positive for the coming years. A gradual pick-up in inflation starting at the end of this year or the beginning of next seems the most likely prospect and will remove any risk of persistently low inflation. Although likely to tighten over the coming years, UK monetary policy will most probably remain loose by historical standards for a while to come thus continuing to support the economy. The appreciation of sterling against the euro has also abated since May, while businesses and consumers remain generally confident about the future economic outlook. The improvements in real income seen in 2015 should continue and provide some support to household spending in the coming years, and the UK service sector appears relatively robust which, given its size in London, should benefit London's economy. Given all these factors it is expected that both output and employment should see strong but moderating growth in the next few years.

2. Introduction

The autumn 2015 edition of *London's Economic Outlook* (LEO) is GLA Economics' twenty seventh London forecast. The forecasts are issued every six months to assist those preparing planning projections for London in the medium term. The report contains the following:

- An overview of recent economic conditions in London, the UK and the world economies with analysis of important events, trends and risks to short and medium-term growth (Section 3).
- The 'consensus forecast' – a review of independent forecasts indicating the range of views about London's economy and the possible upside and downside risk (Section 4). In this document, 'consensus forecast' refers to the average of the independent forecasters listed under Section 2.1.
- The GLA Economics forecast for output, employment, household expenditure and household income in London (Section 5).

2.1 Note on the forecast

Any economic forecast is what the forecaster views as the economy's most likely future path and as such is inherently uncertain. Both model and data uncertainty as well as unpredictable events contribute to the potential for forecast error. GLA Economics' forecast is based on an in-house model built by Volterra Consulting Limited. GLA Economics' review of independent forecasts provides an overview of the range of alternative opinions. Independent forecasts are supplied to the GLA for the main macroeconomic variables by the following organisations:

- Cambridge Econometrics (CE)
- The Centre for Economic and Business Research (CEBR)¹³
- Experian Economics (EE)
- Oxford Economics (OE)

Only the most likely outcomes, which the different forecasting organisations provide, are recorded. Each forecaster may also prepare scenarios they consider less likely but these are not shown here. The low and high forecasts combine the lowest and highest forecasts respectively taken from each year separately and which, may therefore, come from different forecasters. High and low estimates therefore may not represent the view of any one forecaster over the whole of the forecast period.

Economic forecasting is not a precise science. These projections provide an indication of what is, in GLA Economics' view, most *likely* to happen, not what will *definitely* happen.

¹³ CEBR does not provide a forecast for employment in the sectors of the London economy or for household expenditure in London.

3. Economic background: Against a weak global backdrop the outlook for London and the UK remains positive

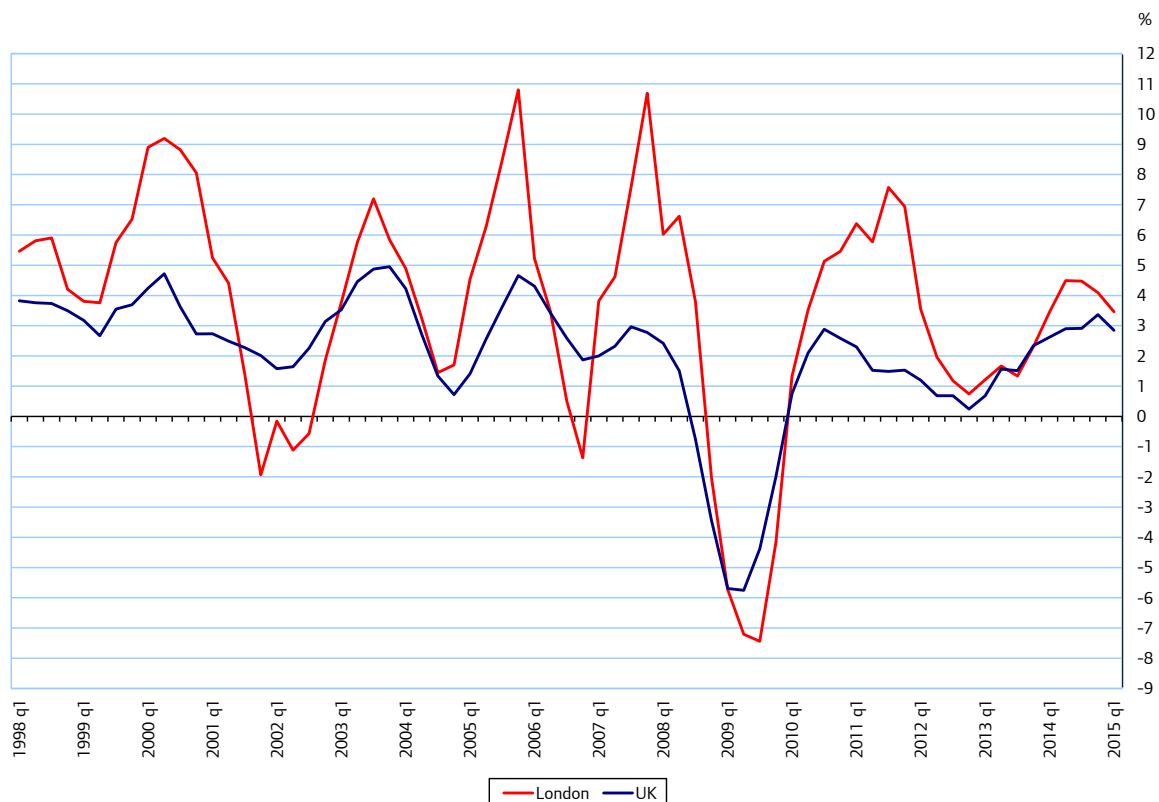
This section provides an overview of recent developments in the London, UK and world economies.

3.1 The London economy

London's annual growth in output stood at 3.5 per cent in the first quarter of 2015 compared to 2.8 per cent in the UK (see Figure 3.1). London's economic expansion continues with other economic indicators continuing to suggest that the London economy has grown more strongly than the UK into the final half of 2015.

Figure 3.1: Output growth – London and UK

Real GVA, annual % change, last data point is Q1 2015

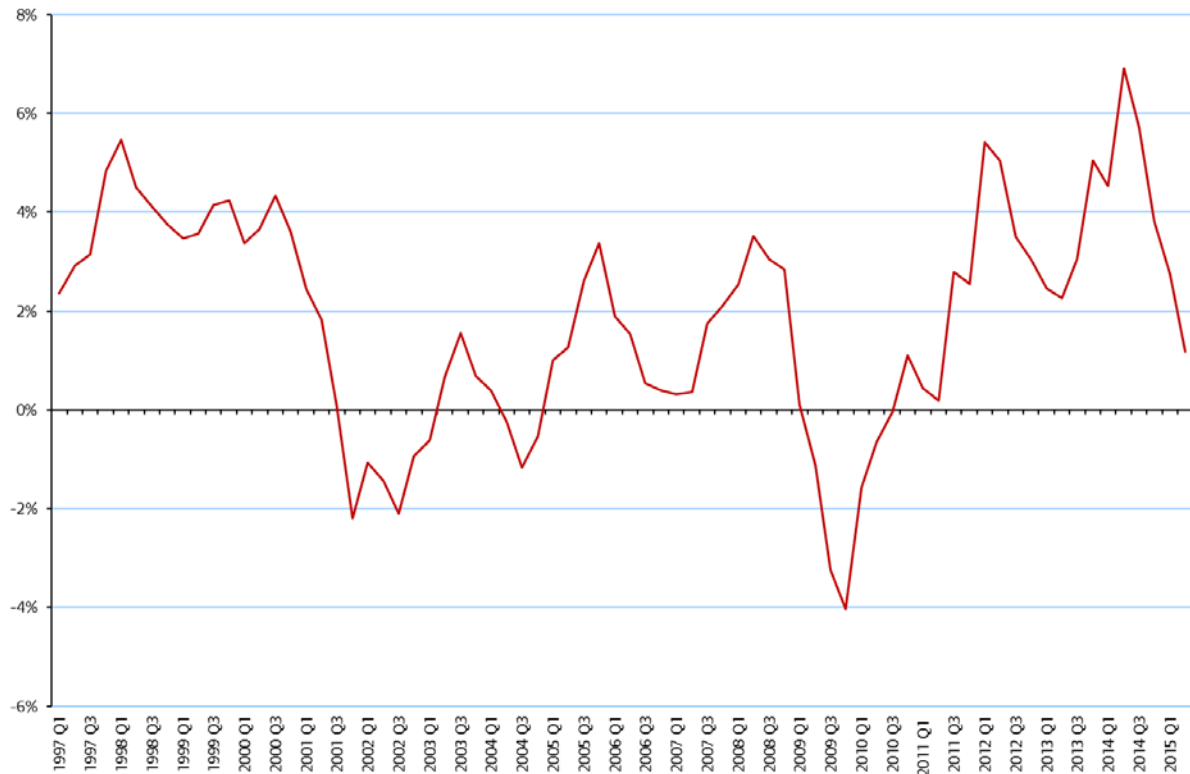


Source: Experian Economics

In the year to Q2 2015, there has been a 1.2 per cent increase in the number of workforce jobs in London (see Figure 3.2), with the total number of workforce jobs in the capital standing at 5.645 million, the highest level on record (see Figure 3.3). London's employment rate (ie, the proportion of London's resident working age population in employment) stands at a near record level compared with any time since the series began in 1992. In the period July – September 2015, London's employment rate stood at 72.4 per cent, unchanged on the year; for the UK the rate stood at 73.7 per cent, an increase of 0.7 percentage points on the year. London's ILO unemployment rate is up 0.2 percentage points on the year, standing at 6.4 per cent in the three months to September; this compares to an ILO unemployment rate for the UK as a whole of 5.3 per cent, down 0.7 per cent on the year.

Figure 3.2: London civilian workforce jobs (annual percentage change)

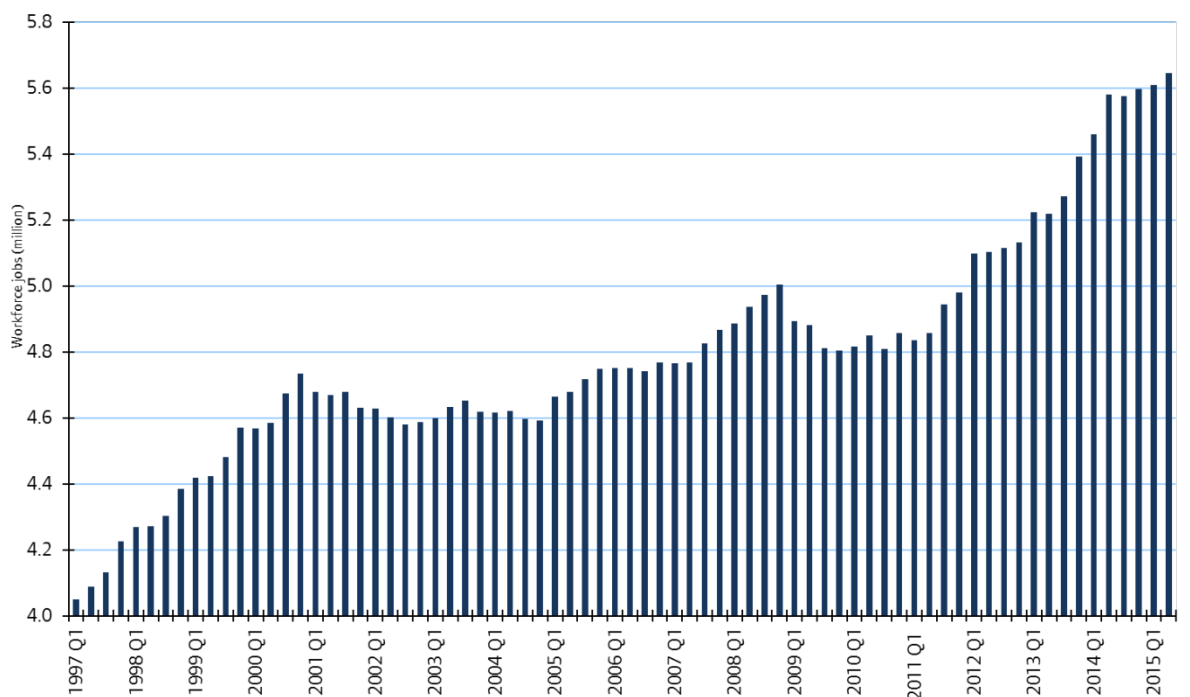
Last data point is Q2 2015



Source: Office for National Statistics

Figure 3.3: London civilian workforce jobs (level)

Last data point is Q2 2015

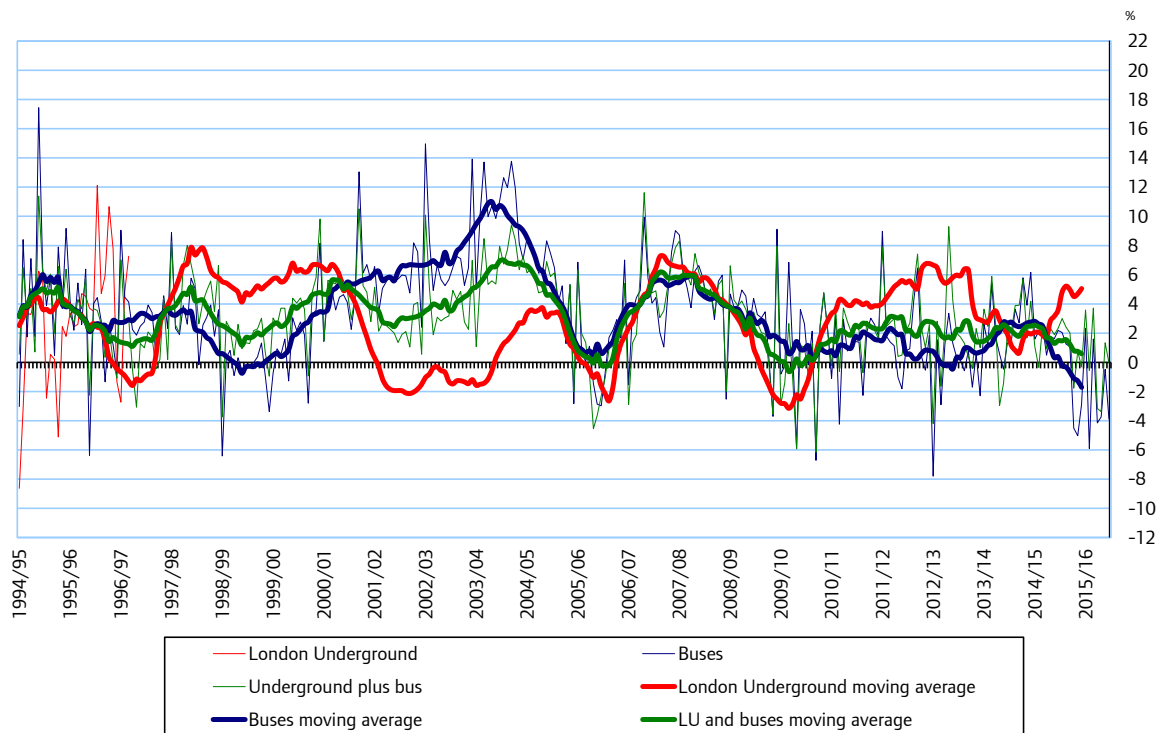


Source: Office for National Statistics

Public transport usage is a useful and timely indicator of economic activity in London. Figure 3.4 shows that there is positive and generally improving annual growth in the moving average of underground usage but that the moving average of bus usage has recently turned negative.

Figure 3.4: London public transport usage

Annual % change in passengers using London Underground and buses (adjusted for odd days). Last data point is the 28-day period ending 17/10/2015

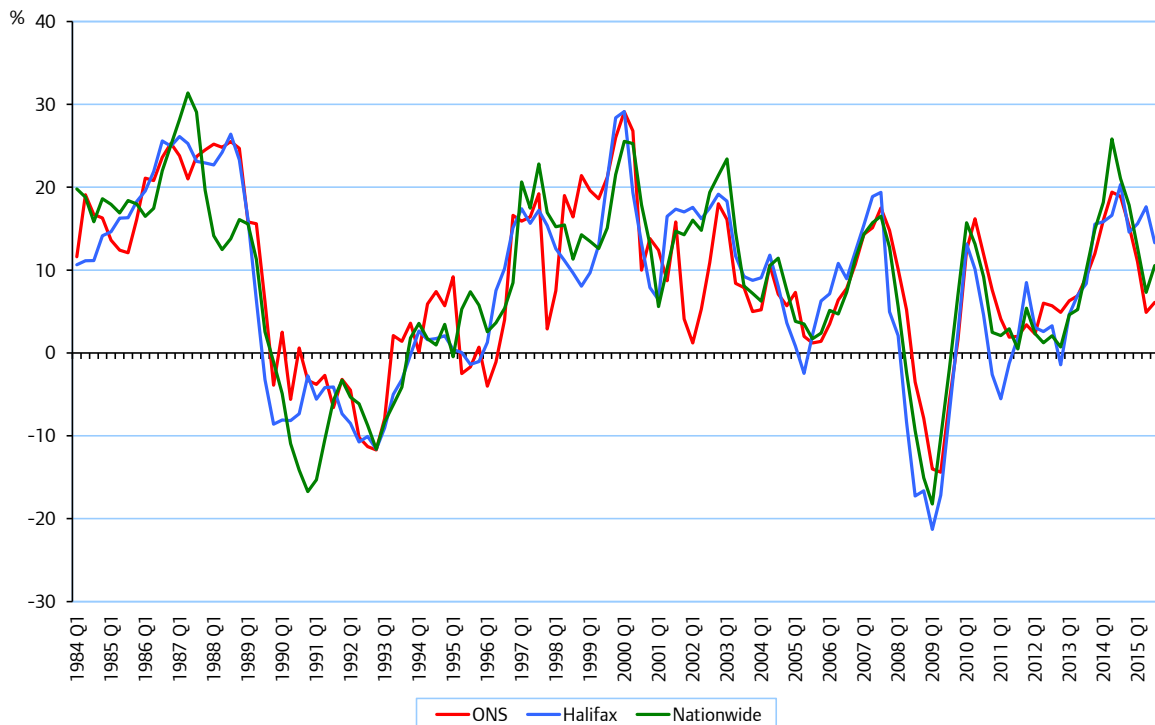


Source: Transport for London

There was evidence of a cooling of the housing market in London in the first half of 2015, as measured by the ONS and Nationwide, with Halifax's measure slightly contradicting this picture (see Figure 3.5). This picture, however, slightly reversed itself in Q3 2015. This follows on from the very quick house price growth seen at the end of 2013 and into early 2014, when the Nationwide measure hit an annual growth rate of 25.8 per cent in Q2 2014. More timely data from the Royal Institution of Chartered Surveyors (RICS) Residential Market Survey showed that after falling at the end of 2014 and beginning of 2015 both the current measure of house prices and the expectation of future price rises have again turned positive with as of October 2015 a net balance of surveyors expecting house prices to rise in London as a whole. As of Q3 2015, annual house price inflation in London remains higher than in the UK with it estimated as standing between 13.3 and 6.1 per cent across the three measures for London; while estimates for the UK stand between 8.6 and 3.7 per cent.

Figure 3.5: House price inflation in London

Annual % change, last data point is Q3 2015



Sources: ONS, Halifax house price index, Nationwide

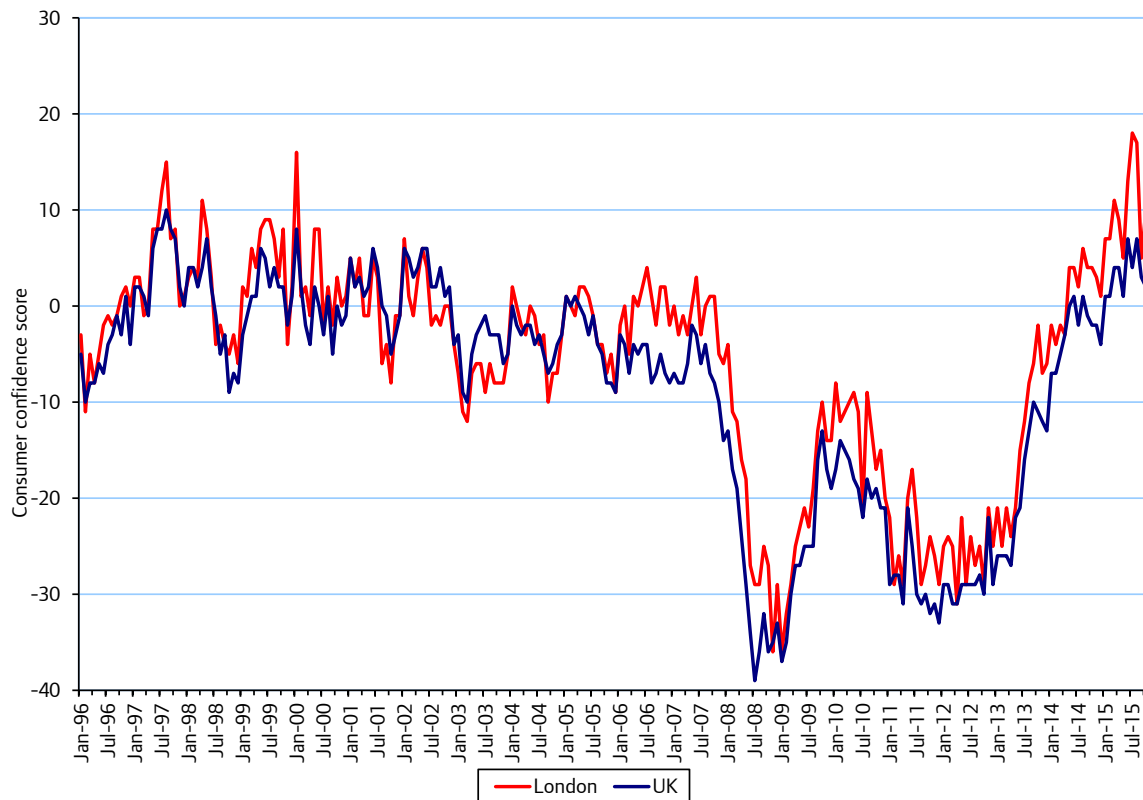
Knight Frank's Q3 2015 'Central London Quarterly' for commercial property found that "vacancy rates are at a fourteen year low in Central London, and they look set to achieve historic lows at some point in the next two years". In relation to different areas of the London property market they noted that the West End vacancy rate slumped to 3.4 per cent "the lowest since 1989", but take-up was down marginally to 1.1 m sq ft, while "prime headline rents remained at £115.00 per sq ft", and "investment turnover in Q3 totalled £1.4 bn". The market was also strong in the City in the third quarter with take-up totalling 1.9 m sq ft, while the vacancy rate remained at 5.1 per cent, "prime headline rents increased to £66.50 per sq ft" and "investment turnover totalled £1.95 bn". In relation to the Docklands they observed that "take-up totalled 204,000 sq ft", "the vacancy rate declined to 5.2 per cent", "prime headline rents increased to £39.00 per sq ft", and "investment turnover totalled £235 m"¹⁴.

