

## Statistical Special Events in Quarter Three 2012 – the Olympics & Paralympics

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### Section 1: Introduction and Summary

The Office for National Statistics (ONS) published the quarter three 2012 preliminary estimate of gross domestic product (GDP) on 25 October 2012. It was estimated that GDP increased by 1.0 per cent in quarter three 2012 compared with quarter two 2012; this was the strongest quarterly growth since 1.2 per cent between quarters two and three of 2007.

The preliminary estimate of GDP growth in quarter three may have been affected by a number of factors, which need to be taken into account in the interpretation of the latest figures. First, the growth rate is based on the level of GDP in the second quarter of 2012, which had one fewer working day than usual because of the Queen's Diamond Jubilee bank holiday. In addition the London 2012 Olympic and Paralympics Games may have affected economic activity in the third quarter. In particular, the sales of Olympic tickets increased GDP growth in the quarter by 0.2 percentage points and there may have been other effects, which are impossible to quantify.

It is also important to note that this is the first estimate of GDP for quarter three 2012. At this stage, the estimate is based on monthly data for the first two months of the quarter (this includes survey returns from around 44,000 businesses in each month). However, the third month is estimated using 'nowcasts' reinforced by early returns from businesses. When further data are received, this may lead to revisions to estimates of quarter three 2012 GDP.

The current estimates for September 2012 (compared with August 2012) for the main GDP(O) components are falls in output of 0.5 per cent for services, 0.8 per cent for production and 1.0 per cent for construction. The falls in services and production are on a seasonally adjusted basis with the affect or price changes removed (chained volume). The fall in construction is on a non-seasonally basis and includes the impact of price changes (current prices). The different basis for construction is because there is insufficient data for this component to be seasonally adjusted on a monthly basis.

### Section 2: Objectives of this article

This article:

- helps users interpret the quarter three 2012 preliminary estimate of GDP and to raise awareness of the caution needed when doing so; certain factors are specifically highlighted (sections 3 and 4)
- informs users how the quarter three 2012 estimate was constructed including the assumptions that have been made for September 2012 (where survey data are less firm). Also highlighted is where it appears that the Olympics and Paralympics have had an impact (section 4)
- compares the impacts of the Sydney 2000 and London 2012 Games on the Australian and UK economies respectively (annex A)
- reminds users how ONS treats statistical special events. A summary of the policy can be found at annex B with the [full policy](#) also available

### Section 3: Factors that impact on the quarter three 2012 preliminary estimate of GDP

A few factors to consider when interpreting the quarter three 2012 preliminary estimate of GDP are:

#### *i) the 'bounce-back' effect*

There were factors that contributed to the fall in quarter two 2012 GDP that has led to widespread commentary by users of the expectation of a 'bounce-back' in quarter three 2012 GDP. The main factor was that as part of the celebrations for the Queens Diamond Jubilee the end of May bank holiday moved to June and there was an additional day's holiday in June. This meant that for quarter two 2012 there was one fewer working day than usual<sup>1</sup>. There are examples of the impact of this change in bank holidays in the data already published for the output of the services and manufacturing industries where, following large falls between May and June 2012, there was strong growth between June and July 2012.

<sup>1</sup> Comments in this article about the numbers of working days relate to the seasonally adjusted series, where ONS already takes account of the effect of the changing calendar on the number of weekdays, so it is purely the changes to bank holidays which is being described.

Another possible factor is related to the fact that the UK experienced poor weather in quarter two 2012, which was the wettest April to June on record. There was, however, also poor weather during quarter three 2012 and therefore any impact from the different weather conditions between the two quarters is likely to be small.

#### *ii) the London 2012 Olympics and Paralympics*

In addition to the 'bounce-back effect' there has also been significant speculation by users of the impact that the London 2012 Olympics and Paralympics will have on quarter three 2012 GDP.