¹⁴ Knight Frank, October 2015, '[Central London Quarterly – Offices Q3 2015](#)'.

Data from the UK Consumer Confidence Barometer, produced by GfK-NOP (Figure 3.6) shows that consumer confidence in London improved significantly in 2013 and turned positive in the middle of 2014 for London. Consumer confidence in London then increased further in 2015, with confidence in London standing at 10 in October, while for the UK as a whole it stood at 2. The index reflects people's views on their financial position and the general economic situation over the past year and their expectations for the next 12 months.

Figure 3.6: UK Consumer Confidence Barometer

Consumer confidence score, last data point is October 2015



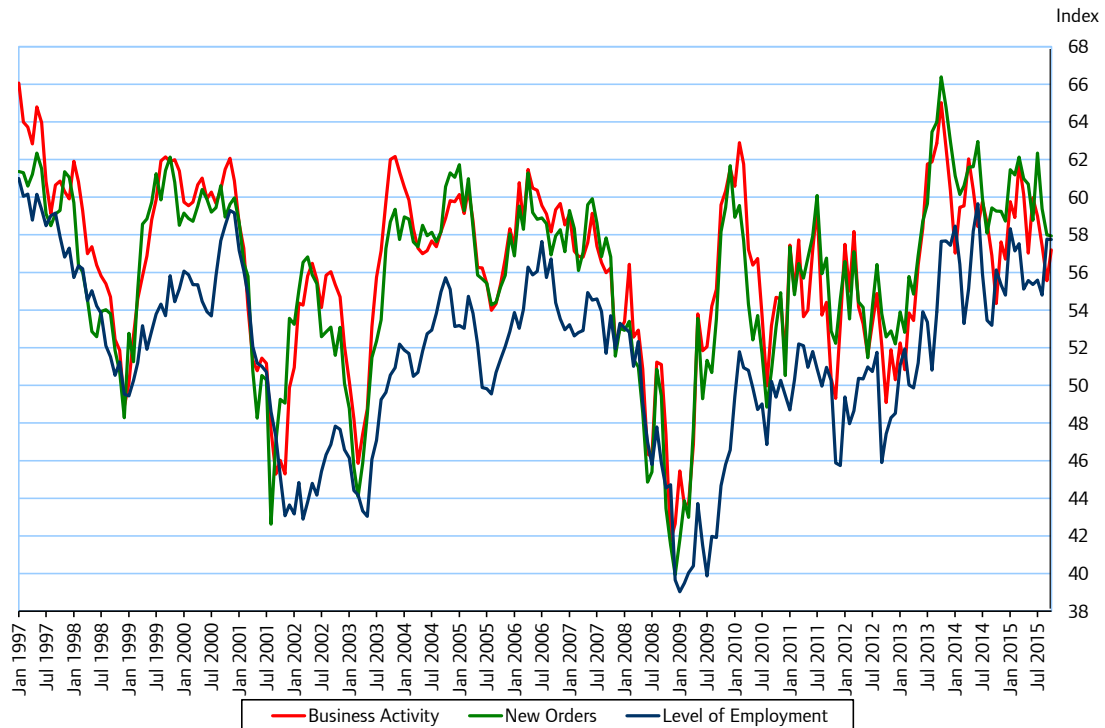
Sources: GfK NOP on behalf of the European Commission

The Purchasing Manager's Index (PMI) business survey indicates that business activity has been expanding since May 2009 (apart from the months of August 2010, November 2011 and October 2012) and new orders are also increasing. Employment in London firms, after falling in April 2013, has been rising consistently since then (see Figure 3.7).

Figure 3.7: Recent survey evidence on London's economic climate

Purchasing Manager's Index (PMI) survey, last data point October 2015

Seasonally adjusted index (above 50 indicates increase, below 50 indicates decrease)



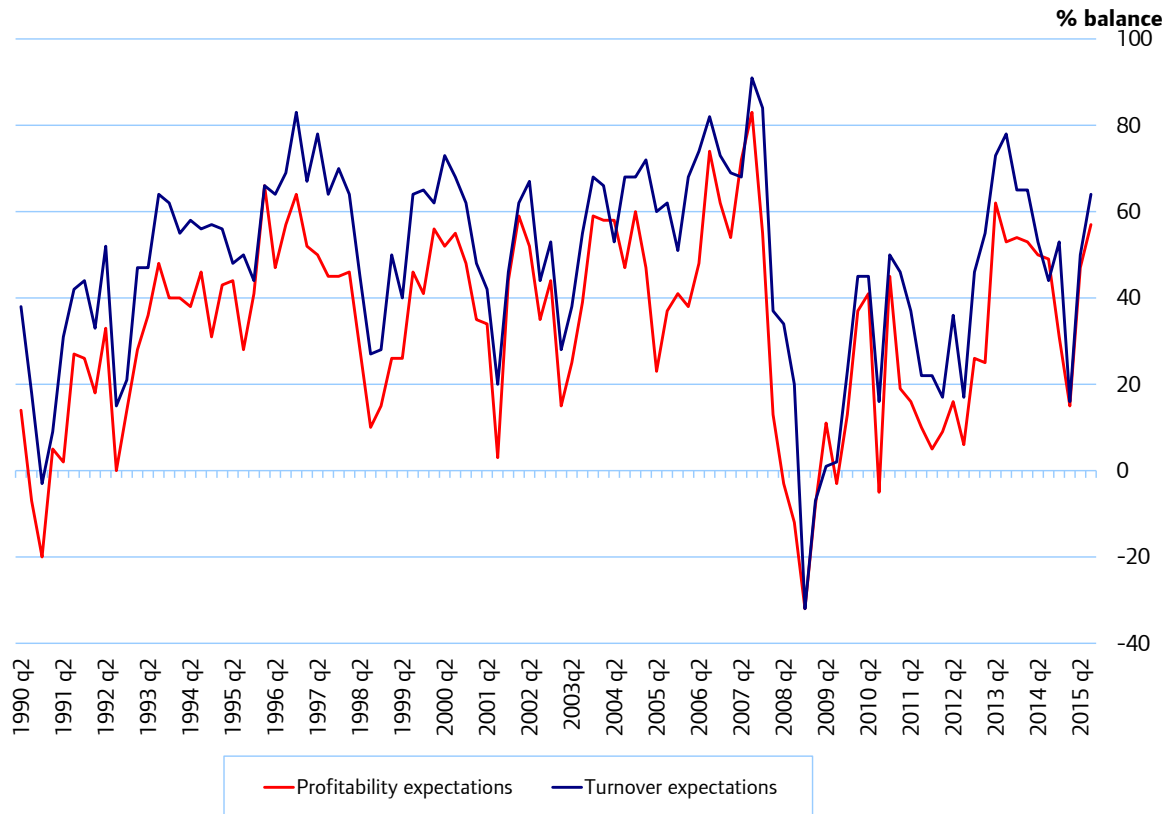
Sources: Markit Economics

The British Chamber of Commerce survey of turnover and profitability expectations for the next 12 months for London (Figure 3.8) has recently been slightly volatile but improved in the third quarter of 2015, although it still remains marginally below the average levels seen prior to the 2008/09 recession.

Figure 3.8: Services profitability and turnover expectations in London for the next 12 months

Last data point is Q3 2015

The balance of businesses in services in London who believe their profitability and turnover will improve in the next 12 months



Source: British Chamber of Commerce

3.2 The UK economy

The Office for National Statistics (ONS) estimates that the UK economy continued to grow in the third quarter of 2015, but at a slower rate than in the previous quarter. Having grown by 0.7 per cent in Q2 2015, output rose by 0.5 per cent in Q3 2015, which is the eleventh consecutive quarter of rising UK output. UK output was 2.3 per cent higher in Q3 2015 than in Q3 2014. GDP is now 6.4 per cent above its peak of Q1 2008 (from the peak in Q1 2008 to the trough in Q2 2009, GDP decreased by 6.1 per cent)¹⁵. The International Monetary Fund (IMF) now forecasts that the UK economy will grow by 2.5 per cent in 2015 (a 0.1 per cent upgrade on their July forecast) and by 2.2 per cent in 2016¹⁶. Table 3.1 shows a summary of forecasts for the UK economy.

¹⁵ ONS, 27 October 2015, '[Gross Domestic Product Preliminary Estimate, Quarter 3 \(July to Sept\) 2015](#)'.

¹⁶ IMF, October 2015, '[World Economic Outlook: Adjusting to Lower Commodity Prices](#)'.

Table 3.1: Office for Budget Responsibility and HM Treasury consensus forecasts for the UK economy

Annual % change, unless otherwise indicated

	Average of Independent Forecasters		Budget July 2015	
	2015	2016	2015	2016
GDP growth (per cent)	2.5	2.4	2.4	2.3
Claimant unemployment (mn)	0.82	0.78	0.78	0.73
Current account (£bn)	-87.3	-81.8	-	-
PSNB (2015-16; 2016-17: £bn)	71.5	49.4	69.5	43.1

Note: mn = million, bn = billion

Sources: HM Treasury Comparison of Independent Forecasts, October 2015.

Office for Budget Responsibility, Economic and fiscal outlook, July 2015.

As can be seen in Table 3.2 annual growth was positive in Q3 2015 in most sectors except Agriculture, forestry, and fishing; Manufacturing; Electricity gas and water supply; and Construction. Strong growth is observed in the service sectors, specifically Transport, storage and communication; and Distribution, hotels and catering. Business services and finance (a sector of importance for London) showed 3.2 per cent annual growth in Q3 2015 in keeping with strong annual growth over Q1 and Q2 2015 and back into 2014. In line with forecasts of the UK economy, it is expected that growth will continue throughout 2015 and into 2016 across the majority of sectors.

Table 3.2: Recent growth in broad industrial sectors of the UK economy

Annual % change

Industrial sectors	2014				2015		
	Q1	Q2	Q3	Q4	Q1	Q2	Q3
Agriculture, forestry, and fishing	12.5%	14.3%	13.8%	13.6%	3.2%	1.1%	-0.1%
Mining & quarrying inc oil & gas extraction	3.8%	0.9%	-4.3%	-2.4%	-1.2%	6.2%	11.4%
Manufacturing	2.6%	2.8%	2.8%	2.7%	1.1%	0.0%	-0.8%
Electricity gas and water supply	-10.4%	-7.2%	0.1%	-3.6%	4.6%	0.0%	-2.2%
Construction	8.2%	8.7%	8.6%	7.0%	5.8%	3.8%	-0.1%
Distribution hotels and catering	5.1%	4.4%	4.2%	5.2%	4.7%	4.6%	4.5%
Transport, storage and communication	0.8%	2.4%	3.8%	5.0%	4.8%	4.6%	4.6%
Business services and finance	3.7%	3.8%	3.6%	4.4%	3.6%	3.0%	3.2%
Government and other services	1.7%	1.7%	1.4%	0.7%	0.6%	0.3%	0.3%

Source: Office for National Statistics (as of 27 October 2015)

Table 3.3 shows that household annual spending growth was positive and strong throughout the sample period, whilst all other measures were positive in Q2 2015. Investment, however, moderated to an extent in 2015. Looking forward, investment is likely to remain positive.

Table 3.3: UK domestic expenditure growth

Annual % change

	2013	2014				2015	
Expenditure	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Households	2.0%	2.2%	2.9%	2.8%	2.8%	2.9%	3.1%
Non-profit institutions	4.5%	2.9%	3.5%	1.3%	-0.2%	-0.5%	0.6%
General Government	0.9%	1.7%	2.2%	2.1%	1.5%	2.6%	1.6%
Gross fixed capital formation	6.7%	9.6%	9.0%	7.2%	4.4%	3.8%	3.4%

Source: Office for National Statistics (as of 27 October 2015)

Inflation has remained low over the past few months, with CPI inflation remaining negative to stand unchanged at -0.1 per cent in October 2015, after hovering around zero for most of 2015. The falls in oil and commodity prices have resulted in downward pressures on inflation, however in October “downward price pressures for university tuition fees, food, alcohol and tobacco, result[ed] in no change to the overall rate of inflation”¹⁷. Still the Bank of England in their November 2015 Inflation Report argue that the Bank’s Monetary Policy Committee’s (MPC) “best collective judgement is for the most likely path for inflation to exceed slightly the 2 per cent target in two years and then rise a little further above it, reflecting modest excess demand. The MPC judges that the risks to this projection lie slightly to the downside in the first two years, reflecting global factors”¹⁸.

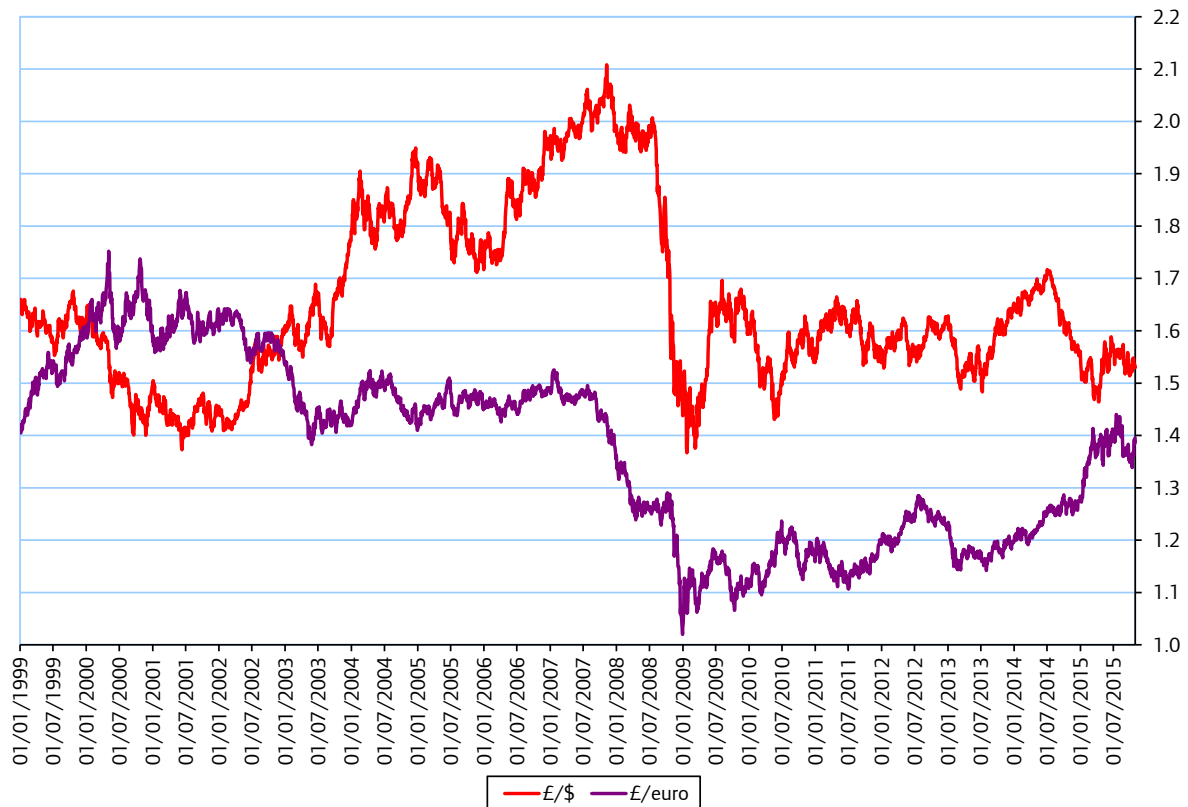
Having seen large movements in the exchange rate over the end of 2014 and the beginning of 2015, due to external factors such as the expectation of an imminent rise in US interest rates and the ongoing weakness in the Eurozone, over the past few months sterling’s exchange rate has remained relatively stable against both the euro and dollar (see Figure 3.9). The depreciation of sterling against the dollar over 2014 and into the beginning of 2015 may continue to help exporters and make the UK a more attractive tourist location for this market. However, the appreciation of sterling against the euro over a similar period may make UK exports and tourism less attractive to that market.

¹⁷ ONS, 17 November 2015 ‘[Consumer Price Inflation, October 2015](#)’.

¹⁸ Bank of England, 5 November 2015, ‘[Inflation Report: November 2015](#)’.

Figure 3.9: £ to \$ and £ to euro exchange rates

Last data point is 30/10/2015



Source: Bank of England

Sterling has generally appreciated against a number of currencies over the last two years, following the sharp depreciation of the currency between 2007 and early 2009, with this strength seen into 2015 so far although having recently moderated as shown by the sterling effective exchange rate index (EERI)¹⁹ (see Figure 3.10). This general appreciation of sterling may make UK exports less competitive, especially in light of the significant depreciation of the euro.

¹⁹ The Sterling Effective Exchange Rate Index measures the overall change in the trade-weighted exchange value of sterling. It is designed to measure changes in the price competitiveness of traded goods and services and so the weights reflect trade flows in goods and services.

Figure 3.10: Sterling EERI rate

Last data point is 30/10/2015



Source: Bank of England

3.3 The world economy

In October, the IMF released their latest World Economic Outlook²⁰, in which they forecast that the world economy will grow by 3.1 per cent for 2015, and 3.6 per cent for 2016 (both downward revisions of 0.2 per cent compared to their July forecast). Advanced economies are forecast to grow by 2.0 per cent in 2015 and 2.2 per cent in 2016 (downgrades of 0.1 and 0.2 per cent respectively), with the US forecast to grow by 2.6 per cent this year and 2.8 per cent next year, while the Eurozone is forecast to grow by 1.5 per cent in 2015 and 1.6 per cent in 2016 (a 0.1 per cent downgrade for 2016).

In relation to their forecast the IMF argued that “global growth remains moderate—and once again more so than predicted a few months earlier. Although country-specific shocks and developments play a role, the persistently modest pace of recovery in advanced economies and the fifth consecutive year of growth declines in emerging markets suggest that medium-term and long-term common forces are also importantly at play. These include low productivity growth since the crisis, crisis legacies in some advanced economies (high public and private debt, financial sector weakness, low investment), demographic transitions, ongoing adjustment in many emerging markets following the post-crisis credit and investment boom, a growth realignment in China—with important cross-border repercussions— and a downturn in commodity prices triggered by weaker demand as well as higher production capacity”. With them further adding that “with the first increase in U.S. policy rates approaching and a worsening of the global outlook, financial conditions for emerging markets have tightened since the spring”. They also noted that emerging market economies “have seen sharp depreciations since the spring, particularly in August, while exchange rate movements across major advanced

²⁰ IMF, October 2015, ‘[World Economic Outlook: Adjusting to Lower Commodity Prices](#)’.

economy currencies have been relatively modest in recent months compared to the August 2014–March 2015 period. These realignments across floating-rate currencies have reflected to an important extent the evolution of underlying fundamentals— countries with weakening growth prospects and worsening terms of trade are facing currency depreciation pressures as part of global adjustment”²¹. Box 3.1 examines in more detail the turbulence over the summer in some financial markets.

The IMF also published their Global Financial Stability Report in October, which observed that “financial stability has improved in advanced economies since the April 2015 Global Financial Stability Report. This progress reflects a strengthening macro-financial environment in advanced economies as the recovery has broadened, confidence in monetary policies has firmed, and deflation risks have abated somewhat in the euro area”. They further added that “the Federal Reserve is poised to raise interest rates as the preconditions for lift-off are nearly in place. This increase should help slow the further build-up of excesses in financial risk taking. Partly due to confidence in the European Central Bank’s (ECB’s) policies, credit conditions are improving and credit demand is picking up. Corporate sectors are showing tentative signs of improvement that could spawn increased investment and economic risk taking, including in the United States and Japan, albeit from low levels”. However they observed that “despite these improvements in advanced economies, emerging market vulnerabilities remain elevated, risk appetite has fallen, and market liquidity risks are higher”. And they also note that “many emerging market economies relied on rapid credit creation to sidestep the worst impacts of the global crisis. This increased borrowing has resulted in sharply higher leverage of the private sector in many economies, particularly in cyclical sectors, accompanied by rising foreign currency exposures increasingly driven by global factors. This confluence of borrowing and foreign currency exposure has increased the sensitivity of these economies to a tightening of global financial conditions”²².

Box 3.1 The recent stock market turmoil

Over the last six months Chinese stock markets have been shaken, resulting in periods of instability for global markets. Chinese equity prices grew strongly from the second half of 2014 driven by a number of factors including official support for equities, a movement of funds from the weaker property market to increasing confidence in reform in the state sector. In the middle of 2015 this trend was reversed and, as a consequence, stock markets worldwide declined. One question this raises is whether this is a temporary issue – only reflecting the slowdown in growth in the world’s second largest economy – or is it a sign that stock market evaluations around the globe predict a more pronounced global growth slowdown or even a recession?

After growing at the slowest pace for over two decades in 2014 (according to the official estimates, GDP increased by 7.3 per cent in 2014) the Chinese economy has continued to slow down over the course of 2015 (growth slowed to 6.9 per cent in Q3 2015 – see Box 3.3). This slowdown is substantial compared to the experience during the global financial crisis when growth in China slowed to 9.6 per cent in 2008, which was its slowest level since the early 2000s.

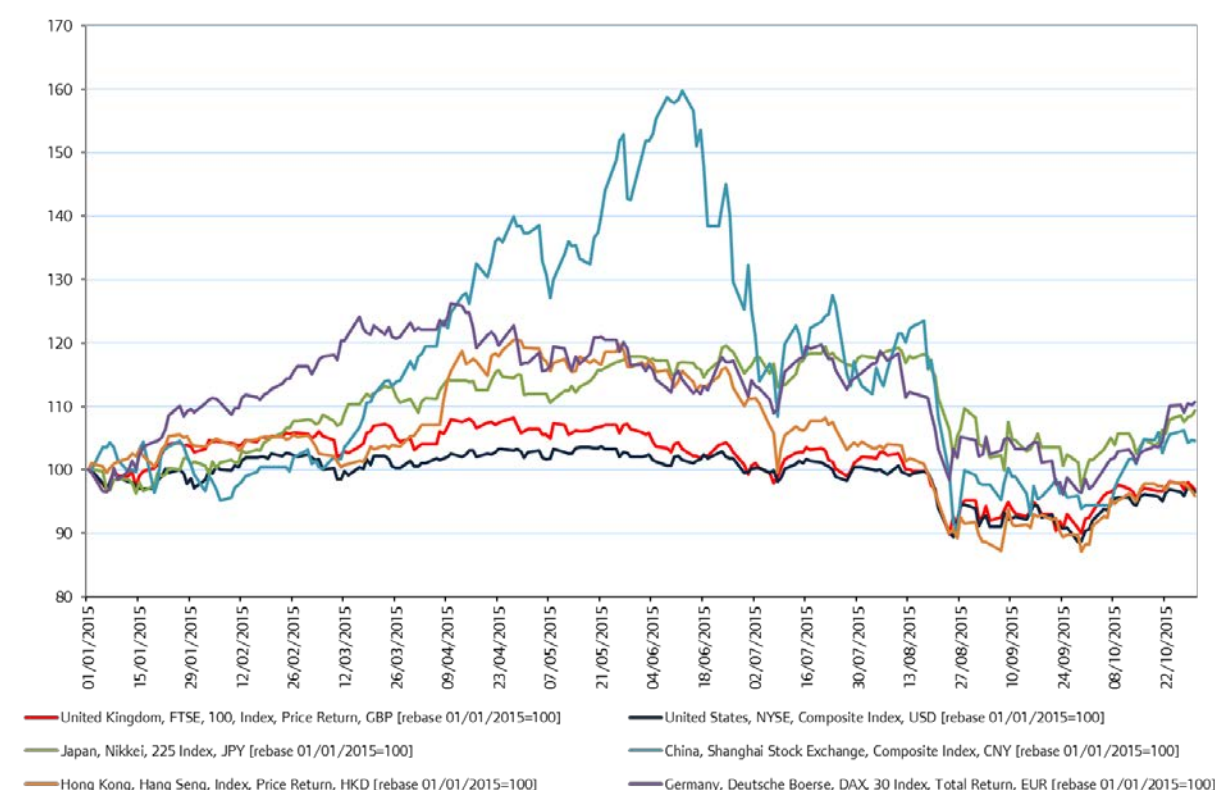
²¹ Ibid.

²² IMF, October 2015, ‘[Global Financial Stability Report: Vulnerabilities, Legacies, and Policy Challenges: Risks Rotating to Emerging Markets](#)’.

Turning to look at the recent stock market volatility, in the period between mid-June and end of August the Shanghai Stock Exchange contracted by over 40 per cent. However, comparison to the stock market experience during the financial crisis is noteworthy (see Figure 3.11 and Table 3.4). This shows that although the recent decline is substantial, it does not currently compare to the sustained decline seen during the financial crisis when the stock market in China declined by over 70 per cent in a period of just over a year (between October 2007 and November 2008).

Figure 3.11: Key stock market index performance since the beginning of 2015 (Index 1 January 2015 = 100)

Last data point: 30/10/2015



Source: Macrobond

Table 3.4: Key stock market index performance between 12 June and 26 August 2015

Changes in stock market index	FTSE	Nikkei	Shanghai	Hang Seng	NYSE
12/06 - 08/07	-5.2%	-3.2%	-31.5%	-12.6%	-4.0%
17/08 - 26/08	-8.7%	-10.4%	-26.2%	-12.1%	-7.4%

Source: Macrobond

As a result of the slowdown in the Chinese economy, and rebalancing towards more consumer-led activity, there has been a sharp reduction in Chinese demand for commodities. In consequence, the recent economic performance and outlook for a number of emerging market exporters has deteriorated (China accounts for around 18.0 per cent of Brazil's and 24.4 per

cent of Chile's exports, for example). This weakening in conditions coincides with a period of increased currency volatility amongst these countries (Figure 3.12). In August, the effects of the slowdown in China and its impact on the Chinese stock exchange were also observed in stock markets across the world with all major stock market indices seeing substantial falls between mid-June and 26 August (see Figure 3.11 and Table 3.4). At least part of this recent volatility in the key advanced economies' stock markets may reflect the fact that asset prices have been boosted by low interest rates and unconventional monetary policies over a number of years and there is a question of whether the stock exchanges are in fact overvalued. Even if expected earnings growth justify recent high equity valuations across most equities a reduction in the wider commodity demand is likely to depress some share prices. In the UK's case, London listed mining companies are exposed to developments in China. Despite a reduction in market volatility across most economies since August, the stock markets across the emerging economies remain depressed. In contrast, whilst still below their 2015 peak, share prices in the UK and especially in the US are heading back to their all-time highs (see Figure 3.11, FTSE 100 and NYSE remain 10 per cent and 7 per cent below their all-time highs in April and May 2015 respectively).

Figure 3.12: Key emerging market currencies since the beginning of 2015 (Index: 1 July 2015=100)

Last data point: 30/10/2015



Source: Macrobond

There are a number of reasons for the stock market turmoil in China. Examining some of the reasons behind the volatility and rises in the stock market in the first half of 2015, it can be

observed that in contrast to other stock markets where institutional investors hold the majority of shares, in China, small retail investors account for over 80 per cent of all stock holdings²³. This is significant and may threaten the aim to rebalance the Chinese economy away from investment driven growth towards greater consumer spending. Yet, the IMF expects the decline in stock market valuations to have “only a modest effect on consumption (reflecting modest household holdings)”^{24,25}. This also contributes to the volatile nature of the market. According to the Financial Times, many retail investors are new to investing and have little experience of market bubbles or crashes, whilst “even professional fund managers in China often act with very short-term horizons”²⁶ prompting greater market volatility.

The Chinese stock market is also often described as policy-driven and to prop up the market the government has introduced a range of measures to support equities in 2015 alone. Despite a number of government interventions – including numerous rounds of easing in monetary policy, stock buying by China's Securities Finance Corporation (CSF) and restrictions on sales of shares – the stock market fell around 30 per cent between mid-June and early August. And elsewhere, some market analysts have suggested that the surprise devaluations of the yuan in early August were probably key events²⁷ (the Chinese authorities devalued the yuan over three consecutive days starting on 11 August) that led to China's “Black Monday”²⁸ when the Shanghai stock market saw its sharpest daily fall (down 8.49 per cent) since the beginning of 2007. Following the devaluation, and despite small initial gains in stocks, the Shanghai Stock Exchange index closed around 25 per cent lower on 26 August compared to the day prior to the first announcement of the devaluation (Figure 3.11).

More generally, recent stock market performance highlights a wider concern around what implications falling stock markets may have for the real economy. Previous historic experience suggests that stock market volatility tends to occur when stock prices are falling but also during recessions and can last for extended periods of time as volatility is one proxy for investment risk²⁹. However, some more recent research questions the role of risk in explaining volatility in stock prices. This research suggests that risk aversion as an explanation for price volatility applies only under circumstances in which avoidance of risk is unrealistically high³⁰.

Existing academic literature also suggests that stock market performance is a useful tool in predicting future GDP growth potentially lending support for using it in forecasting recessions and the severity of downturns. This is because in principle current stock prices reflect the expected future corporate earnings growth, which are closely linked to wider economic performance. Evidence suggests that for some countries at least stock markets are a reliable leading indicator of real economic activity in the future. This is useful in theory. However, previous analysis on predicting recessions from the IMF suggests that “two-thirds remained undetected by the April of the year in which the recession occurred”, whilst “in over half the

²³ Financial Times, July 2015, ‘[Explainer: Why are China's stock markets so volatile?](#)’.

²⁴ The Economist notes that in China more wealth is held in property than in stock markets. See: Economist, 24 August 2015, ‘[The causes and consequences of China's market crash](#)’.

²⁵ IMF, October 2015, ‘[World Economic Outlook: Adjusting to Lower Commodity Prices](#)’.

²⁶ Financial Times, July 2015, “[Explainer: Why are China's stock markets so volatile?](#)”

²⁷ The Economist, August 2015, ‘[The causes and consequences of China's market crash](#)’.

²⁸ 24 August 2015 has been referred to as China's “Black Monday” by state media in China.

²⁹ Federal Reserve Bank of San Francisco, October 2002, ‘[Economic Letter: Stock market volatility](#)’.

³⁰ Federal Reserve Bank of San Francisco, April 2013, ‘[Economic Letter: Can risk aversion explain stock price volatility?](#)’

cases, the forecast made in December of the year of the recession underestimated its extent³¹. It is thus unclear to what extent this information is utilised effectively in practice.

Another stream of research suggests that stock market performance can also have a direct impact on real economic activity as well as provide useful information about the future prospects for growth. However, there are differing views on how this effect transmits through to the real economy. One option is that changes in asset prices work through a wealth effect and changes in the cost of capital (the extent of this varies across countries). In this view higher asset prices raise lifetime wealth which works to boost output growth through improved consumer and business confidence and results in higher consumer spending.

A range of research also looks at the extent to which financial turmoil spreads across countries and through which channels the effects are likely to operate. Whilst, the range of potential linkages is vast varying from trade links, geographical location and similarities in lenders, it is evident that the countries that are more reliant on foreign savings through capital inflows tend to be more exposed and vulnerable. Previous academic research also suggests that financial centres tend to play a key role in propagating financial turmoil³². If financial centres are unaffected by market volatility, the emerging turmoil is likely to stop at the regional border. This is reflected in the research into the previous emerging market crisis experiences in South East Asia in the 1990s and more recently in Russia.

In the context of the UK and London, how did the stock market events evolve and what if any are the likely effects of the recent events for growth? Starting off from the Chinese stock market, this volatility spread into the emerging economies and advanced economies with stock market valuations falling across most countries (although it should be noted that part of the poor stock market performance in the advanced economies in particular in Europe is likely to reflect the Greek debt crisis which peaked in July). Additionally, a number of emerging markets affected by the weaker outlook in China also saw their currencies depreciate against the dollar as economic prospects across the emerging markets looked increasingly weak. Furthermore, the situation in the emerging economies was further exacerbated by the recent outflow of capital from them putting further pressure on national currencies. It has been observed that when foreign capital inflows are used to fund excessive spending instead of foreign direct investment (FDI) the reversal of the capital flows is more damaging and can result in speculative attacks by investors³³. If the currency is allowed to appreciate and depreciate freely large capital flows can result in substantial volatility against other currencies (high inflation, cyclically adjusted public budget and government debt are all factors that can exacerbate a country's vulnerability for capital reversal).

One way in which the recent turmoil could influence London is through factors influencing FDI in London. For example, exchange rates can influence the amount of FDI and the allocation of this investment spending across countries. Thus the relative strengthening of sterling which could well have been embedded by the recent global stock market turmoil is likely to have a negative effect if any³⁴. However, given the relatively limited direct impact that the recent

³¹ IMF, 2002, '[IMF Staff Papers: Vol.49, No.1: Further cross-country evidence on the accuracy of the private sector's output forecasts](#)'.

³² National Bureau of Economic Research, January 2003, '[Working paper 9479: The Center and the periphery - The globalisation of financial turmoil](#)'.

³³ Federal Reserve Bank of St. Louis, 2015, '[Economic Synopses No.2 - The Economic Fundamentals of Emerging Market Volatility](#)'.

³⁴ Goldberg, L. S., '[Exchange Rates and Foreign Direct Investment](#)'. Federal Reserve Bank of New York.

events have had on the developed economies, and the fact that currently, North America and Europe account for the largest proportion of all inbound FDI projects to London, as reflected by the fDi Markets data, the effects on FDI to London are likely to be limited³⁵. Another way the recent turmoil is likely to influence London's economy and growth is through its effect on wider confidence. According to the GfK reports, consumer confidence in London, for example, fell sharply in September (+5) from August (+17)³⁶, although has since then rebounded in October (+10).

In general the effects of stock market volatility on growth are likely to vary across countries. The underlying weakness in the Chinese economy is likely to mean difficult times ahead for commodity exporters. For London the direct impact may be more muted as the capital's exports to China are limited and, according to GLA Economics estimates, service exports to China accounted for just over two per cent of London's service exports (London specialises in services so goods exports to China are limited although the UK as a whole may be more greatly affected)³⁷. However, indirectly the effects on London and the UK could be greater through the effects on our trading partners and through financial intermediaries.

The **US** economy continues to grow although at a slower rate with output increasing by an annualized rate of 1.5 per cent in Q3 2015, after increasing by an annualised rate of 3.9 per cent in Q2 2015³⁸. However, US consumer confidence dropped in October after increasing slightly in September³⁹; still the US economy continues to create jobs with it adding 271,000 jobs in October, with unemployment falling to 5.0 per cent⁴⁰, the lowest rate for seven and a half years. Interest rates remain at a target rate of between 0 to 0.25 per cent and are expected to begin to rise soon although expectations that this rise will occur in 2015 have been dampened somewhat. Most evidence thus points to a continued expansion of the US economy, but with some underlying concerns. This is shown by the October 2015 Beige Book from the Federal Reserve which stated that "reports from the twelve Federal Reserve Districts point to continued modest expansion in economic activity during the reporting period from mid-August through early October", but added that "a number of Districts cite the strong dollar as restraining manufacturing activity as well as tourism spending"⁴¹.

Despite having at least temporarily dealt with the latest Greek problems (see Box 3.2) the **Eurozone** remains the single greatest downside risk to the UK economy. Still, at an aggregate level growth in the Eurozone although relatively weak continues, with output growth standing at 0.3 per cent in Q3 2015. However, unemployment remains high at 10.8 per cent in September 2015, while inflation remains very low with it standing at 0.1 per cent in October 2015, up from -0.1 per cent in September.

Japan's economy re-entered recession with output contracting in the third quarter of 2015 by 0.2 per cent after also falling by 0.2 per cent in Q2 2015, while the Tankan survey of business

³⁵ Data from fDi Markets, GLA Economics calculations.

³⁶ The August confidence indicator figures were based on a survey carried out between 1st and 15th August.

³⁷ GLA Economics modelling. Based on data from the Office for National Statistics for the UK and GLA Economics, August 2015, '[Working Paper 69: An analysis of London's exports](#)'.

³⁸ Bureau of Economic Analysis, 29 October 2015, '[National Income and Product Accounts: Gross Domestic Product: Third Quarter 2015 \(Advance Estimate\)](#)'.

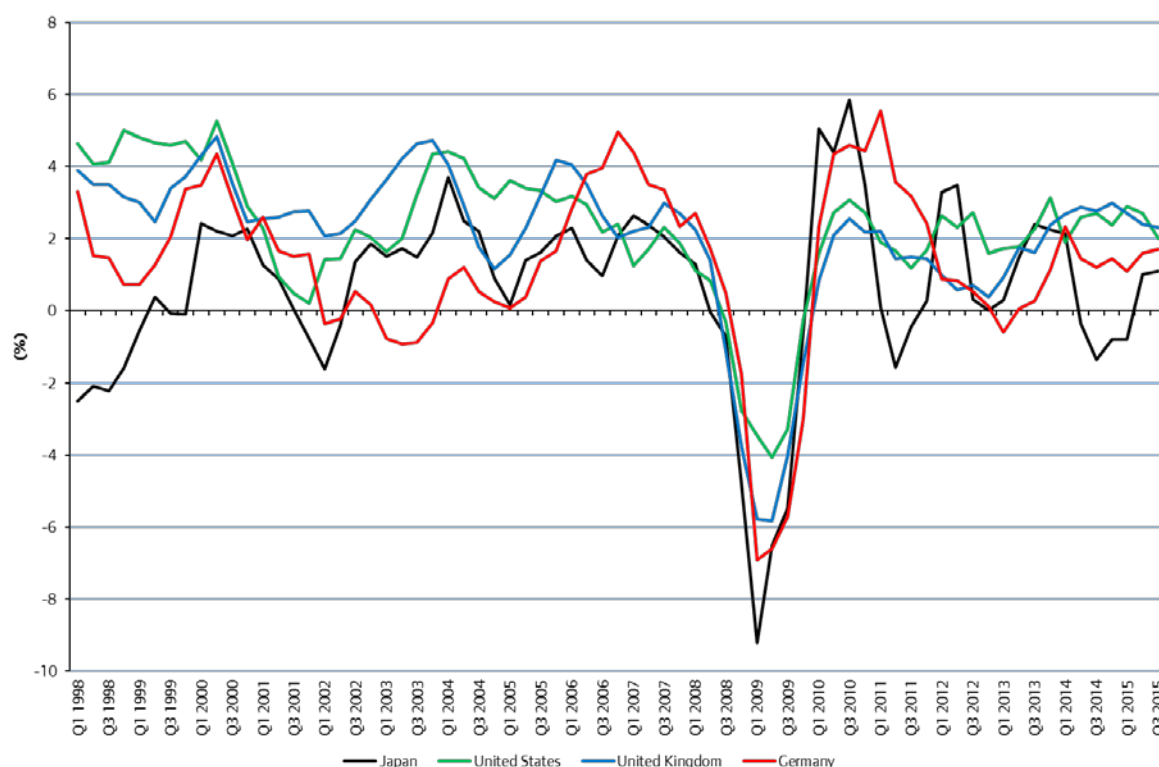
³⁹ The Conference Board, 27 October 2015, 'The Conference Board Consumer Confidence Index Retreats'.

⁴⁰ Bureau of Labor Statistics, 6 November 2015, 'News Release: The Employment Situation – October 2015'.

⁴¹ The Federal Reserve Board, 14 October 2015, '[The Beige Book: Summary of Commentary on Current Economic Conditions by Federal Reserve District](#)'.

conditions in the third quarter showed that corporate expectations for the coming three months had declined. Inflation also remains low. The IMF's latest forecast for GDP growth has also been downwardly revised to 0.6 per cent growth in 2015 and 1.0 per cent growth in 2016 (both declines of 0.2 per cent on their July forecast).

Figure 3.13: GDP growth in selected industrialised countries
Real GDP, annual % change, last fully available data point is Q3 2015



Source: OECD

Box 3.2: The continuing problems in the Eurozone

Since the publication of the May 2015 LEO and despite the ECB's numerous moves to kick-start the Eurozone recovery, most notably through a quantitative easing (QE) programme (the Asset Purchase Programme (APP)) and other monetary policies, real GDP growth remains relatively weak. Inflation rates are also well under the ECB's target of below, but close to, 2 per cent over the medium term⁴². Nevertheless, growth and inflation figures in the Eurozone may well have been lower without the ECB's accommodative macroeconomic policy setting, which has supported a positive outlook for the Eurozone's economy⁴³. One notable positive impact is with regard to developments in the Greek sovereign debt crisis where the ECB's monetary policy has helped to prevent contagion⁴⁴. Thus after the publication of the May 2015 LEO which identified Greece as the pre-eminent issue for the Eurozone, the European Commission's third economic adjustment programme was agreed on 19 August 2015. This mobilised up to €86bn in financial assistance to Greece and provoked broadly positive market reactions.