To help users understand the impact of the Games on the National Accounts the ONS published [Measuring the impact of the Olympics in the National Accounts](#) on 13 July 2012. This previous article outlined the areas where data will (or have been) collected to estimate the impact of the Games across the wider Accounts. Perhaps the most relevant aspect for the quarter three 2012 preliminary GDP estimate is ticket sales. The London Organising Committee of the Olympic Games Limited (LOCOG) say that the Olympics and Paralympics generated around £580 million in ticket sales. In accordance with national accounts principles, these have been allocated to when the output actually occurs i.e. quarter three 2012 when the Games were held.

The Olympics and Paralympics will, of course, continue to have an impact on the National Accounts for a number of years due to the economic activities that are generated from the legacy of hosting the Games. For example, the infrastructure constructed for the Games converted for other uses.

In line with the [ONS special events policy](#), the moving and additional bank holiday due to the Diamond Jubilee and the hosting of the Olympics and Paralympics have been classified as statistical special events and the poor weather has not. The main rationale for the decision on the weather is, as noted earlier, although the conditions were poor, the impact has been relatively small and not beyond the normal weather based variation for the respective data series.

#### **Section 4: The quarter three 2012 preliminary estimate of GDP**

The UK preliminary estimate of GDP is based on the output measure of GDP and is published three and a half weeks after the end of the quarter.

The methods for producing the preliminary estimate of GDP use monthly data for the first two months in the quarter and 'nowcasts' for estimating the third month. The monthly data for the first two months includes the ONS Monthly Business Survey (MBS) of 44,000 businesses, covering the production, manufacturing, services, retail and construction industries. The nowcasts for the third month are reinforced by early returns to the MBS but the monthly response rate is generally low at this stage (around 30 per cent). The nowcasts for September 2012 used the standard ONS method of fitting an autoregressive integrated moving average (ARIMA) model and making adjustments for Easter, Trading Days and outliers. The nowcasts are calculated for each individual industry level series (e.g. food & beverage services).

The section is concerned with quarterly GDP and each of its key economic components. For each component the following structure is used:

- a graphical presentation of the evolution of the component since 2000: this is to help put the latest and recent data points in context
- a table with month on month growth rates since 2007: again this helps put the pattern of recent movements into context but also helps put the assumptions about September 2012 into perspective
- commentary on the monthly pattern of output between June 2012 and August 2012 and the assumptions made for September: this is to paint a picture of output over recent months and also helps to explain the rationale for the decisions made for September 2012
- the data already published for the months in quarter three 2012 and the decisions made on September are then brought together as we look at what these mean for the latest quarter. The latest data point is also put into context with quarterly growth rates since 2007 provided
- finally, commentary is provided on whether the Olympics and Paralympics have had an impact on the quarter three 2012 preliminary GDP estimate

#### 4a: Quarterly Gross Domestic product

Figure 1 shows quarterly gross domestic product at market prices (chained volume index, seasonally adjusted) from quarter one 1970 to quarter three 2012. Table 1 shows the GDP quarterly growth rates since 2007.

Figure 1: Quarterly gross domestic product at market prices (chained volume measure, seasonally adjusted)

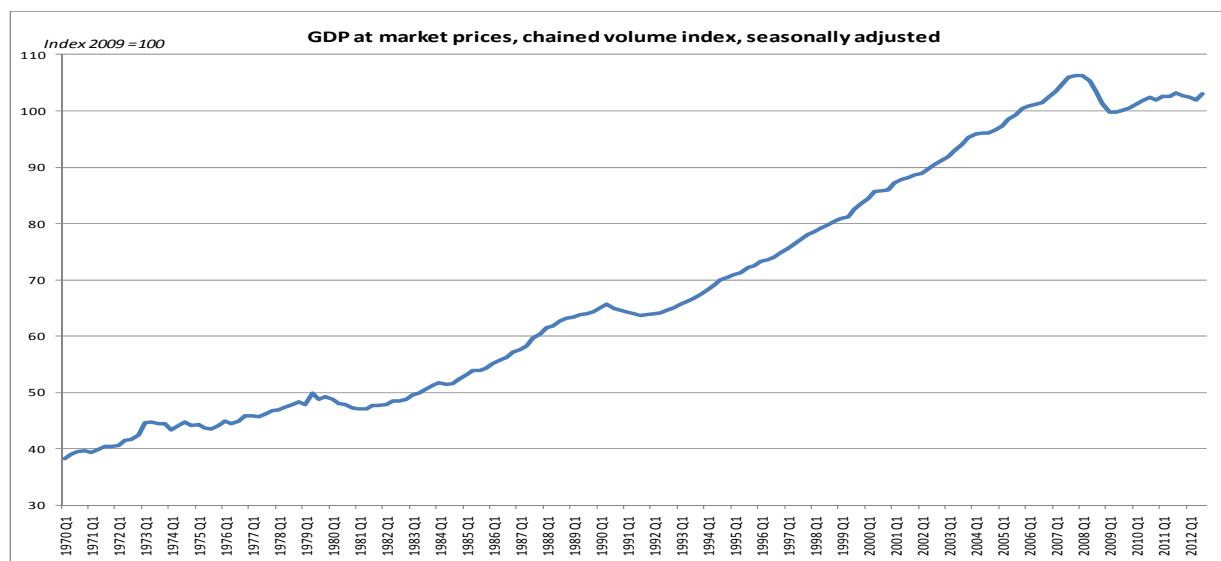


Table 1: Quarterly Gross Domestic Product at market prices (CVM, seasonally adjusted) quarter on quarter growth rates

Quarter	2007	2008	2009	2010	2011	2012	per cent
1	1.1	0.1	-1.5	0.6	0.5	-0.3	
2	1.2	-0.9	-0.2	0.7	0.1	-0.4	
3	1.2	-1.8	0.4	0.6	0.5	1.0	
4	0.2	-2.1	0.4	-0.4	-0.4		

Figure 1 shows that from quarter one 1970 to quarter one 2008 GDP has, with a few exceptions, increased steadily. Following the falls in GDP between quarter two 2008 and quarter two 2009 GDP growth has been broadly flat although as table 1 shows, the preliminary GDP estimate of 1.0 per cent for quarter three 2012 is the strongest quarterly GDP growth since quarter three 2007.

#### 4b: Monthly Index of Services

Figure 2: Index of Services (chained volume measure, seasonally adjusted)