⁴² European Central Bank, 2015, '[Monetary Policy](#)'.

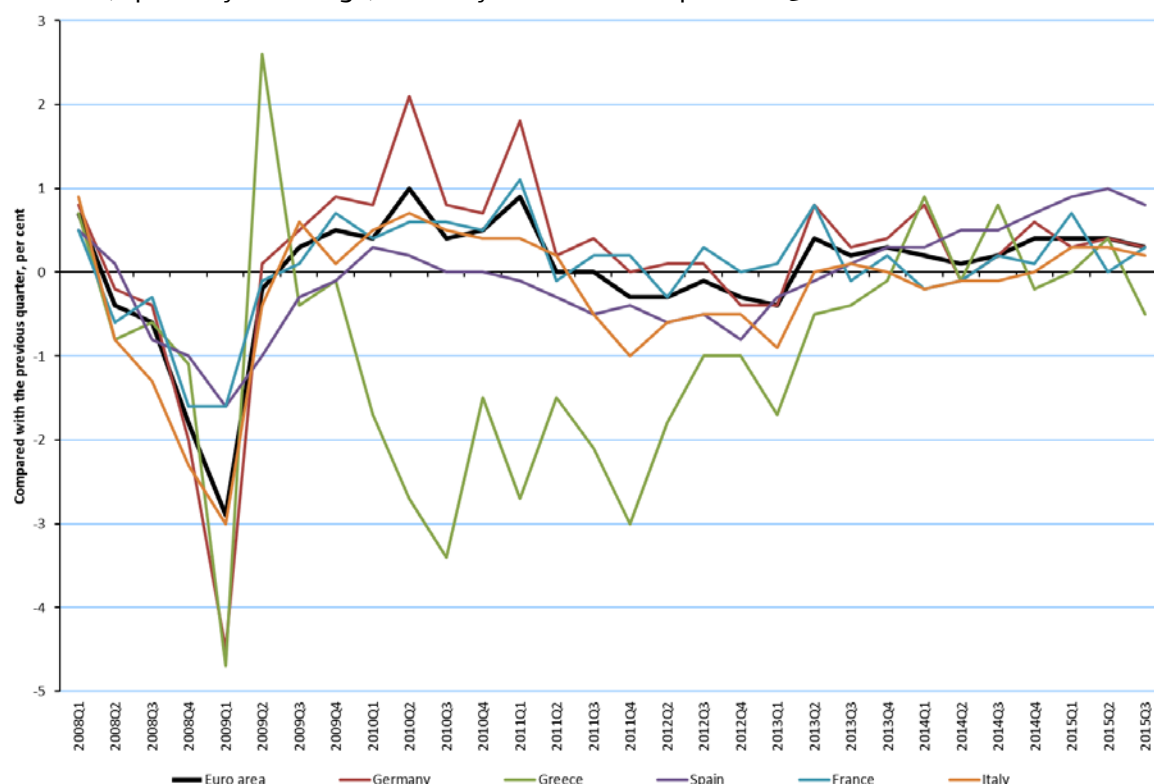
⁴³ Eurostat, July 2015 edition, '[Eurostatistics: Data for short-term economic analysis](#)'.

⁴⁴ IMF, July 2015, '[Euro area policies](#)'.

According to Eurostat estimates, the quarter-on-quarter GDP growth rate for the Eurozone was 0.3 per cent in Q3 2015, slightly down from the 0.4 per cent growth in Q2 2015⁴⁵. GDP increased in all member states in Q3 2015, except in Finland (-0.6 per cent), Greece and Estonia (-0.5 per cent). The highest growth rates were registered in Slovakia (0.9 per cent) and Spain (0.8 per cent); whereas lower rates were recorded in Germany and France (0.3 per cent). Looking further back during Q2 2015, the main contributor to GDP growth in the Eurozone was household expenditure, which rose by 0.4 per cent, when compared with the previous quarter. According to the European Commission's 'Spring 2015 Economic Forecast', "all countries in the EU are set to benefit from a rare conjunction of positive factors in 2016, but not necessarily to the same degree"⁴⁶. In Spain for example, the recovery has accelerated this year, supported by improved labour market and financing conditions, which are contributing to a rise in domestic demand. Economic activity in France, on the other hand, is expected to slowly gain momentum over 2015 and 2016 thanks to private consumption, but the delay in the recovery of investment kept growth below the Eurozone average in Q2 2015. Still, the European Commission notes that total investment is projected to recover from 2016 onwards in France.

Figure 3.14: GDP growth in the Eurozone

Real GDP, quarterly % change, last fully available data point is Q3 2015



Source: Eurostat

Elsewhere, in its 'Interim Economic Outlook 2015'⁴⁷ published in September 2015, the OECD identifies three favourable factors that have supported growth in the Eurozone over the last few months. Firstly, lower oil prices effectively increased real household income and improved

⁴⁵ Eurostat, 13 November 2015, '[News release: Flash estimate for the third quarter of 2015 - GDP up by 0.3% in the euro area and by 0.4% in the EU28](#)'.

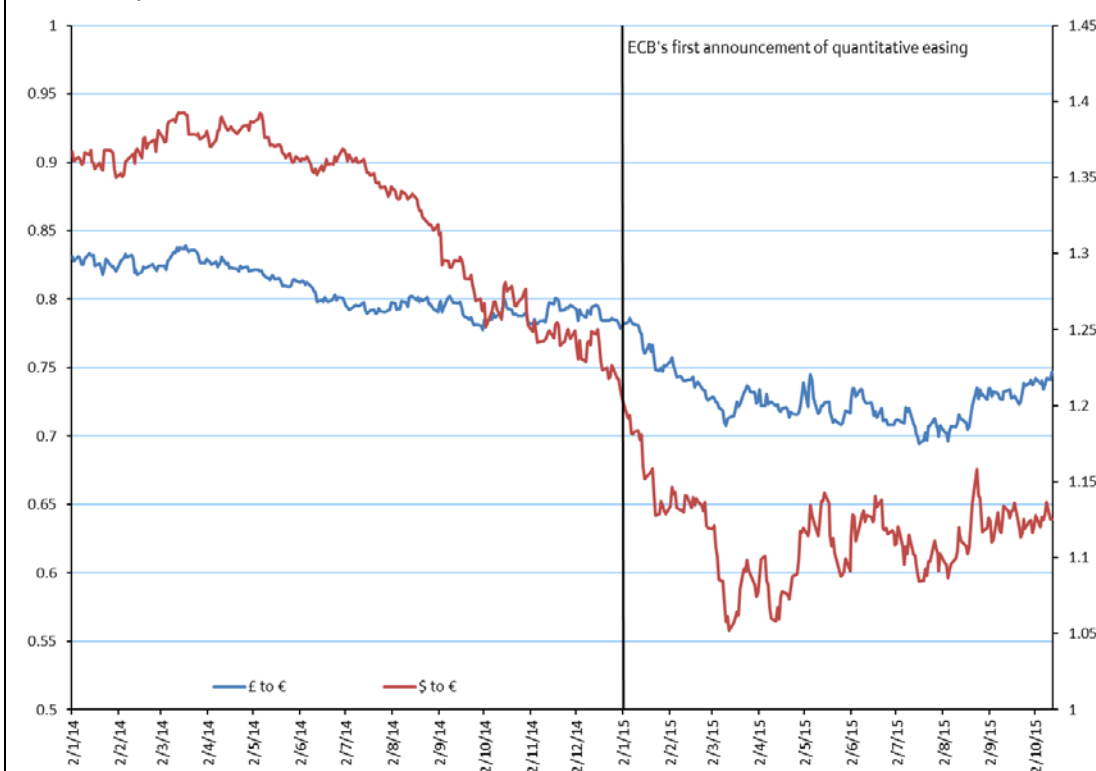
⁴⁶ European Commission, Spring 2015, '[Overview – the spring 2015 forecast](#)'.

⁴⁷ OECD, September 2015, '[Interim Economic Outlook](#)'.

consumer confidence (the Economic Sentiment Indicator, published by the European Commission (EC) in September 2015⁴⁸, rose by 1.5 points to 105.6 in September 2015 compared with the previous month) which has effectively been reflected in the recent strength of retail sales (up by 0.4 per cent from June to July 2015 in the Eurozone)⁴⁹. Secondly, over the last 12 months, the euro has depreciated significantly against a basket of currencies (see Figure 3.15). In October 2015, the euro was 7 per cent lower against sterling, and 10 per cent lower against the US dollar compared to October 2014. Thirdly, the ECB's ample monetary stimulus lowered long-term interest rates, thereby supporting consumer spending. However, despite these positive factors, high unemployment rates in some member states and a lack of credit to firms and consumers have prevented a broad-based acceleration in consumption, and impeded a faster Eurozone recovery.

Figure 3.15: Euro to Sterling; and Euro to US Dollar exchange rates

Last data point is 30/10/2015



Source: Bank of England; Board of Governors of the Federal Reserve System

As mentioned unemployment rates in some member states continue to weigh on their economies. The unemployment rate across the Eurozone was 10.8 per cent in September 2015 (down from 10.9 per cent in August 2015 and the 11.5 per cent seen in September 2014). Unemployment also remains high in a number of countries standing at 21.6 per cent in Spain and 25 per cent in Greece (in July 2015). Furthermore, compared with a year ago, unemployment increased in September 2015 in three countries; France (from 10.4 to 10.7 per cent), Finland (from 8.9 to 9.5 per cent), and Belgium (from 8.6 to 8.7 per cent). Conversely, some relatively large annual decreases were recorded in Spain (from 24.0 to 21.6 per cent),

⁴⁸ European Commission, September 2015, '[Business and Consumer Survey Results](#)'.

⁴⁹ Eurostat, 3 September 2015, '[News release: Volume of retail trade up by 0.4% in euro area](#)'.

Ireland (from 10.9 to 9.4 per cent), Cyprus (from 16.3 per cent to 15.1 per cent) and Estonia (from 8.0 per cent to 5.7 per cent in August 2015)⁵⁰.

Current credit conditions also play an important role in understanding the puzzle as to why the Eurozone economy is not doing as well as might be expected given the amount of stimulus, not just from the ECB, but also from lower oil prices and the depreciation of the euro. The latest updates to forecasts from the IMF, the EC and the OECD reveal a downward picture for growth. The IMF trimmed its Eurozone growth outlook from 1.7 to 1.6 per cent in 2016, and the OECD also downgraded its growth outlook to 1.9 per cent from 2.1 per cent in its June forecast (Table 3.5).

Table 3.5: GDP growth forecasts (per cent), from selected organisations; 2016; comparison between the two most recently published forecasts

	2016					
	IMF		OECD		EC	
	July 2015	October 2015	June 2015	September 2015	Winter 2015	Spring 2015
Eurozone	1.7	1.6	2.1	1.9	1.9	1.9
UK	2.2	2.2	2.3	2.3	2.4	2.4
US	3.0	2.8	2.8	2.6	3.2	3.0
World	3.8	3.6	3.8	3.6	4.0	3.9

Source: IMF⁵¹; OECD⁵²; EC^{53,54}

Colour coding: *upward revision*; *downward revision*

Although the ECB's quantitative easing program contributed to improvements in money and credit indicators, credit growth within the Eurozone remains anaemic (loans to households increased in Q2 2015 at an annual rate of 0.4 per cent after being unchanged in the previous quarter; according to the ECB⁵⁵). However, responses drawn from the 'Euro Area Bank Lending Survey Q3 of 2015' indicate that the ECB's refinancing operations have created favourable lending conditions. According to the survey results funding costs for banks stabilised at historical lows, consequently easing the terms and conditions for loans to enterprises and consumer credit⁵⁶. However, recent OECD analysis suggests that the effects on consumer spending and business investments have been limited⁵⁷. Indeed, the Euro Area Bank Lending Survey shows that only 6 per cent of banks report that the additional liquidity arising from the APP has 'contributed considerably to granting loans to non-financial corporations', and 0 per cent report that it 'contributed considerably to granting loans to consumer credit and other lending to households', over the last six months. While banks are optimistic about credit conditions in the Eurozone, the OECD reports that the volume of fixed investments is still 15 per cent below where it was when compared to investment levels before the financial crisis in

⁵⁰ Eurostat, 30 October 2015, '[News release, Euro indicators: Euro area unemployment rate at 10.8%](#)'.

⁵¹ IMF, October 2015, '[World Economic Outlook: Adjusting to Lower Commodity Prices](#)'.

⁵² OECD, September 2015, '[Interim Economic Outlook](#)'.

⁵³ European Commission, Spring 2015, '[European Economic Forecast](#)'.

⁵⁴ European Commission, Winter 2015, '[European Economic Forecast](#)'.

⁵⁵ European Central Bank, 12 October 2015, '[Press release: euro area households and non-financial corporations](#)'.

⁵⁶ European Central Bank, October 2015, '[The euro area bank lending survey third quarter of 2015](#)'.

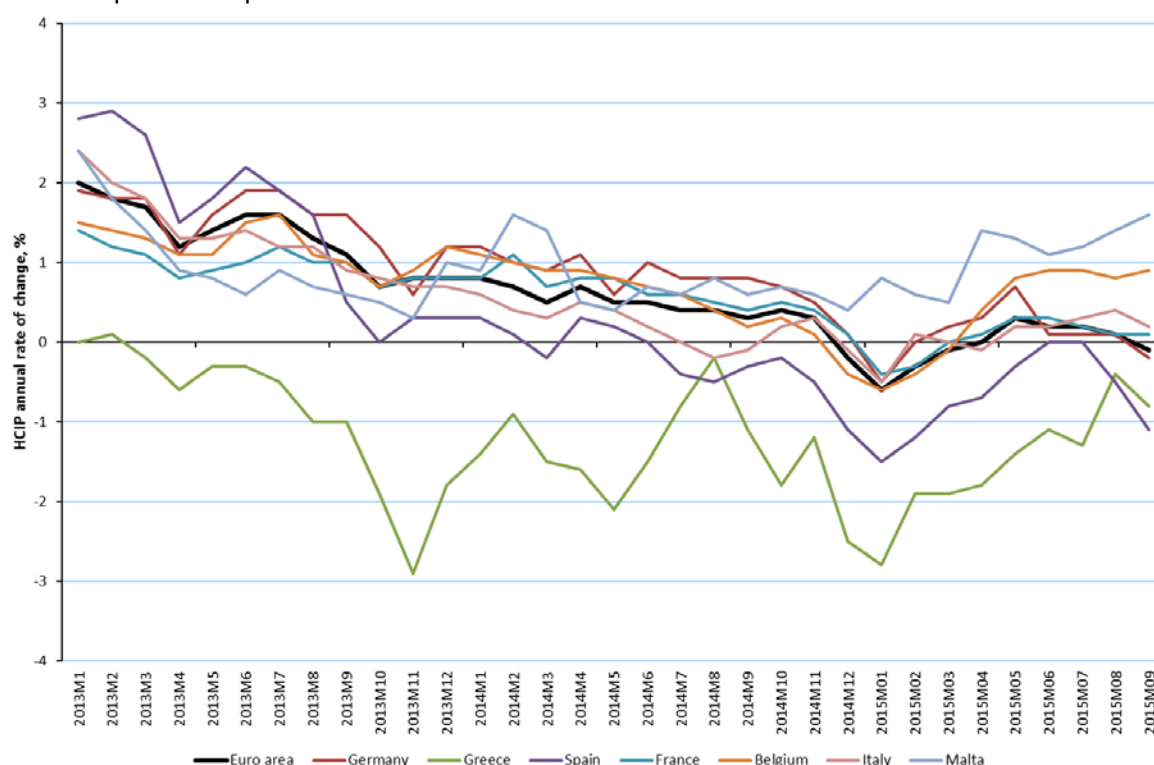
⁵⁷ OECD, September 2015, '[Interim Economic Outlook](#)'.

2008⁵⁸. In fact only Germany has had a modest increase in fixed investments over the time period from 2008 to the present, as shown in the OECD's latest Interim Economic Outlook.

The low inflation to deflationary environment in the Eurozone also remains a concern, with Eurostat's data showing inflation of 0.1 per cent in October 2015 up from -0.1 per cent in September 2015. However, inflation data suggests a range of experiences between member countries in September (see Figure 3.16) - with large annualised falls in prices recorded in Spain (1.1 per cent) and Greece (0.8 per cent), whilst prices increased in Malta (1.6 per cent) and Belgium (0.9 per cent).

Figure 3.16: Inflation in selected European countries and the UK, annual rate of change, %

Last data point is September 2015



Source: Eurostat

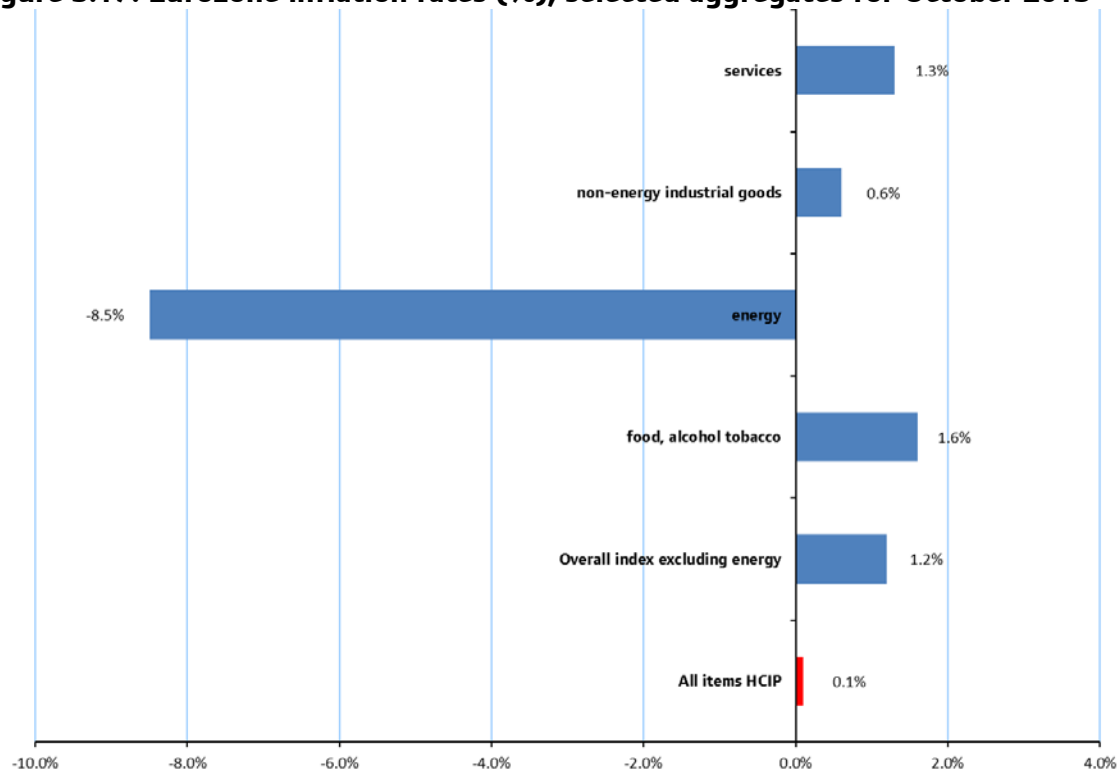
Still, the Eurozone's zero inflation in October 2015 was predominantly driven by a decline in energy prices, which were 8.5 per cent lower in October 2015 compared with a year earlier, due in part to a slump in oil prices (see Figure 3.17). While low energy prices have dampened inflation, this has somewhat been compensated for by inflation in food, alcohol and tobacco (which saw inflation of 1.6 per cent in October 2015, compared with 1.4 per cent in September 2015) and services (which saw inflation of 1.3 per cent in October 2015, compared with 1.2 per cent in September 2015)⁵⁹. Assumptions of higher oil prices in the years ahead, together with the benefits that the QE programme can generate have led the ECB to forecast annual HCIP inflation (including food and energy) of 1.1 per cent in 2016 and 1.7 per cent in 2017, although

⁵⁸ Ibid.

⁵⁹ Eurostat, 16 November 2015, '[News release, Euro indicators: October 2015](#)'.

these are downward revisions from the March 2015 forecast⁶⁰. Given the large impact that temporary factors, such as the drop in oil prices, are having on inflation, the head of Germany's Bundesbank, Jens Weidmann, has argued that policymakers should focus on the 'core CPI', which has recently been generally higher, rather than traditional measures of inflation.