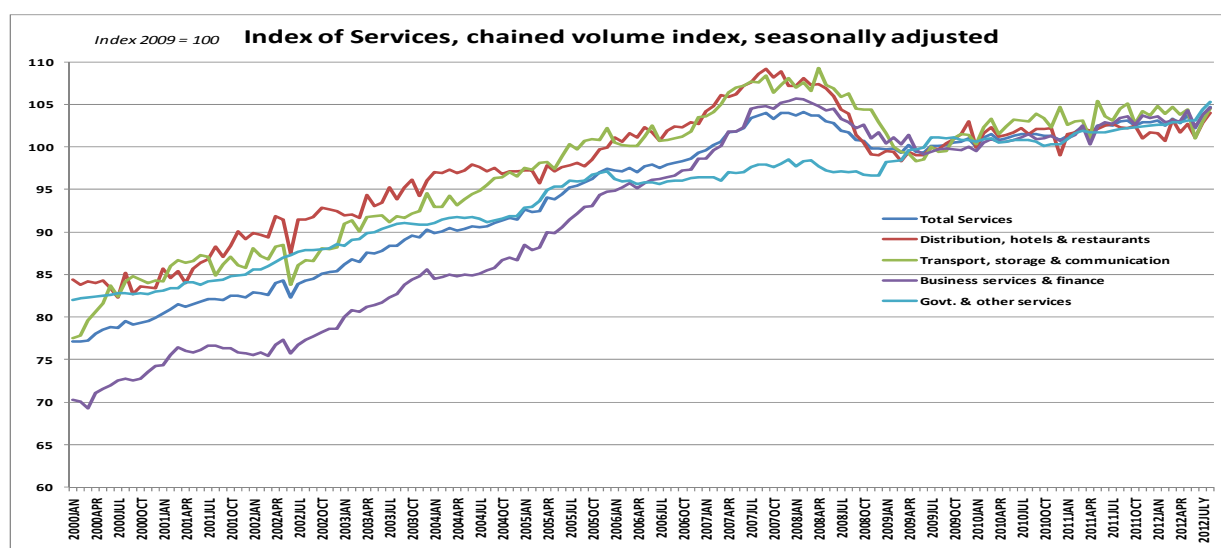


Table 2: Monthly Index of Services (CVM, seasonally adjusted) month on month growth rates

Month	2007	2008	2009	2010	2011	2012	per cent
January	0.3	-0.3	-0.1	-0.9	0.5	0.2	
February	0.6	0.4	0.1	1.0	0.4	-0.5	
March	0.4	-0.4	-0.5	0.4	0.6	0.7	
April	1.1	0.0	0.9	-0.7	-1.2	-0.4	
May	0.1	-0.7	-0.8	0.2	1.4	0.8	
June	0.4	-0.2	-0.1	0.3	0.0	-1.5	
July	1.2	-0.9	0.9	0.1	0.0	1.5	
August	0.3	-0.2	0.0	0.0	0.4	1.0	
September	0.2	-0.9	0.2	0.0	0.2	-0.5 <sup>1</sup>	
October	-0.7	-0.1	0.3	-0.2	-0.6		
November	0.6	-0.9	0.0	0.0	0.4		
December	0.0	0.0	0.4	-0.5	0.0		

<sup>1</sup> based on nowcasts and early responses to the September Monthly Business Survey (MBS)

### Monthly pattern in service industries' output and assumptions made for September 2012

#### *June*

Care should be taken when interpreting month on month growth rates due to their volatility. Table 2 clearly shows this volatility but also that the change in the bank holidays due to the Queen's Diamond Jubilee (and to a lesser extent the poor weather) had a significant impact on the output of the service industries in June 2012. These factors contributed to an estimated 1.5 per cent fall between May and June 2012, which was the second largest fall between two months ever. Interestingly the only larger fall (2.4 per cent) was between May and June 2002 when there were the same changes in the May and June bank holidays as a result of the celebrations of the Queen's Golden Jubilee.

#### *July*

The 'bounce-back effect' following the change in bank holidays and poor weather in June referred to earlier in the article can be clearly seen in the measurement of the output of the services industries. Following the large fall in output between May and June 2012, it is estimated that output rose by 1.5 per cent between June and July so therefore returning to the same level as in May 2012.

#### *August*

It is estimated that the output of the services industries continued to increase between July and August despite the large rise in output seen between June and July. This reflects the impact of the London 2012 Olympics and Paralympics where the revenue generated from the ticket sales for the Games was estimated to have added 0.4 percentage points to the 1.0 per cent increase in the services industries between July and August 2012. Further details on the impact of the Olympics and Paralympics are provided below.

#### *September*

As mentioned earlier in the article, whereas output of the services industries for July and August are largely based on survey data from businesses, the estimate for September is based on nowcasts reinforced by early responses from businesses. Based on this it was estimated that following two consecutive months of strong growth, output will fall by 0.5 per cent between August and September 2012. This assumes a lower growth rate than that seen between August and September in 2009, 2010 and 2011 but takes into account that there has been strong growth in the previous two months. It is perhaps worth noting that the output of the services industries remains 1.4 per cent higher than in April 2012 (before the change in bank holidays began to have an impact).

### Quarterly pattern in the output of the services industries

The published data detailed above and the assumption made for September lead to a growth rate for output of the services industries of 1.3 per cent between quarters two and three of 2012. Table 3 shows that this is the strongest quarterly growth in output since an increase of 1.8 per cent between quarters two and three of 2007.

Table 3: Output of the services industries (CVM, seasonally adjusted) quarter on quarter growth rates

Quarter	2007	2008	2009	2010	2011	2012	per cent
1	1.4	0.1	-0.5	0.2	0.6	0.2	
2	1.8	-0.6	0.0	0.2	0.3	-0.1	
3	1.8	-1.6	0.5	0.4	0.8	1.3	
4	0.0	-1.4	0.6	-0.4	-0.1		

### Impact of the Olympics and Paralympics on the output of the services industries during quarter three 2012

The Olympics took place from 27 July to 12 August 2012 (with a few events starting on 25 July), and the Paralympics from 29 August to 9 September. Of the main components of the output measure of GDP, the Games appear to have had the most impact on the services industries with the following divisions being most affected:

- **Sports activities, amusement and recreation:** tickets for the Olympics and Paralympics were sold in tranches through 2011 and 2012 but, in accordance with national accounts principles, these have been allocated to when the output actually occurs i.e. quarter three 2012 when the Games were held. LOCOG say that the Olympics and Paralympics generated around £580 million in ticket sales. The impact of these sales on GDP can be clearly seen in this industry, which is part of government & other services. Overall, ticket sales are estimated to have added around 0.2 percentage points to the quarter three 2012 preliminary GDP estimate
- **Employment activities:** employment agencies showed some strength in quarter three 2012 and it is possible that some of this strength is related to the Olympics and Paralympics. However, there is no direct evidence from survey respondents to support this
- **Creative arts & entertainment activities:** the arts and entertainment division has been showing some strength for some time, with quite strong growth in the most recent quarter. There is some evidence from survey returns that output was higher in July and August because of the Olympics and associated events
- **Office administration:** this industry was quite strong in quarter three 2012 but the evidence of any Olympics effect is mixed, with some respondents suggesting that it may have had an adverse effect, as opposed to explaining the strength
- **Accommodation:** this industry showed increased activity in quarter three 2012 and it might be expected that the Olympics and Paralympics would have an effect on the hotel industry, albeit mainly in London. There is some evidence from survey responses that output was higher in July and August because of the Olympics
- **Food & beverage services:** there is increased output in the food and drink industry and there is some evidence from survey returns that part of this might be as a result of the Olympics and Paralympics
- **Land Transport:** there is some evidence of increased output in parts of the transport industries and that this might be due to the Olympics and Paralympics
- **Retail:** there is some evidence of increased output but there is very little evidence of any significant Olympics or Paralympics effect. We have received feedback from on line retailers that sales were lower as consumers watched the Olympics instead of shopping on line. In contrast, we have seen increased sales in sporting goods and toys
- **Motion picture, video & TV programme production:** the output of these industries was quite weak for quarter three 2012 and there is some evidence from businesses to support this weakness - 'people watching the Olympics instead'

It is not possible to quantify the overall impact of the Olympics and Paralympics purely from surveys and indeed some of the activity may have displaced others (for example, the comments on watching the Olympics in preference to films or DVDs or shopping on line) but the details above provide some idea of where the main impacts are likely to have been.

#### 4c: Monthly Index of Production and Manufacturing

Figure 3: Index of Production and Manufacturing (chained volume measure, seasonally adjusted)