Figure 3.17: Eurozone inflation rates (%), selected aggregates for October 2015



Source: Eurostat⁶¹

Despite the persistently low inflation recorded across a number of Eurozone economies, the risk of falling into outright deflation has markedly decreased. Comments by Mario Draghi following the ECB Governing Council meeting in October 2015 suggested that a small deflation does not on its own presage a broader deflationary spiral, and made it clear that the ECB was prepared to take further action if there was a risk for deflation to persist⁶². In this context, the degree of monetary policy accommodation could be increased at the next monetary policy meeting in December 2015, when new staff forecasts will be released. The outcome of this meeting could potentially expand the asset purchase programme from the initially planned €1.1tn to as much as €2.4tn. In the meantime, the monthly asset purchases of €60bn will continue to be implemented, and is intended to run until the end of September 2016. Other measures may however be necessary to keep inflation within target and stimulate growth in the Eurozone. Thus, although the ECB has previously pledged not to cut the deposit rate further into negative territory, Mario Draghi opened the door to more cuts, as "circumstances have changed"⁶³. This was seen by many as reflecting a realisation that expanding QE would not be enough on its own

⁶⁰ European Central Bank, September 2015, '[Past macroeconomic projection ranges](#)'.

⁶¹ Eurostat, 16 November 2015, '[News release, Euro indicators: October 2015](#)'.

⁶² European Central Bank, October 2015, '[Introductory statement to the press conference \(with Q&A\)](#)'.

⁶³ Ibid.

to kick-start inflation and a sustained recovery. Still, in general the risks to Eurozone inflation remain on the downside. Thus, the IMF⁶⁴ warns of the 'medium' likelihood of persistently low energy prices.

A number of risks to the Eurozone economy remain – for instance, a continuing slowdown in emerging markets is expected to hit Eurozone exports hard (net exports accounted for 12.5 per cent of GDP growth in Q1 2015⁶⁵), with exports to emerging markets accounting for 25 per cent of the Eurozone's total exports. China's economic turmoil also poses threats (See Box 3.3), especially for Germany, which exports 6.5 per cent of its total goods to China. Further thanks to its exports in manufacturing capital goods, the German economy has until recently been a perfect match for the investment-driven growth of China, but China's growth is now both slowing and rebalancing from investment and towards services.

Still, other sources of risk for the Eurozone economy also remain such as the lingering effects of the sovereign debt crisis and associated governance problems between member countries. Thus although the third bailout programme in five years for Athens, that was agreed in August 2015, diminished risks to the single currency bloc, it remains a key source of uncertainty. Managing a potential contagion from evolving developments in Greece (or elsewhere as Portugal's political uncertainty coupled with high debt levels show) will require timely, effective and coordinated policy action from member countries. However, the lack of consensus for mandatory resettlement quotas during the Syrian refugee crisis highlighted Europe's lack of political consensus. How Europe deals with the migrant crisis is an important factor for its future fiscal security. Indeed, the ratings agency Standards & Poor's says that an elusive compromise over the distribution of refugees across nation states indicates that the EU still has governance and free-rider problems, which could potentially impact the approval of future financial support packages and therefore have long-term consequences for sovereign debt ratings. If member countries can compromise and increase co-operation, it would be interpreted as positive signs for any future fiscal crisis. Conversely, the lack of a pan-European policy on refugees is understandably not a good sign for a pan-European policy on anything else.

3.4 Emerging market economies

Emerging market economies showed evidence of a continued slowdown into the second half of 2015 with the IMF observing that "for most emerging market economies, external conditions are becoming more difficult"⁶⁶ and it now forecasts that emerging market and developing economies will grow by 4.0 per cent in 2015 and 4.5 per cent in 2016 (both downgrades of 0.2 per cent).

Of the major emerging markets **China's** economy slowed in the third quarter of 2015 (see Box 3.3) when it grew at an annualised rate of 6.9 per cent, down from 7.0 per cent in the second quarter of 2015. The IMF forecasts that China will grow by 6.8 per cent in 2015 and 6.3 per cent in 2016 (unchanged from their previous forecast)⁶⁷, while the Asian Development Bank (ADB) forecasts growth of 6.8 per cent in 2015 and 6.7 per cent in 2016⁶⁸. **India's** economy grew by 7 per cent in the quarter to June 2015, slower than the 7.5 per cent growth seen in the previous

⁶⁴ IMF, July 2015, '[Euro Area Policies](#)'.

⁶⁵ Eurostat, [Breakdown of the quarterly growth of nominal GDP](#), Q1 2015.

⁶⁶ IMF, October 2015, '[World Economic Outlook: Adjusting to Lower Commodity Prices](#)'.

⁶⁷ Ibid.

⁶⁸ Asian Development Bank, September 2015, '[Asian Development Outlook 2015 Update: Enabling Women, Energizing Asia](#)'.

quarter. However, the Reserve Bank of India (India's central bank) has undertaken a number of supportive interest rate cuts over 2015. The IMF forecasts Indian growth will be 7.3 per cent in 2014 and 7.5 per cent in 2015⁶⁹, while the ADB forecasts growth of 7.4 per cent in 2015 and 7.8 per cent in 2016⁷⁰. **Russia's** economy continued to contract in 2015 due to falling commodity prices and restrictive credit conditions as a result of sanctions, with the IMF noting that "the decline in GDP in Russia over the first half of 2015 was somewhat larger than forecast"⁷¹. Further, the World Bank has observed that "adverse external conditions pose a serious challenge to Russia's short-term growth prospects. The continued impact of the adjustment to lower oil prices in a context of ongoing international sanctions will cause the Russian economy to contract in 2015"⁷². The World Bank's baseline scenario thus forecasts growth for Russia of -3.8 per cent in 2015, -0.6 per cent in 2016 and 1.5 per cent in 2017⁷³. While the IMF also forecasts growth of -3.8 per cent in 2015 and -0.6 per cent in 2016⁷⁴.

Box 3.3: Transition of growth in the Chinese economy

The Chinese economy has experienced extraordinary growth over the past quarter of a century, and has become one of the key drivers of growth for the global economy. China has grown by around an average of 10 per cent a year over this period, but is now for the first time facing a number of challenges to continue sustaining such strong growth.

Strong economic growth has been a stated objective of the Chinese government over the past quarter of a century. Its rolling five year plans have set economic growth targets that have often been exceeded, with growth averaging 10 per cent a year easily exceeding the targets set which have ranged between 6 to 8.5 per cent. However, recently Chinese economic growth has dropped to 6.9 per cent in the third quarter of 2015, just below its current growth target of 7 per cent for the current five-year plan. This is the first time growth has fallen below the current target since the global financial crisis (see Figure 3.18).

This weakening of growth has caused concern for government authorities and markets alike. The People's Bank of China (China's central bank) has cut interest rates for the sixth time since November last year, whilst the Shanghai stock market fell 30 per cent in just three weeks in June and July.

⁶⁹ IMF, October 2015, '[World Economic Outlook: Adjusting to Lower Commodity Prices](#)'.

⁷⁰ Asian Development Bank, September 2015, '[Asian Development Outlook 2015 Update: Enabling Women, Energizing Asia](#)'.

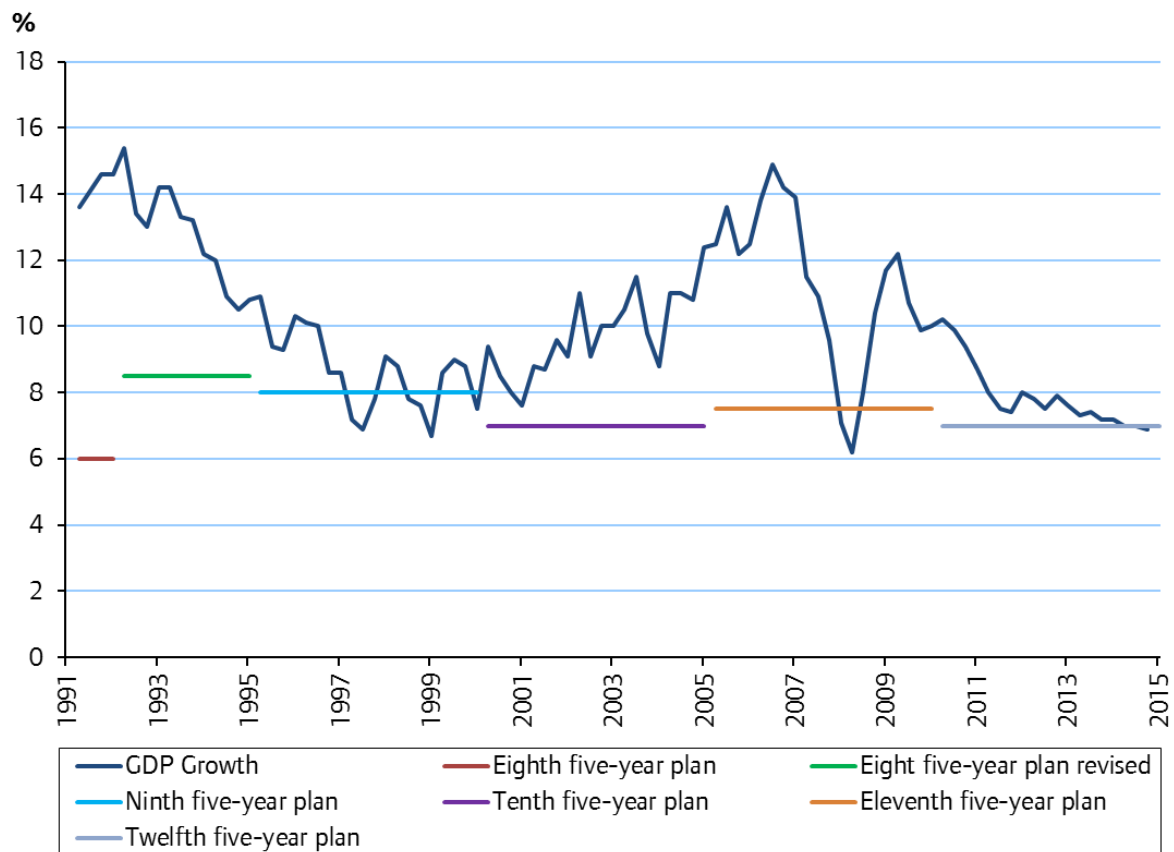
⁷¹ IMF, October 2015, '[World Economic Outlook: Adjusting to Lower Commodity Prices](#)'.

⁷² World Bank, September 2015, '[Russia Economic Report No. 34: Balancing Economic Adjustment and Transformation](#)'.

⁷³ Ibid.

⁷⁴ IMF, October 2015, '[World Economic Outlook: Adjusting to Lower Commodity Prices](#)'.

Figure 3.18: China economic growth and economic growth targets

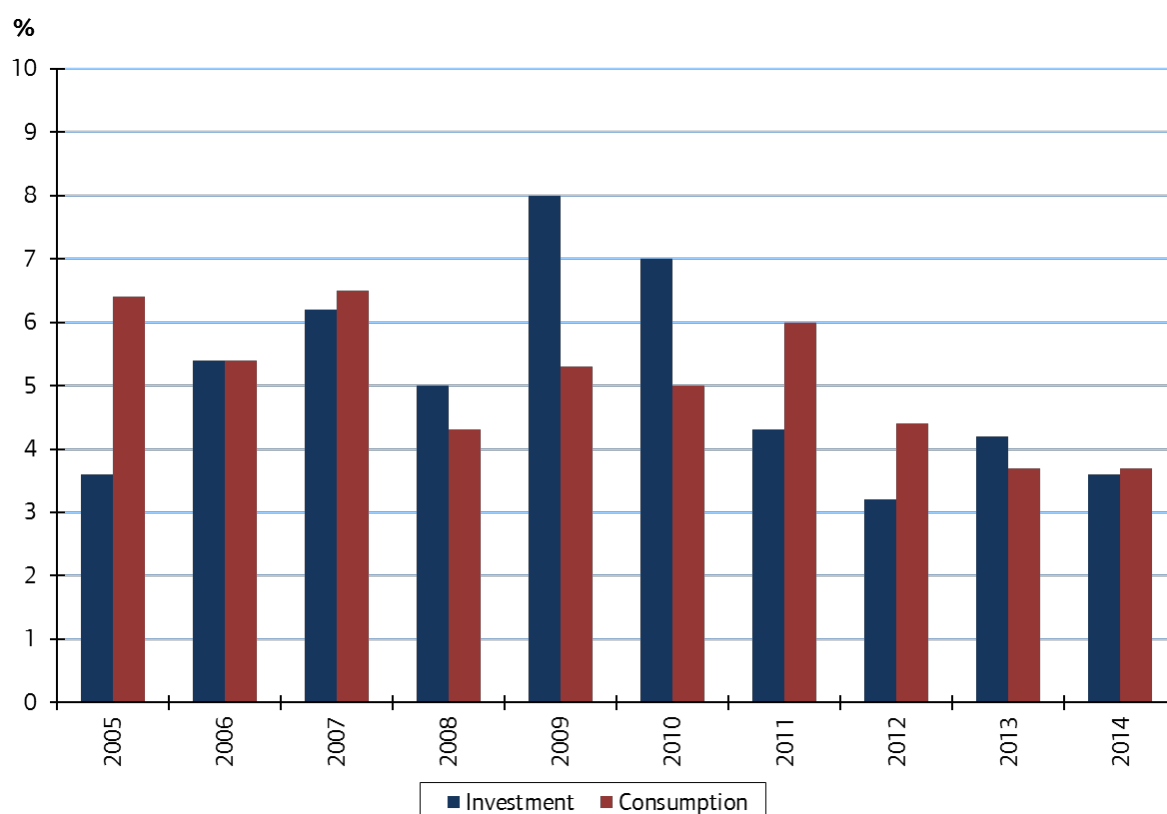


Source: Macrobond, *The Chinese Economy: A New Transition*

The current lower rate of growth reflects changes in the Chinese economy that have long been expected, as it shifts from an investment lead economy toward a consumption driven economy. Investment levels are currently much higher as a share of GDP compared to other economies, with China having the fourth highest share of investment as a percentage of GDP in 2013 at 48.7 per cent (only behind Equatorial Guinea, Mongolia and Mauritania). By contrast OECD members have around 20 per cent of GDP that comes from investment, while here in the UK it is 17.7 per cent in 2014⁷⁵. However, the contribution of consumption to GDP growth should not be underestimated. Thus over the decade to 2014, on average consumption contributed just as much to GDP growth as investment did, at an average of 5.1 per cent a year for each year (see Figure 3.19).

⁷⁵ [Gross Capital Formation \(as percentage of GDP\), The World Bank.](#)

Figure 3.19: Contributions to GDP growth, China



Source: National Bureau of Statistics of China

It is a stated objective of the Chinese government to transition economic activity towards services and consumption, to reduce the reliance of the economy on investment. The transition away from investment is desirable for a number of reasons, namely because it is considered to be a more sustainable model for growth. The current levels of investment have resulted in large amounts of corporate and household debt in China which were worth 207 per cent of GDP in the June quarter of 2015, well up from 125 per cent of GDP in 2008⁷⁶.

This transition comes with its own challenges, which the IMF recently highlighted in its World Economic Outlook, observing that “policymakers in China face the challenge of simultaneously achieving three objectives: avoiding a sharp growth slowdown in the transition to more sustainable patterns of growth, reducing vulnerabilities from excess leverage after a credit and investment boom, and strengthening the role of market forces in the economy”⁷⁷.

Analysing the transition taking place in the Chinese economy, the ADB described indicators of consumption as “robust” in its Asian Development Outlook, noting that “services remained the key growth driver on the supply side, and domestic rebalancing from industry to services made further progress” in the first half of 2015 as “service sector growth accelerated from 7.8% year on year in 2014 to 8.3%.” This expansion of services was matched by a slowdown in industrial activity which “expanded by 6.1% year on year in the first half of 2015, down from 7.3% in

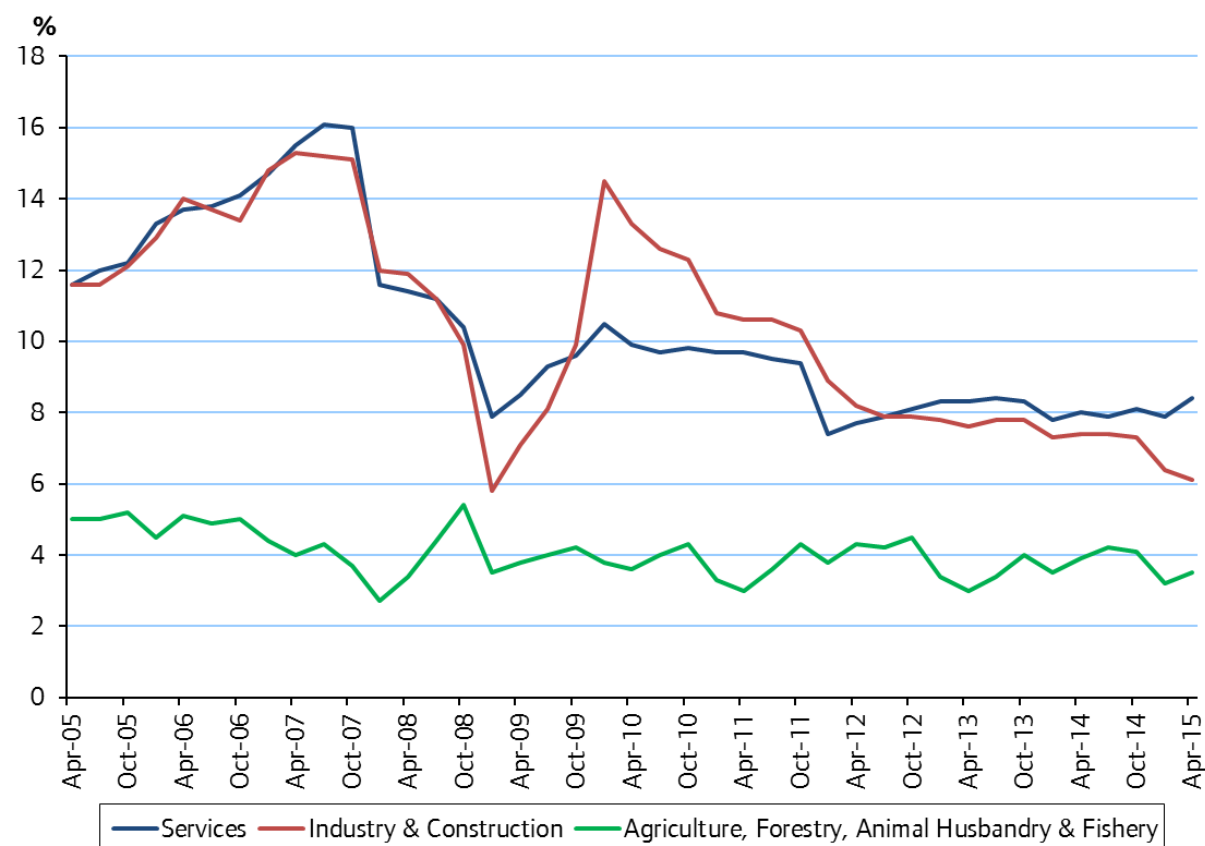
⁷⁶ Bloomberg.

⁷⁷ IMF, October 2015, ‘World Economic Outlook: Adjusting to Lower Commodity Prices’.

2014 as a whole⁷⁸. These trends were reflected in consumption contributing 4.2 percentage points to GDP growth in the first half of 2015, compared to 2.5 percentage points from investment.

However, looking at the historical growth of these sectors, while industry and construction activity is growing at its slowest rate (barring the financial crisis) since 1991 (see Figure 3.20), growth in the services sector remains broadly in-line with the average of the past five years (8.5 per cent).

Figure 3.20: Industry growth, China



Source: Macrobond

The slowing of real estate construction is a significant contributor to the weakness seen in the industry and construction sector⁷⁹. Growth in total real estate investment has declined sharply over 2014 and 2015, with growth slowing from an average of 26.5 per cent between 2005 and 2013 to just 2.6 per cent in September (see Figure 3.21). Other indicators tell a similar story, with floor space commenced in the year to date September down by 12.6 per cent, following a 10.7 per cent fall in 2014⁸⁰. Amid the slowdown in construction, China's housing inventory continues to hang over the market, with 428.6 million square metres of floor space on the

⁷⁸ Asian Development Bank, September 2015, '[Asian Development Outlook 2015 Update: Enabling Women, Energizing Asia](#)'.

⁷⁹ Data for economic output in China is categorised into three broad categories, agriculture and related industries (primary), industry and construction (secondary), and services (tertiary).

⁸⁰ Macrobond.

market in August, this is 15.7 per cent higher than a year earlier⁸¹. This overhang is expected to continue to subdue construction activity, moving forward.

Figure 3.21: Residential construction investment growth, China



Source: Macrobond

The slowdown in Chinese investment has wide reaching global impacts through the impact on its trade partners. Of the countries that are most reliant on China to buy their exports, it is commodity exporting countries that appear most vulnerable. This is due to the fact that investment activity in China is commodities intensive, and the slowdown in investment has happened alongside a significant increase in supply following the recent mining investment boom.

The IMF World Economic Outlook recently noted the impact of the Chinese slowdown on base metal prices, observing that its share of this market “has increased from some 10 to 20 per cent in the early 2000s to more than 50 per cent currently. Some of this increase relates to the country’s role as a manufacturing hub, but it also reflects the infrastructure investment and construction boom in 2009/13 after the global financial crisis. China’s growth transition and slower metal-intensive investment growth have been instrumental in weakening base metal prices”.⁸²

⁸¹ [The Wall Street Journal](#).