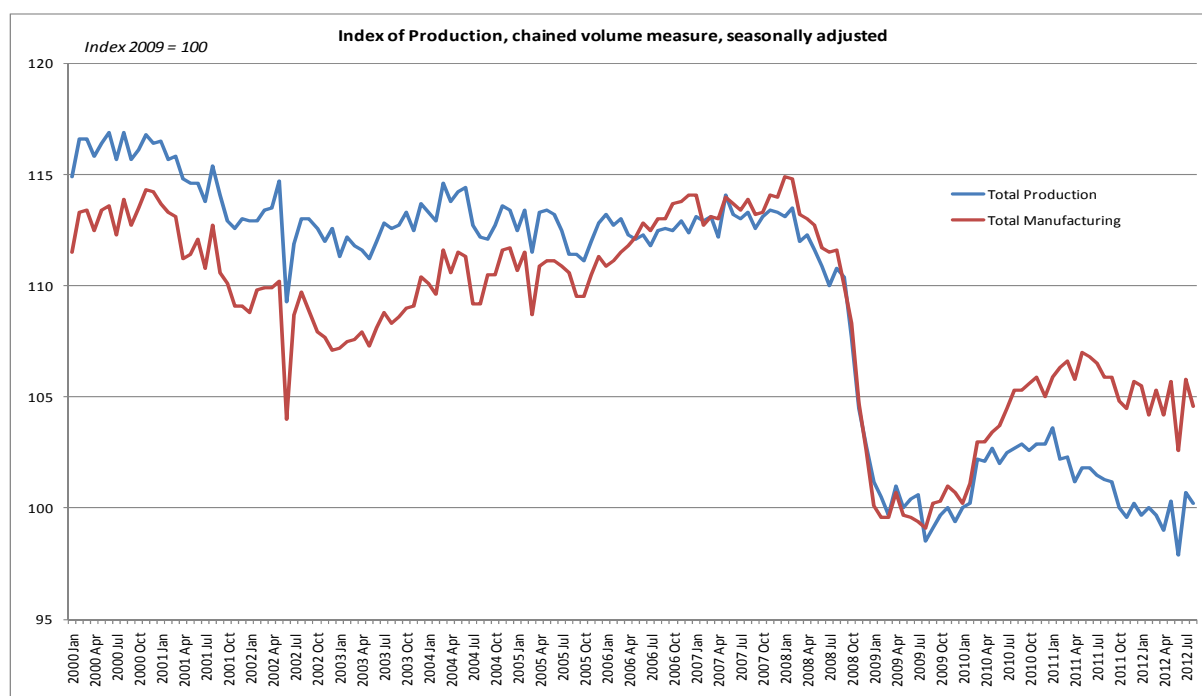


Table 4: Monthly Index of Production (CVM, seasonally adjusted) month on month growth rates

Month	2007	2008	2009	2010	2011	2012
January	0.6	-0.2	-1.6	0.6	0.6	-0.5
February	-0.2	0.3	-0.7	0.2	-1.3	0.3
March	0.2	-1.3	-0.7	2.0	0.1	-0.3
April	-0.8	0.3	1.2	-0.1	-1.1	-0.7
May	1.7	-0.6	-1.0	0.6	0.6	1.2
June	-0.8	-0.6	0.4	-0.6	0.0	-2.4
July	-0.2	-0.8	0.2	0.4	-0.2	2.8
August	0.2	0.7	-2.1	0.3	-0.2	-0.5
September	-0.6	-0.3	0.6	0.2	-0.1	-0.8 <sup>1</sup>
October	0.5	-2.5	0.6	-0.3	-1.2	
November	0.2	-3.0	0.3	0.3	-0.4	
December	0.0	-1.5	-0.6	0.1	0.6	

<sup>1</sup> based on nowcasts and early responses to the September Monthly Business Survey (MBS)

Table 5: Monthly Index of Manufacturing (CVM, seasonally adjusted) month on month growth rates

Month	2007	2008	2009	2010	2011	2012
January	0.0	0.8	-2.5	-0.5	0.8	-0.2
February	-1.2	-0.1	-0.4	0.9	0.3	-1.2
March	0.4	-1.4	0.0	1.8	0.3	1.0
April	-0.1	-0.2	1.1	0.0	-0.8	-1.0
May	0.9	-0.2	-1.0	0.4	1.2	1.4
June	-0.3	-0.9	-0.1	0.3	-0.2	-2.9
July	-0.3	-0.2	-0.1	0.7	-0.3	3.1
August	0.5	0.1	-0.3	0.8	-0.5	-1.1
September	-0.6	-1.5	1.1	0.0	0.0	0.4 <sup>1</sup>
October	0.1	-1.5	0.1	0.3	-1.1	
November	0.7	-3.3	0.6	0.3	-0.3	
December	0.0	-2.1	-0.3	-0.8	1.2	

<sup>1</sup> based on nowcasts and early responses to the September Monthly Business Survey (MBS)

## Monthly patterns in the output of the production and manufacturing industries and assumptions made for September 2012

### *June*

Tables 4 and 5 show that the change in the bank holidays due to the Queen's Diamond Jubilee had a significant impact on the output of the manufacturing industries in June 2012 but less so on the other components (eg. mining & quarrying and energy supply) of the wider Index of Production (IoP) measure. The estimated 2.9 per cent fall between May and June 2012 in manufacturing output was the largest fall between two months since the estimated 3.3 per cent fall between October and November 2008.

### *July*

Similar to the picture seen in the services industries, the 'bounce-back effect' following the change in bank holidays can also be clearly seen in the measurement of the output of the manufacturing industries. Following the large falls in output between May and June 2012, it was estimated that the output of the production and manufacturing industries rose by 2.8 per cent and 3.1 per cent respectively between June and July. This led to the level of output of both industries being above that of May 2012.

### *August*

It was estimated that manufacturing output fell by 1.1 per cent between July and August and production output by 0.5 per cent over the same period. There was some anecdotal evidence that some manufacturing businesses (particularly in the transport equipment industries) had longer summer closures in August 2012, or that closures were held later than in previous years so they affected August exclusively instead of being spread across July and August. As the figures suggest there was little evidence that the Olympics and Paralympics had an impact on production or manufacturing unless linked to the summer closures.

### *September*

As with the services industries, although production and manufacturing output for July and August are largely based on survey data from businesses, the estimate for September 2012 is based on nowcasts reinforced by early responses from businesses. This includes forecasts from the Department of Energy and Climate Change for oil & gas extraction and electricity & gas supply. Based on these it was estimated that production output fell by 0.8 per cent between August and September and that manufacturing output rose by 0.4 per cent. The forecast fall for production output in September 2012 is mainly due to the mining & quarrying industries and is mainly due to oilfields shutting down for planned maintenance.

### Quarterly pattern in the output of the production and manufacturing industries

The published data detailed above and the assumption made for September leads to growth rates for the output of the production and manufacturing industries of 1.1 per cent and 1.0 per cent respectively between quarters two and three of 2012. Table 6 shows that this is the strongest quarterly growth for production since an increase of 1.4 per cent between quarters one and two of 2010 and the strongest for manufacturing since a 1.6 per cent rise between quarters two and three of 2010.

Table 6: Output of the production industries (CVM, seasonally adjusted) quarter on quarter growth rates

Quarter	2007	2008	2009	2010	2011	2012
1	0.4	-0.3	-4.3	1.1	-0.1	-0.2
2	0.1	-1.1	0.0	1.4	-1.1	-0.7
3	-0.2	-1.1	-1.1	0.4	-0.2	1.1
4	0.3	-4.9	0.3	0.1	-1.4	

Table 7: Output of the manufacturing industries (CVM, seasonally adjusted) quarter on quarter growth rates

Quarter	2007	2008	2009	2010	2011	2012
1	-0.5	0.4	-5.2	0.8	0.7	0.0
2	0.3	-1.6	0.2	1.9	0.2	-0.8
3	-0.1	-1.3	-0.4	1.6	-0.4	1.0
4	0.2	-5.2	1.1	0.5	-1.0	

### Impact of the Olympics and Paralympics on the output of the production and manufacturing industries during quarter three 2012

As noted earlier, there is little evidence that the Olympics and Paralympics had an impact on the production or manufacturing industries unless linked to the summer closures referred to earlier.