⁸² IMF, October 2015, [‘World Economic Outlook: Adjusting to Lower Commodity Prices’](#).

Those that have been most impacted include iron ore exporters Australia and Brazil. Dominated by iron ore, a third of Australia's total exports and 18 per cent of exports from Brazil go to China. The value of these exports has fallen significantly over the past year due to the fall in the iron ore price.

However, as noted in Box 3.1 the direct impact for London appears much less pronounced. GLA Economics estimates that services exports to China only account for 2.1 per cent of total services exports from London, and just 1.3 per cent of goods exports⁸³. Furthermore, London's largest trading partners are not too strongly exposed to China, with the United States and the Eurozone accounting for over half of London services exports, but sending just 7.7 and 6.4 per cent of their exports to the second largest economy in the world. London's exposure to other countries reliant on Chinese demand such as the commodity exporting countries and other key Asian trading partners is much lower (Table 3.6).

Table 3.6: Exports to China and service exports from London, by country

Country	Share of Exports to China (%)	Share of London services exports (%)
Australia	33.7	2.6
Brazil	18.0	0.6
Chile	24.4	0.2
Eurozone	6.4	30.9
Japan	18.0	2.4
South Korea	26.0	0.8
Taiwan	27.0	0.3
United Kingdom	4.1	N/A
United States	7.7	24.2

Source: Oxford Economics, Macrobond, GLA Economics

Thus the greater threat to London comes from the potential impact on financial markets that may come from a slowdown on China given the capital's importance as a financial centre, of which China is of growing importance in. Two thirds of all trading of Chinese renminbi outside of China takes place in London, whilst recently the People's Bank of China opened the first overseas sovereign debt market here in London. With high Chinese debt levels, alongside the increasing uncertainty of how smooth the transition of the Chinese economy will be going forward, this could result in further volatility for financial markets. This would have important implications for the financial services industry, a very important part of the London economy.

3.5 Risks to the world economy

For London and the UK's economies the most immediate short-term risk is that of a significant slowdown in China and emerging market economies combined with any impact on financial stability this may have in these countries. Although this may have a limited direct impact on London's economy, if it were to have a detrimental impact on developed economies which these countries are heavily integrated with, it could have knock on effects due to the capital's and

⁸³ Keijonen, M., August 2015, '[Working Paper 69: An analysis of London's exports](#)'. GLA Economics.

UK's trade with these developed economies. Another, arguably greater, threat to London from a Chinese slowdown comes from the potential impact this could have on financial companies and markets given London's status as a financial centre.

Over a longer time period the most pre-eminent risk remains from within the Eurozone, and particularly the unresolved fundamental issues with the sovereign debt situation in a number of countries. Thus although the UK might not be directly exposed to significant risks from these countries the uncertainty and shocks to markets which could occur from any debt default would have negative impacts to the UK and London's economy. Even without a default, continued structural problems in the Eurozone could act as a break on its growth hindering the UK's and London's trade with this important market.

Further, as highlighted previously the risks of protracted low or negative inflation remain as a relevant downside risk for the global economy for the foreseeable future, especially if it were to become embedded in a number of economies. However, it is likely that within the UK as a whole inflation will gradually pick-up into 2016. Still, having noted this risk, the era of extremely accommodative monetary policy in at least some developed economies is likely to begin to end over the coming year or so. This tightening, especially in US monetary policy, may have further detrimental effects on emerging market economies. While, for the UK even though it is likely that monetary policy will remain loose by historical standards for some time to come and thus continue to provide support to the economy, it is likely that over the course of the forecast period monetary policy will begin to return to more normal levels with some commentators expecting a first rise by the end of next year. The appreciation of the dollar and sterling against the euro over the last year or so, although having stabilised recently, could still be a downside risk to the UK and London's economy as well. Thus with the depreciation of the euro having made Eurozone exports more competitive, this could negatively impact on the competitiveness of exports from London and the UK. Geopolitical risks such as the ongoing conflicts in Ukraine and the Middle East could also negatively impact on the global economy. While the dangers to some emerging market economies through commodity price falls remain as a risk to the global economy as a whole.

Upside risks to the forecast have dampened slightly since the May 2015 LEO but continue to include the possibility that global growth, especially in 2016, turns out stronger than currently expected. The continued consumption impacts of cheap oil and commodity prices that may occur across advanced and some emerging economies should also not be discounted. The outlook for the Eurozone continues to be more optimistic than has been the case for a while. If business and consumer confidence in the Eurozone picks up further, and the ECB continues to provide a supportive monetary policy, then growth in the Eurozone may be quicker than currently expected. Further, in the UK, consumer, and to an extent business, confidence has been stronger than was expected at the turn of 2015, if this were to continue this would also provide support to London's and the UK's economies. Still, on balance, the risks to the global (and thus London and UK) economy remain more on the downside over the coming couple of years.

3.6 Conclusion

After growing slowly at the start of 2015, economic growth has picked-up to an extent in the UK, especially in the service sector, and remains faster than that seen in a number of other advanced economies. Inflation however remains very low although it is expected to pick up towards the end of this, and the beginning of next, year as the effects of the oil price changes fall out of the inflation calculation. This low inflation, combined with some evidence of a global

economic slowdown, makes it likely that the potential first increases in interest rates will occur even later than that which was expected in May, while interest rates when they do begin to rise may remain low by historical standards for some time to come. Outside of the UK, although the Federal Reserve may raise rates relatively soon it is possible that this rise may still be delayed and that any rises may be slower than was expected before the summer. Still since the publication of the May 2015 LEO the economic situation in the Eurozone has become more predictable and stable.

In general London's economy continues to grow strongly, and more strongly than the UK as a whole. The labour market also remains robust as does consumer and business confidence. Taken all together London's economy in terms of both output, employment and household income should continue to grow over the coming years, although this may moderate towards the end of the forecast period as the effects of ongoing fiscal retrenchment and gradually tightening monetary policy begin to be felt.

4. Review of independent forecasts

What the forecasts provide

In Chapter 5, GLA Economics' forecast of four economic indicators is provided: workforce jobs, real output, private consumption (household expenditure) and household income in London. In this chapter the consensus view as of 5 November 2015 on the first three of these indicators is summarised⁸⁴, drawing on forecasts from outside (independent) organisations⁸⁵. Both annual growth rates and 'standardised' absolute levels are reported. All the data is in real terms (constant prices). The source for all historic data in the following tables and charts is EE.

Additionally, both the consensus⁸⁶ and GLA Economics' own forecasts provide predictions of employment and output growth in six broad sectors:

- manufacturing
- construction
- transportation and storage
- distribution⁸⁷, accommodation and food service activities
- finance⁸⁸ and business services⁸⁹
- other (public & private) services⁹⁰.

It should be noted, that since our Spring 2012 forecast GLA Economics has been using the new Standard Industrial Classification (SIC 2007), which is explained in more detail in Appendix A.

⁸⁴ The consensus forecast for GVA and employment is based on the latest available forecast from CE, CEBR, EE and OE, while the consensus forecast for household expenditure is based on the latest available forecast from CE, EE and OE only.

⁸⁵ Most forecasters do not yet provide forecasts of household income.

⁸⁶ The consensus GVA forecast for the six broad sectors is based on the latest available forecast from CE, CEBR, EE and OE for GVA but the consensus employment forecast for the six broad sectors is based on the latest available forecast from CE, EE and OE only.

⁸⁷ Distribution is made from the summation of Wholesale and Retail (see Appendix A).

⁸⁸ This is defined as Financial and insurance activities in Appendix A.

⁸⁹ Business services is made from the summation of Information and Communication, Professional, scientific and technical services and real estate, and Administrative and support service activities (see Appendix A).

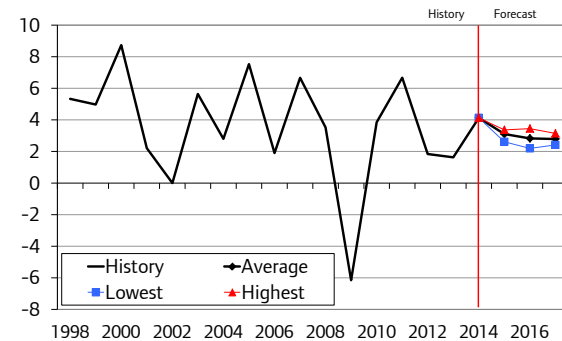
⁹⁰ This is made from the summation of Public admin and defence, Education, Health, Arts, entertainment and recreation and Other services (see Appendix A).

Output

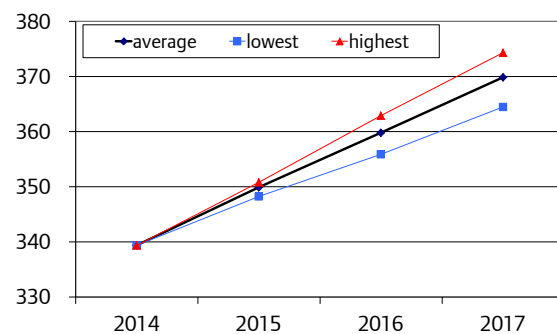
(London GVA, constant prices (base year 2011), £ billion)

The consensus (mean average view) is for real output growth to be 3.1 per cent in 2015, easing to 2.8 per cent in 2016 and 2017.

Annual growth (per cent)



Level (constant year 2011, £ billion)



Annual growth (per cent)				Level (constant year 2011, £ billion)			
	2015	2016	2017		2015	2016	2017
Average	3.1	2.8	2.8	Average	350	360	370
Lowest	2.6	2.2	2.4	Lowest	348	356	365
Highest	3.4	3.4	3.1	Highest	351	363	374

History: Annual growth (per cent)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
5.3	5.0	8.7	2.2	0.0	5.6	2.8	7.5	1.9	6.7	3.5	-6.2	3.8	6.7	1.8	1.6	4.1

History: Level (constant year 2011, £ billion)

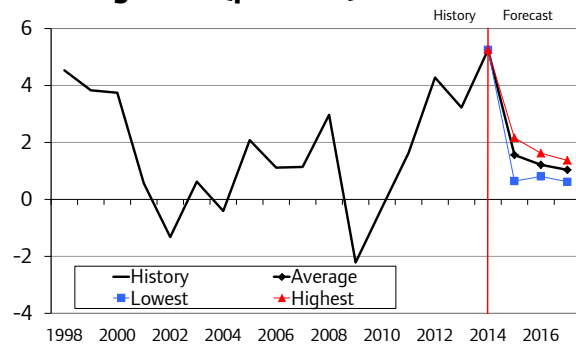
1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
187.6	197.6	207.4	225.5	230.5	230.5	243.5	250.3	269.2	274.3	292.6	302.9	284.3	295.2	314.9	320.7	325.9	339.4

Employment

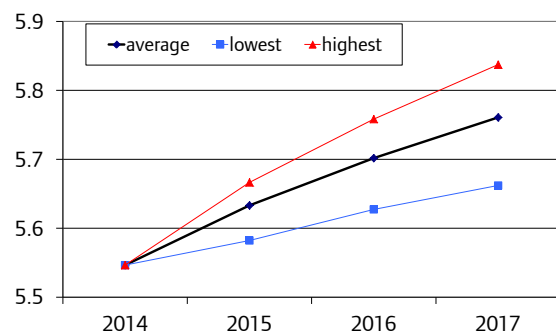
(London workforce jobs)

The consensus view is for the number of workplace jobs to increase by 1.6 per cent in 2015, by 1.2 per cent in 2016 and 1.0 per cent in 2017.

Annual growth (per cent)



Level (millions)



Annual growth (per cent)				Level (millions)			
	2015	2016	2017		2015	2016	2017
Average	1.6	1.2	1.0	Average	5.63	5.70	5.76
Lowest	0.6	0.8	0.6	Lowest	5.58	5.63	5.66
Highest	2.2	1.6	1.4	Highest	5.67	5.76	5.84

History: Annual growth (per cent)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
4.6	3.7	3.8	0.6	-1.3	0.4	-0.2	2.0	1.1	1.3	2.9	-2.2	-0.2	1.7	4.3	3.1	5.3

History: Level (millions)

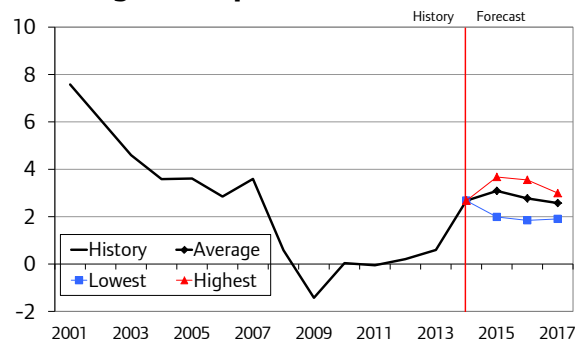
1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
4.10	4.29	4.45	4.62	4.65	4.59	4.61	4.60	4.69	4.74	4.80	4.94	4.83	4.82	4.90	5.11	5.27	5.55

Household expenditure

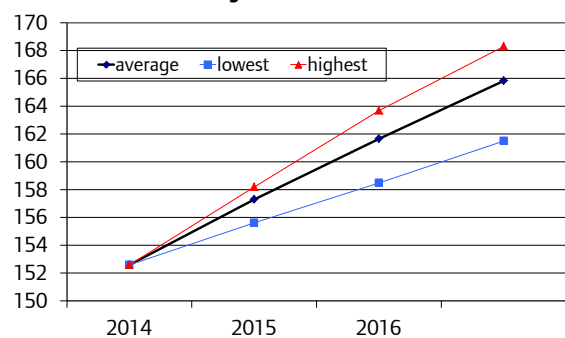
(London household spending, constant year 2011, £ billion)

The consensus view is for positive household expenditure growth of 3.1 per cent in 2015, 2.8 per cent in 2016 and 2.6 per cent in 2017.

Annual growth (per cent)



Level (constant year 2011 £ billion)



Annual growth (per cent)				Level (constant year 2011 £ billion)			
	2015	2016	2017		2015	2016	2017
Average	3.1	2.8	2.6	Average	157	162	166
Lowest	2.0	1.8	1.9	Lowest	156	158	161
Highest	3.7	3.6	3.0	Highest	158	164	168

History: Annual growth (per cent)

2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
7.6	6.1	4.6	3.6	3.6	2.8	3.6	0.6	-1.4	0.0	-0.1	0.2	0.6	2.7

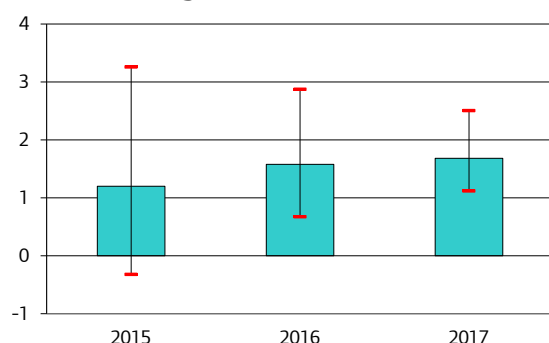
History: Level (constant year 2011, £ billion)

2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
108.9	117.2	124.3	130.1	134.7	139.6	143.6	148.7	149.6	147.4	147.5	147.4	147.7	148.6	152.6

Output growth by sector (per cent annual change)

As the economic expansion continues it is expected that there will be positive output growth in all sectors.

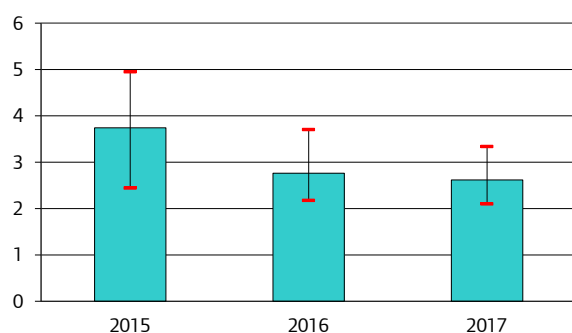
Manufacturing



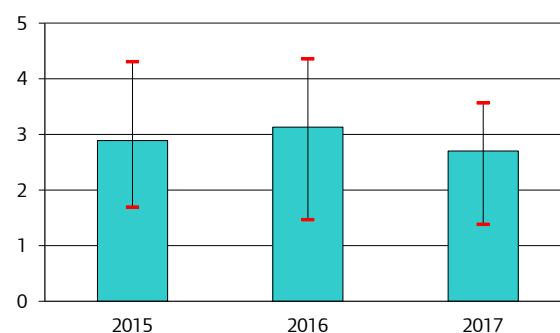
Construction



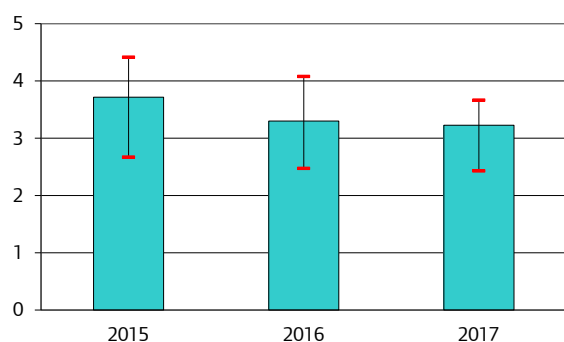
Distribution, accommodation and food service activities



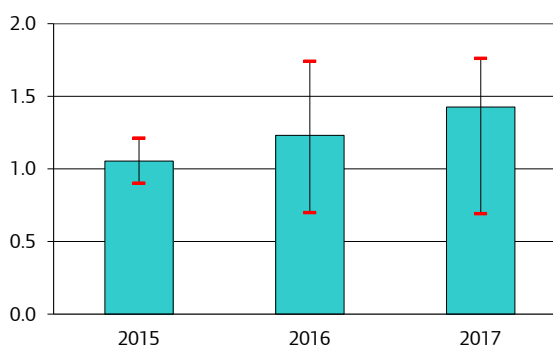
Transportation and storage



Finance and business



Other (public & private) services

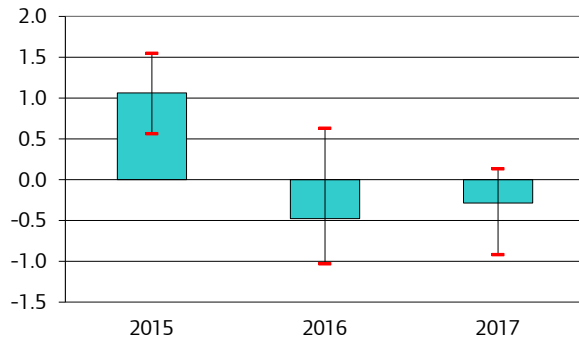


		2015	2016	2017			2015	2016	2017
Manufacturing	<i>Average</i>	1.2	1.6	1.7	Construction	<i>Average</i>	3.0	3.3	3.1
	<i>Lowest</i>	-0.3	0.7	1.1		<i>Lowest</i>	1.6	2.5	2.3
	<i>Highest</i>	3.3	2.9	2.5		<i>Highest</i>	4.3	3.8	3.7
Distribution, accommodation and food service activities	<i>Average</i>	3.7	2.8	2.6	Transportation and storage	<i>Average</i>	2.9	3.1	2.7
	<i>Lowest</i>	2.4	2.2	2.1		<i>Lowest</i>	1.7	1.5	1.4
	<i>Highest</i>	5.0	3.7	3.3		<i>Highest</i>	4.3	4.4	3.6
Finance and business	<i>Average</i>	3.7	3.3	3.2	Other (public & private) services	<i>Average</i>	1.1	1.2	1.4
	<i>Lowest</i>	2.7	2.5	2.4		<i>Lowest</i>	0.9	0.7	0.7
	<i>Highest</i>	4.4	4.1	3.7		<i>Highest</i>	1.2	1.7	1.8

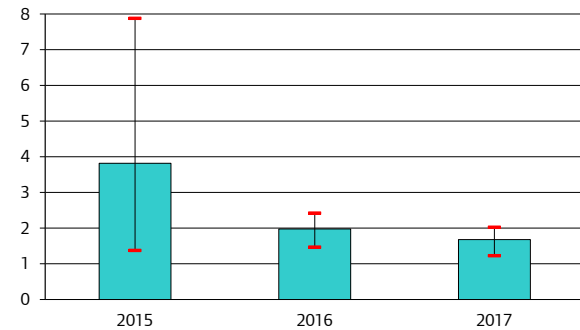
Employment growth by sector (per cent annual change)

Forecast employment growth is positive for all sectors, excluding the other (public & private) services sector, where employment is expected to fall this year and the manufacturing sector which is expected to see declines in employment in 2016 and 2017.

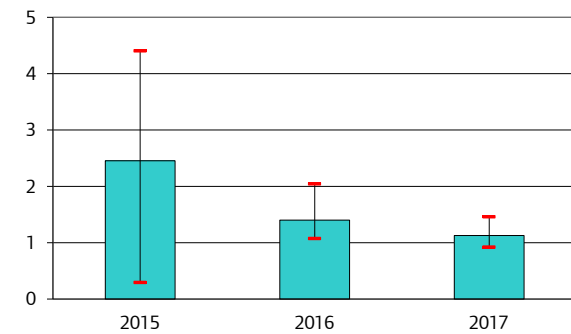
Manufacturing



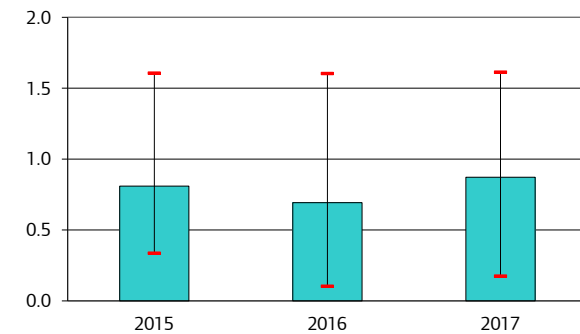
Construction



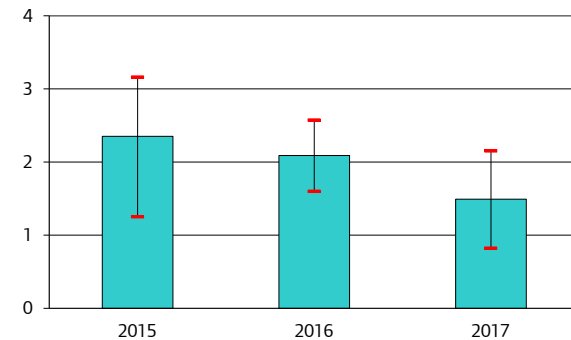
Distribution, accommodation and food service activities



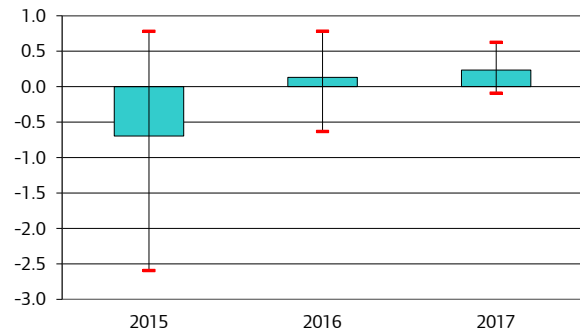
Transportation and storage



Finance and business



Other (public & private) services



		2015	2016	2017			2015	2016	2017
Manufacturing	<i>Average</i>	1.1	-0.5	-0.3	Construction	<i>Average</i>	3.8	2.0	1.7
	<i>Lowest</i>	0.6	-1.0	-0.9		<i>Lowest</i>	1.4	1.5	1.2
	<i>Highest</i>	1.5	0.6	0.1		<i>Highest</i>	7.9	2.4	2.0
Distribution, accommodation and food service activities	<i>Average</i>	2.5	1.4	1.1	Transportation and storage	<i>Average</i>	0.8	0.7	0.9
	<i>Lowest</i>	0.3	1.1	0.9		<i>Lowest</i>	0.3	0.1	0.2
	<i>Highest</i>	4.4	2.0	1.5		<i>Highest</i>	1.6	1.6	1.6
Finance and business	<i>Average</i>	2.4	2.1	1.5	Other (public & private) services	<i>Average</i>	-0.7	0.1	0.2
	<i>Lowest</i>	1.3	1.6	0.8		<i>Lowest</i>	-2.6	-0.6	-0.1
	<i>Highest</i>	3.2	2.6	2.2		<i>Highest</i>	0.8	0.8	0.6

5. The GLA Economics forecast

It is necessary to distinguish carefully between the GLA's long-term employment projections and this forecast, which contains the GLA's medium-term planning projections. Trend projections, by definition, do not incorporate cyclical variations. The actual course of output and employment will vary around this trend. Trend projections are essential for planning to provide capacity (such as office space, housing and transport) to accommodate the needs of the economy throughout and at the peak of the cycle, not just at its low points. For business planning (for example the likely course of revenue), estimates of actual numbers of jobs and actual output at any point in time are required. The medium-term planning projections provide these estimates. As time progresses and more data become available, it becomes possible to identify turning points in the data; whether underlying trends are continuing or new trends are being established. The source for all historic data in the following tables and charts is EE.

5.1 The background

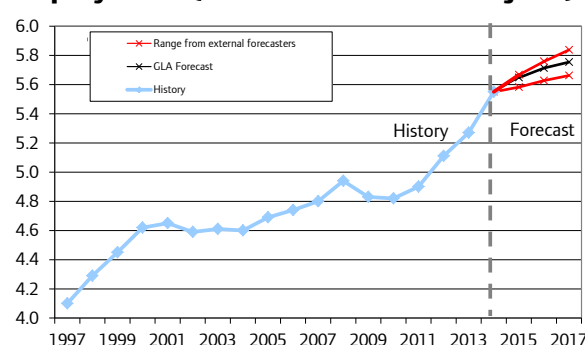
5.2 Results

Following the resumption of positive growth in 2010, output is expected to continue to rise between 2015 and 2017. Employment growth is forecast to be positive but to slow over the forecast period.

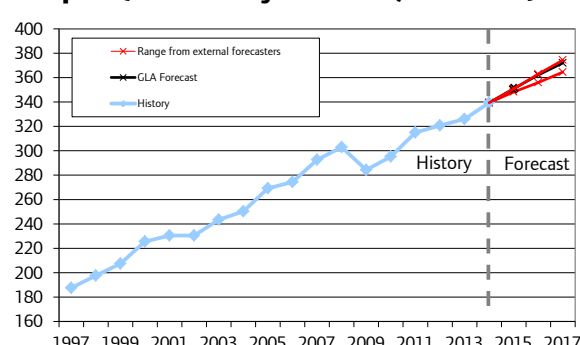
Household spending is expected to continue to grow between 2015 and 2017. Household income growth is also expected to be positive over the forecast period.

Figure 5.1: Trend and forecast employment and output

Employment (millions of workforce jobs)



Output (constant year 2011, £ billion)



Source: EE for historic data and GLA Economics' calculations for forecast

Table 5.1: Forecast and historical growth rates
(Annual % change)

	2009	2010	2011	2012	2013	2014	2015	2016	2017
GVA	-6.2	3.8	6.7	1.8	1.6	4.1	3.4	3.2	2.7
Workforce jobs	-2.2	-0.2	1.7	4.3	3.1	5.3	1.7	1.2	0.7
Household spending	-1.4	0.0	-0.1	0.2	0.6	2.7	3.0	2.9	2.6
Household income	4.6	1.4	-1.3	2.2	0.6	1.7	3.0	2.9	2.9

Table 5.2: Forecast and historical levels
(constant year 2011, £ billion except jobs)

	2009	2010	2011	2012	2013	2014	2015	2016	2017
GVA	284.3	295.2	314.9	320.7	325.9	339.4	350.9	362.2	371.9
Workforce jobs (millions)	4.83	4.82	4.90	5.11	5.27	5.55	5.65	5.71	5.75
Household spending	147.4	147.5	147.4	147.7	148.6	152.6	157.2	161.7	165.9
Household income	175.6	178.1	175.8	179.6	180.7	183.8	189.4	195.0	200.6

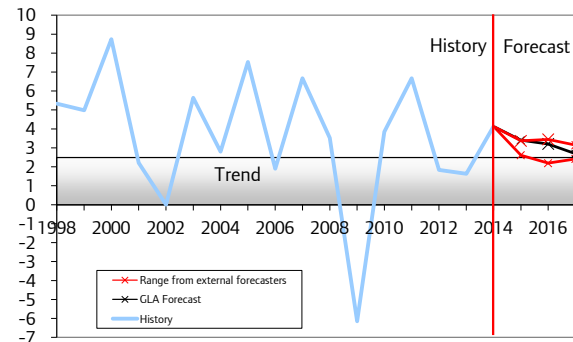
Output

(London GVA, constant year 2011, £ billion)

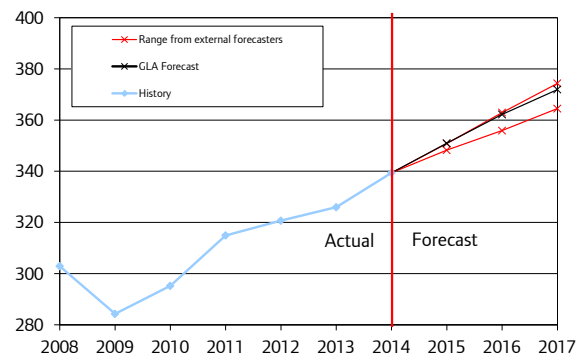
London's real GVA is forecast to grow between 2015 and 2017. Forecast growth rates are 3.4 per cent in 2015, 3.2 per cent in 2016 and 2.7 per cent in 2017.

The GLA Economics' forecast is more optimistic than the consensus average forecast in 2015 and 2016, but more pessimistic in 2017.

Annual growth (per cent)



Level (constant year 2011, £ billion)



Growth (annual per cent)					Level (constant year 2011, £ billion)				
	2014	2015	2016	2017		2014	2015	2016	2017
GLA	4.1	3.4	3.2	2.7	GLA	339	351	362	372
Consensus		3.1	2.8	2.8	Consensus		350	360	370

History: Annual growth (per cent)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
5.3	5.0	8.7	2.2	0.0	5.6	2.8	7.5	1.9	6.7	3.5	-6.2	3.8	6.7	1.8	1.6	4.1

History: Level (constant year 2011, £ billion)

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
187.6	197.6	207.4	225.5	230.5	230.5	243.5	250.3	269.2	274.3	292.6	302.9	284.3	295.2	314.9	320.7	325.9	339.4

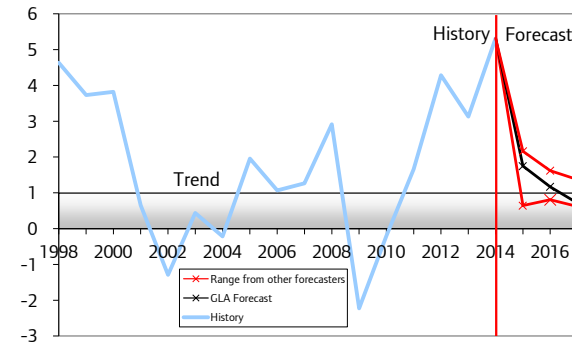
Employment

(London workforce jobs)

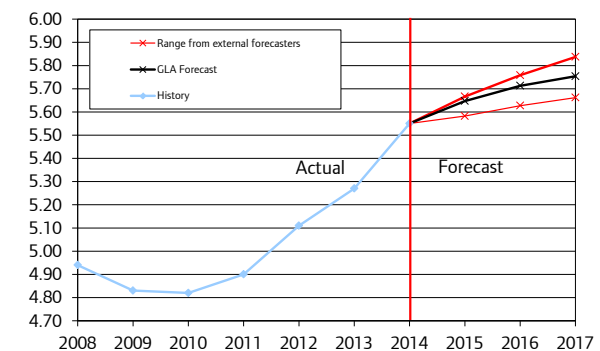
London's employment is forecast to rise between 2015 and 2017.

GLA Economics' forecast for employment growth is higher than the consensus average forecast in 2015, the same for 2016, but more pessimistic for 2017.

Annual growth (per cent)



Level (millions of workforce jobs)



Growth (annual per cent)					Level (millions of workforce jobs)				
	2014	2015	2016	2017		2014	2015	2016	2017
GLA	5.3	1.7	1.2	0.7	GLA	5.55	5.65	5.71	5.75
Consensus		1.6	1.2	1.0	Consensus		5.63	5.70	5.76

History: Annual growth (per cent)

1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
4.6	3.7	3.8	0.6	-1.3	0.4	-0.2	2.0	1.1	1.3	2.9	-2.2	-0.2	1.7	4.3	3.1	5.3

History: Level (millions)

1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
4.10	4.29	4.45	4.62	4.65	4.59	4.61	4.60	4.69	4.74	4.80	4.94	4.83	4.82	4.90	5.11	5.27	5.55

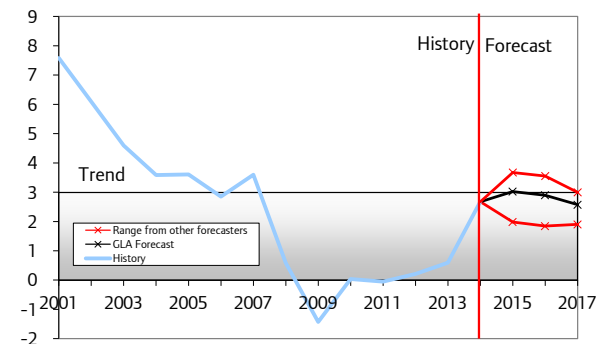
Household expenditure

(London household spending, constant year 2011, £ billion)

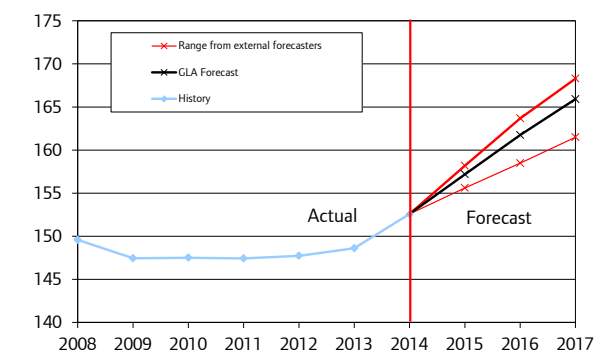
Growth in London's household spending is forecast to be positive over the forecast period.

GLA Economics' household spending growth forecast is lower than the consensus average in 2015, higher than the consensus average in 2016, and the same as the consensus average in 2017.

Annual growth (per cent)



Level (constant year 2011, £ billion)



Growth (annual per cent)					Level (constant year 2011, £ billion)				
	2014	2015	2016	2017		2014	2015	2016	2017
GLA	2.7	3.0	2.9	2.6	GLA	153	157	162	166
Consensus		3.1	2.8	2.6	Consensus		157	162	166

History: Annual growth (per cent)

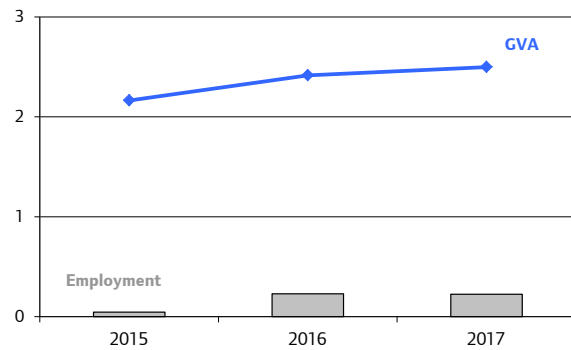
2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
7.6	6.1	4.6	3.6	3.6	2.8	3.6	0.6	-1.4	0.0	-0.1	0.2	0.6	2.7

History: Level (constant year 2011, £ billion)

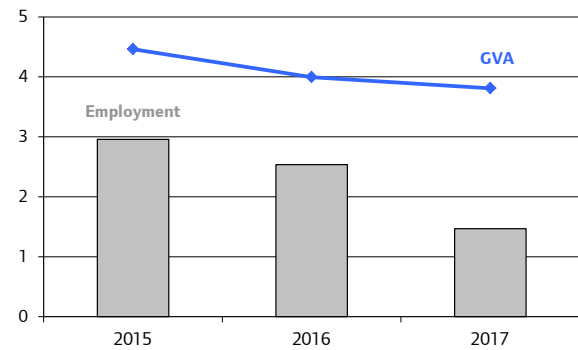
2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
108.9	117.2	124.3	130.1	134.7	139.6	143.6	148.7	149.6	147.4	147.5	147.4	147.7	148.6	152.6

Output and employment growth by sector (per cent annual change)

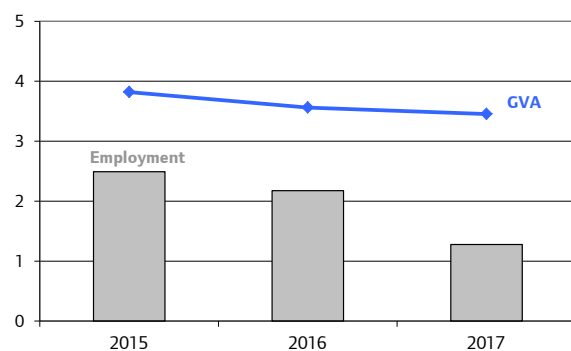
Financial services



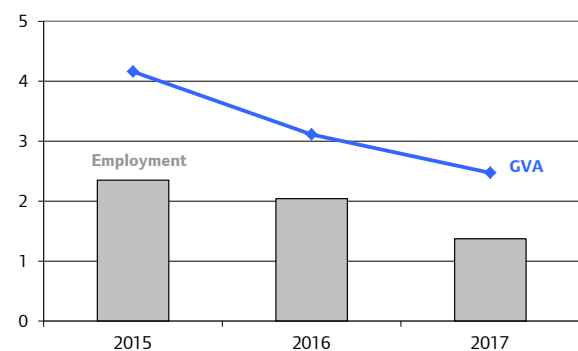
Business services



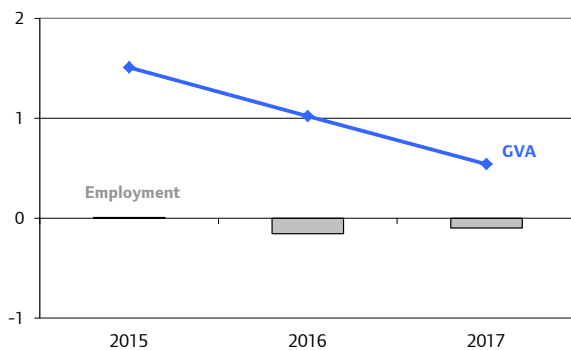
Finance and business (combined)



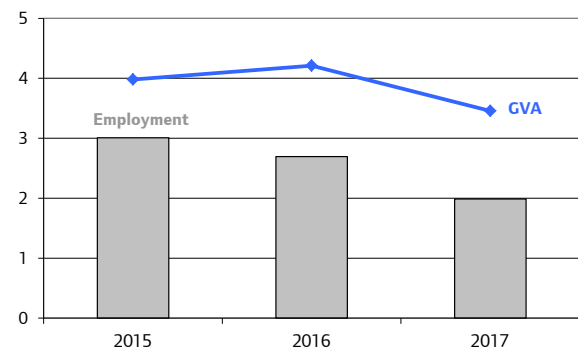
Distribution, accommodation and food service activities



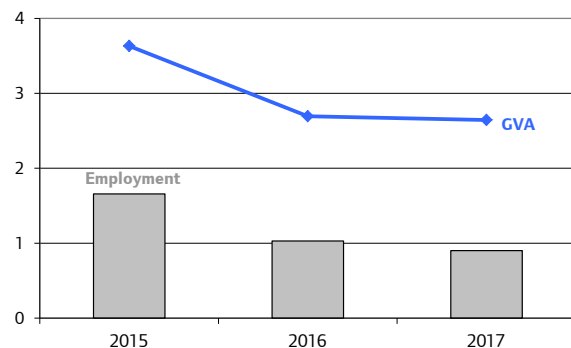
Manufacturing



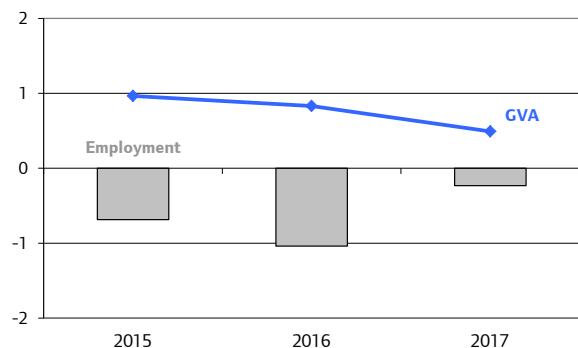
Construction



Transportation and storage



Other (public & private) services



Output and employment growth by sector (per cent annual change)

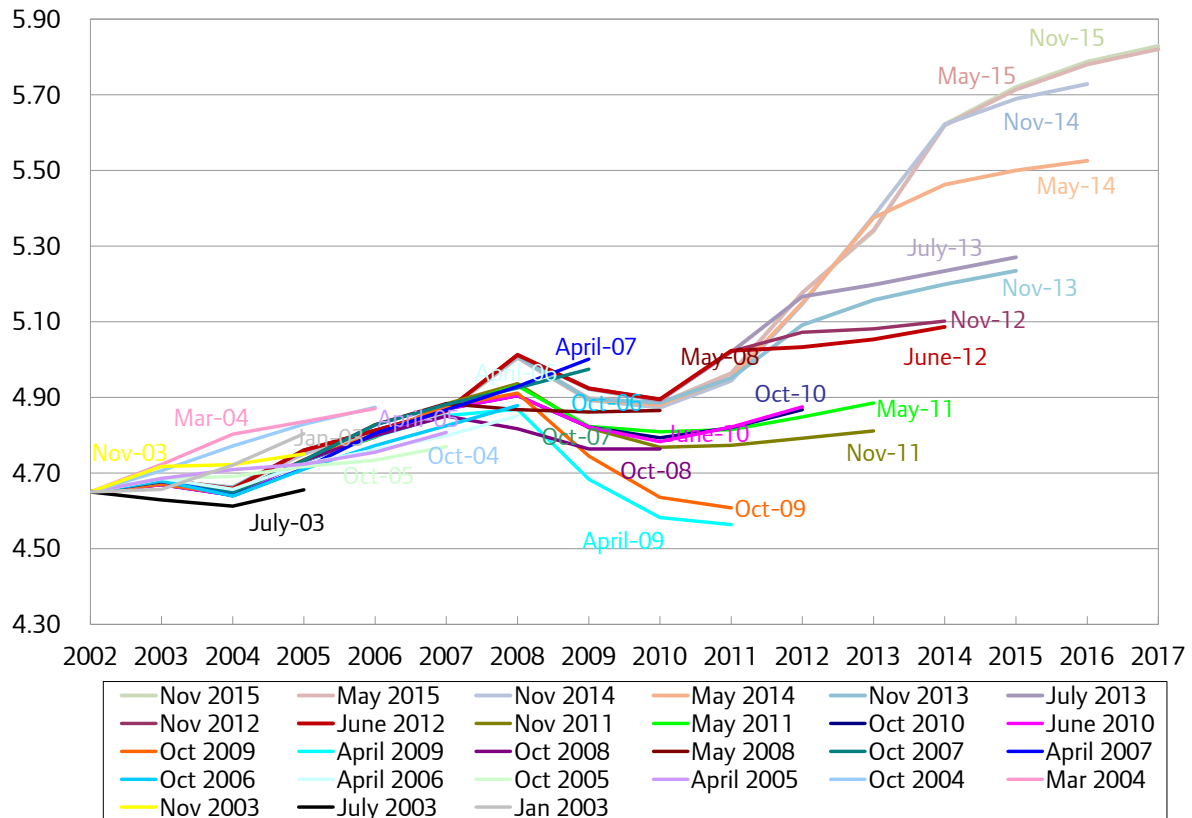
	2015	2016	2017
Financial services			
Output	2.2	2.4	2.5
Employment	0.0	0.2	0.2
Business services			
Output	4.5	4.0	3.8
Employment	3.0	2.5	1.5
Financial and business services combined			
Output	3.8	3.6	3.5
Employment	2.5	2.2	1.3
Distribution, accommodation and food service activities			
Output	4.2	3.1	2.5
Employment	2.4	2.0	1.4
Transportation and storage			
Output	3.6	2.7	2.6
Employment	1.7	1.0	0.9
Other (public & private) services			
Output	1.0	0.8	0.5
Employment	-0.7	-1.0	-0.2
Manufacturing			
Output	1.5	1.0	0.5
Employment	0.0	-0.2	-0.1
Construction			
Output	4.0	4.2	3.5
Employment	3.0	2.7	2.0
<i>(Memo: non-manufacturing)</i>			
Output	3.5	3.3	2.7
Employment	1.8	1.2	0.7

5.3 Comparison with previous forecasts

This section compares the current forecast with previous forecasts in this series. Since the base years for the forecasts change and the base data is continuously revised, the forecasts have been rebased into a common base year for the comparison in Figures 5.2 and 5.3. The most recent forecast for London's workforce jobs growth is the same as in May 2015, while the output growth forecast is slightly lower in 2015 and slightly higher in 2017.

Figure 5.2: Employment – latest forecast growth rates compared with previous forecasts

(millions of workforce jobs)

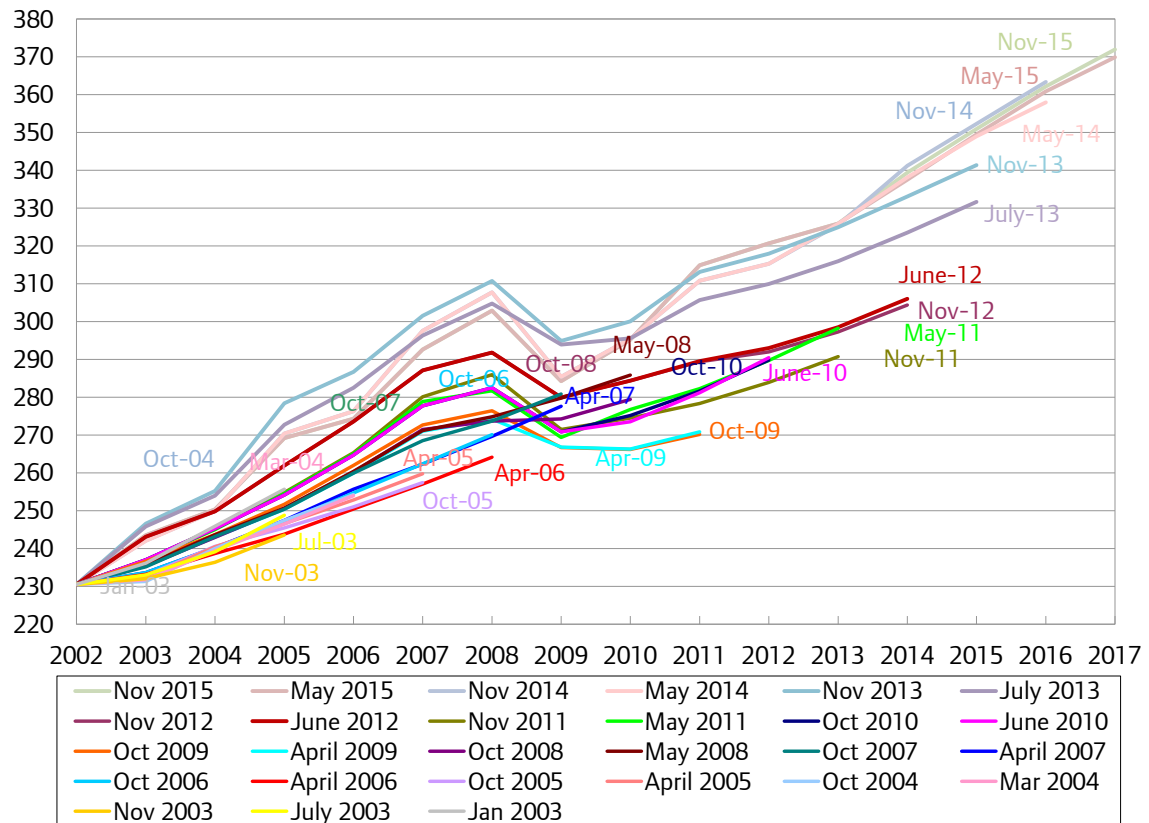


Source: Various London's Economic Outlooks

Table 5.3: Comparisons with previous published forecasts
(London workforce jobs, per cent annual growth)

Forecast	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nov 2015	0.4%	-0.2%	2.0%	1.1%	1.3%	2.9%	-2.2%	-0.2%	1.7%	4.3%	3.1%	5.3%	1.7%	1.2%	0.7%
May 2015													1.7%	1.2%	0.7%
Nov 2014												4.5%	1.2%	0.7%	
May 2014												1.6%	0.7%	0.5%	
Nov 2013											1.3%	0.8%	0.7%		
July 2013											0.6%	0.7%	0.7%		
Nov 2012										1.0%	0.2%	0.4%			
June 2012										0.2%	0.4%	0.6%			
Nov 2011									0.1%	0.4%	0.4%				
May 2011									0.1%	0.7%	0.8%				
Oct 2010								-0.6%	0.6%	1.0%					
June 2010								-0.8%	0.8%	1.1%					
Oct 2009							-3.4%	-2.3%	-0.6%						
April 2009							-3.8%	-2.2%	-0.4%						
Oct 2008						-0.7%	-1.1%	0.0%							
May 2008						-0.3%	-0.1%	0.1%							
Oct 2007					1.2%	0.9%	1.0%								
April 2007					1.2%	1.4%	1.5%								
Oct 2006				1.3%	1.1%	1.1%									
April 2006				0.8%	0.8%	1.1%									
Oct 2005			0.6%	0.4%	0.8%										
April 2005			0.3%	0.7%	1.1%										
Oct 2004		1.4%	1.2%	0.9%											
Mar 2004		1.7%	0.7%	0.7%											
Nov 2003	1.5%	0.1%	0.6%												
July 2003	-0.5%	-0.4%	0.9%												
Jan 2003	0.2%	1.4%	1.8%												

Figure 5.3: Output – latest forecast growth rates compared with previous forecasts
(constant year 2011, £ billion)



Source: Various London's Economic Outlooks

Table 5.4: Comparisons with previous published forecasts
(London GVA, per cent annual growth)

Forecast	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Nov 2015	5.6%	2.8%	7.5%	1.9%	6.7%	3.5%	-6.2%	3.8%	6.7%	1.8%	1.6%	4.1%	3.4%	3.2%	2.7%
May 2015													3.6%	3.2%	2.5%
Nov 2014												4.8%	3.3%	3.1%	
May 2014												3.8%	3.2%	2.6%	
Nov 2013											2.2%	2.5%	2.5%		
July 2013											1.9%	2.4%	2.5%		
Nov 2012										0.9%	1.8%	2.4%			
June 2012										1.2%	1.9%	2.5%			
Nov 2011									1.4%	2.0%	2.4%				
May 2011									2.0%	2.6%	2.9%				
Oct 2010								1.6%	2.4%	2.9%					
June 2010								1.0%	2.8%	3.3%					
Oct 2009							-3.5%	-0.2%	1.5%						
April 2009							-2.7%	-0.2%	1.7%						
Oct 2008						0.8%	0.2%	1.9%							
May 2008						1.3%	1.8%	2.2%							
Oct 2007					3.3%	2.0%	2.6%								
April 2007					2.6%	2.8%	3.0%								
Oct 2006				3.1%	3.0%	3.0%									
April 2006				2.7%	2.6%	2.8%									
Oct 2005			2.0%	2.3%	2.6%										
April 2005			2.6%	2.5%	2.7%										
Oct 2004		3.8%	3.1%	2.7%											
Mar 2004		3.3%	2.9%	3.0%											
Nov 2003	0.7%	1.9%	3.0%												
July 2003	1.1%	2.6%	4.1%												
Jan 2003	2.4%	4.1%	4.0%												

Appendix A: From SIC 2003 to SIC 2007⁹¹

Before the Spring 2012 LEO GLA Economics used a 12-sector breakdown of the economy in our long-run employment projections – see Table A1. However, the switch over to SIC 2007 allows us both to use sector categories which are more relevant to London and to use a ‘higher resolution’ of sectors: we now use 16 sectors in our long-run employment projections. The main innovations in SIC 2007 were the new section J, “Information and Communication” and the breakdown of “Business Services” into three categories that are highly relevant to London.

Table A1 shows the broad level mapping of the SIC 2003 categories used in Working Paper 38: ‘Employment projections for London by sector and trend-based projections by borough’ (November 2009), into the SIC 2007 categories we use now.

Table A1: GLA SIC categories

SIC 2007 GLA Sectors	SIC 2003 GLA Sectors
Primary & utilities	Primary & utilities
Manufacturing	Manufacturing
Construction	Construction
Wholesale	Wholesale
Retail	Retail
Transportation and Storage	Transport & communications
Accommodation and food service activities	Hotels & restaurants
Financial and insurance activities	Financial services
Information and Communication	Business services
Professional, scientific and technical services and real estate	
Administrative and support service activities	
Public Admin and defence	Public Admin
Education	Health & education
Health	
Arts, entertainment and recreation	
Other services	Other services

Most of the new categories introduced by SIC 2007 relate to service activities. This is significant for London as many of its jobs are service sector based. For example Real Estate and Professional and Administrative Service activities have almost three times as many divisions under SIC 2007. Business activities (Section K under SIC 2003), which make up a large proportion of London’s employee jobs, has moved to several areas in SIC 2007 including Sections L (Real Estate Activities), M (Professional, Scientific and Technical Activities) and N (Administrative and Support Services Activities). Section M includes legal and accounting activities, head office activities, management consultancy, architectural and engineering activities, scientific research and development, advertising and market research, other professional, scientific and technical activities and veterinary activities.

⁹¹ Hoffman, J., Ram, J. & Smart, E., December 2011, ‘[Working Paper 51: Employment projections for London by sector and trend-based projections by borough](#)’. GLA Economics.

Some of the business activities from Section K of SIC 2003 have also moved to Sections S (Other service activities) and J (Information and communication) in SIC 2007. Section J in SIC 2007 also includes publishing, film, broadcasting and news agencies in addition to telecoms and computer related activities. The sale of fuel is now considered a retail activity (in SIC 2003 it was part of motor trade), and recycling has moved from manufacturing to water supply and sewerage and waste management.

Appendix B: Explanation of terms and some sources

Definitions, differences, and revisions

Forecasting organisations use varying definitions of the regional indicators they supply. It is therefore not always possible to assign a completely consistent meaning to the terms used.

Throughout this report, as far as is compatible with the individual definitions applied by the forecasters, 'employment' refers to 'workforce employment' as defined in, the ONS publication *Labour Market Trends*. [London's Economic Outlook: December 2003](#) and *The GLA's Workforce Employment Series* provide a more detailed explanation of this term.

Forecasters' definitions are broadly compatible with this but in some cases differences arise from the treatment of small items such as participants in government training schemes or the armed forces. The GLA uses civilian workforce employment throughout.

Output refers to GVA, a term introduced by the 1995 revision of the European System of Accounts (ESA95). Some forecasters still estimate GDP, which differs slightly from GVA. Imputed rental income from the ownership of property is included in some cases but not in others. GLA Economics' *London's Economic Outlook: December 2003* provides a more detailed explanation of this term.

Estimates of nominal regional GVA are available up to 2013 from the ONS. So far only experimental official estimates of real regional GVA are available because of the difficulties in producing authoritative regional price deflators, although the ONS has produced regional price indexes for the year 2010⁹². Most regional forecasters supply their own estimates of London's real GVA. The real London GVA figures used in this GLA Economics' forecast are supplied by EE.

GVA estimates are less reliable than employment estimates because there is no independent source of information from which to judge the size of total sales by London-based agents. ONS estimates are calculated by the factor incomes method, beginning from wages paid to people with workforce jobs located in London. Profits are imputed on the basis of these earnings estimates from knowledge of national sectors of employment. Most regional forecasters adopt a variant of this technique.

Consumption refers to private consumption, otherwise known as household expenditure; in some cases the expenditure of non-profit organisations is included and in other cases it is not.

⁹² ONS, 12 July 2011, 'UK Relative Regional Consumer Price Levels for Goods and Services for 2010'.

Appendix C: Glossary of acronyms

ADB	Asian Development Bank
BIS	The Bank for International Settlements
bn	Billion
CE	Cambridge Econometrics
CEBR	The Centre for Economic and Business Research
CPI	Consumer Price Index
DCLG	Department for Communities and Local Government
ECB	European Central Bank
EE	Experian Economics
EERI	Effective Exchange Rate Index
EU	European Union
Fed	Federal Reserve
FT	Financial Times
GDP	Gross Domestic Product
GLA	Greater London Authority
GVA	Gross Value Added
GDP	Gross Domestic Product
HM Treasury	Her Majesty's Treasury
IFS	Institute for Fiscal Studies
ILO	International Labour Organisation
IMF	International Monetary Fund
LEO	London's Economic Outlook
LFS	Labour Force Survey
LHS	Left Hand Scale
mn	Million
MPC	Monetary Policy Committee
OBR	Office for Budget Responsibility
OE	Oxford Economics
OECD	Organisation for Economic Co-operation and Development
ONS	Office for National Statistics
PMI	Purchasing Managers' Index
Q2	Second Quarter
QE	Quantitative Easing
RHS	Right Hand Scale
RICS	Royal Institution of Chartered Surveyors
RPI	Retail Price Index
TfL	Transport for London

Appendix D: Bibliography

Aoki, Masahiko and Wu, Jinglian. The Chinese Economy: A New Transition. 2012.

Asian Development Bank. Asian Development Outlook 2015 Update - Enabling Women, Energizing Asia. September 2015.

Bank of England. Agents' Summary of Business Conditions - 2015 Q3. September 2015.

Bank of England. Agents' Summary of Business Conditions - October 2015 Update. October 2015.

Bank of England. Credit Conditions Survey – Survey Results 2015 Q3. October 2015.

Bank of England. Inflation Report - August 2015. August 2015.

Bank of England. Inflation Report - November 2015. November 2015.

Bank of England. Monetary policy summary and minutes of the Monetary Policy Committee meeting ending on 6 October, 9 September, 5 August, 8 July, & 3 June. 2015.

British Chambers of Commerce. Quarterly Economic Survey - 3rd Quarter 2015. October 2015.

Bureau of Economic Analysis. National Income and Product Accounts: Gross Domestic Product - Third Quarter 2015 (Advance Estimate). October 2015.

Bureau of Labor Statistics. News Release: The Employment Situation – October 2015. November 2015.

Cambridge Econometrics, 2015. Economic Prospects for the nations and regions of the UK. June 2015.

Centre for Economic and Business Research, 2015. The Prospects Service, London, City and Regional Prospects. May 2015.

Conference Board. The Conference Board Consumer Confidence Index Retreats. October 2015.

Douglass, Gordon & Keijonen, Milja. London's Economy Today - Issue 156. GLA Economics. August 2015.

European Central Bank. Account of the monetary policy meeting of the Governing Council of the European Central Bank, held in Frankfurt am Main on Wednesday and Thursday, 2-3 September 2015. October 2015.

European Central Bank. Introductory statement to the press conference (with Q&A). October 2015.

European Central Bank. Monetary Policy. 2015.

European Central Bank. Past macroeconomic projection ranges. September 2015.

European Central Bank. Press release - euro area households and non-financial corporations. October 2015.

European Central Bank. The euro area bank lending survey third quarter of 2015. October 2015.

European Commission. Business and Consumer Survey Results. September 2015.

European Commission. European Economic Forecast. Spring 2015.

European Commission. European Economic Forecast. Winter 2015.

European Commission. Overview – the spring 2015 forecast. Spring 2015.

Eurostat. Eurostatistics – Data for short-term economic analysis. July 2015 edition.

Eurostat. News release – Volume of retail trade up by 0.4% in euro area. September 2015.

Eurostat. News release, Euro indicators – Annual inflation down to -0.1% in the euro area – Down to -0.1% in the EU. October 2015.

Eurostat. News release, Euro indicators – Euro area annual inflation down to -0.1%. September 2015.

Eurostat. News release, Euro indicators – Euro area unemployment rate at 10.8%. October 2015.

Eurostat. News release, Euro Indicators, Flash estimate for the third quarter of 2015 – GDP up by 0.3% in the euro area and by 0.4% in the EU28. November 2015.

Eurostat. News release, Euro indicators – October 2015. 16 November 2015.

Experian Economics, 2015. UK Regional Forecast Quarterly. September 2015.

Federal Reserve Bank of St. Louis. Economic Synopses No.2 – The Economic Fundamentals of Emerging Market Volatility. 2015.

Federal Reserve Bank of San Francisco. Economic Letter – Can risk aversion explain stock price volatility? April 2013.

Federal Reserve Bank of San Francisco. Economic Letter – Stock market volatility. October 2002.

Federal Reserve Board. The Beige Book – Summary of Commentary on Current Economic Conditions by Federal Reserve District. October 2015.

Goldberg, Linda S. 'Exchange Rates and Foreign Direct Investment'. Federal Reserve Bank of New York.

H M Treasury, 2015. Forecasts for the UK Economy – A comparison of independent forecasts. August & October 2015.

Hoffman, Jonathan, Ram, Justin & Smart, Elizabeth. Working Paper 51 - Employment projections for London by sector and trend-based projections by borough. GLA Economics. December 2011.

International Monetary Fund. Euro Area Policies. July 2015.

International Monetary Fund. Global Financial Stability Report: Vulnerabilities, Legacies, and Policy Challenges - Risks Rotating to Emerging Markets. October 2015.

International Monetary Fund. IMF Staff Papers: Vol.49, No.1 - Further cross-country evidence on the accuracy of the private sector's output forecasts. 2002.

International Monetary Fund. World Economic Outlook - Adjusting to Lower Commodity Prices. October 2015.

Keijonen, Milja. 'Working Paper 69: An analysis of London's exports'. August 2015. GLA Economics.

Knight Frank. Central London Quarterly – Offices Q3 2015. October 2015.

National Bureau of Economic Research. Working paper 9479 - The Center and the periphery: The globalisation of financial turmoil. January 2003.

OECD. Interim Economic Outlook. September 2015.

Office for Budget Responsibility. Economic and fiscal outlook. July 2015.

Office for National Statistics. Consumer Price Inflation - October 2015. November 2015.

Office for National Statistics. Gross Domestic Product Preliminary Estimate - Quarter 3 (July to Sept) 2015. October 2015.

Office for National Statistics. Regional Labour Market - September 2015. September 2015.

Office for National Statistics. UK Relative Regional Consumer Price Levels for Goods and Services for 2010. July 2011.

Oxford Economics, 2015. Regional Forecasts. October 2015.

World Bank. Russia Economic Report No. 34 - Balancing Economic Adjustment and Transformation. September 2015.

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