#### **4d: Monthly retail sales index**

Figure 4: All retailing sales (chained volume measures, seasonally adjusted)

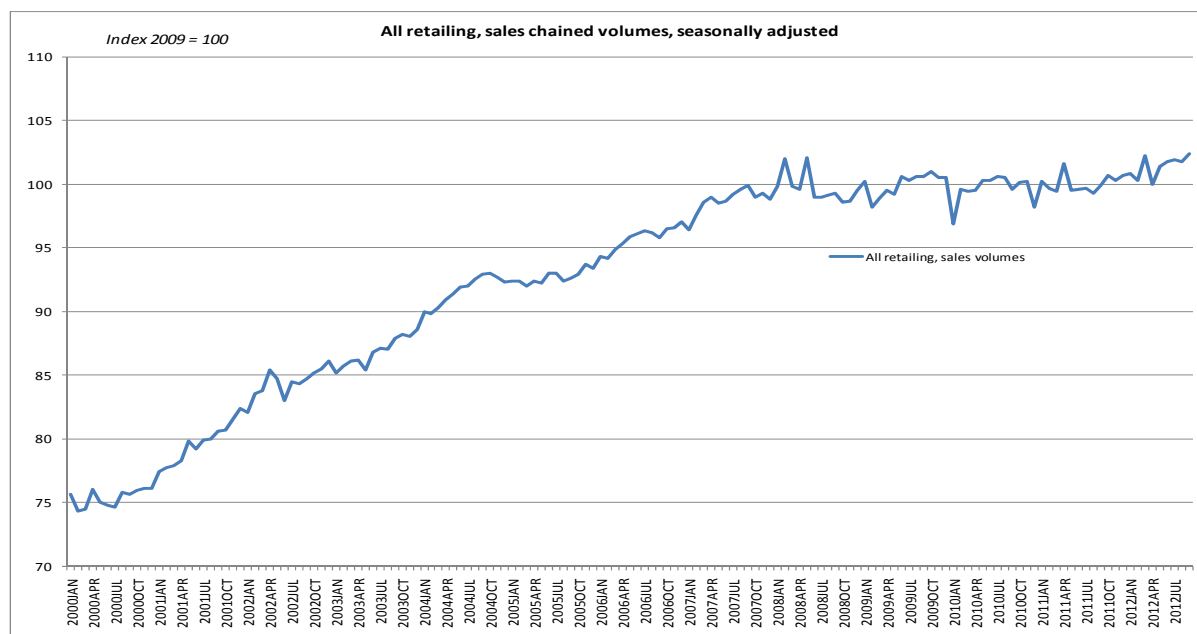


Table 8: Monthly Retail Sales Index (CVM, seasonally adjusted) month on month growth rates

Month	2011	2012	per cent
January	2.1	0.2	
February	-0.6	-0.5	
March	-0.3	1.9	
April	2.2	-2.2	
May	-2.1	1.4	
June	0.1	0.4	
July	0.2	0.1	
August	-0.4	-0.1	
September	0.6	0.6	
October	0.8		
November	-0.4		
December	0.4		

#### Monthly pattern in the retail sales index and assumptions made for September 2012

A much shorter time series of month on month growth rates has been provided for the retail sales index (RSI). The reasons for this are two-fold: first, data are available for all three months of quarter three 2012 by the time the quarter three 2012 preliminary estimate of GDP is constructed so no assumptions have to be made for September 2012; secondly there is little evidence that the change to the bank holidays in May and June 2012, the Diamond Jubilee more generally or the Olympics and Paralympics had a significant impact on the retail industries.

#### Quarterly pattern in retail sales

The published data detailed above leads to growth rates for the RSI of 1.0 per cent between quarters two and three of 2012. Table 9 shows that this is the strongest quarterly growth since the increase of 1.4 per cent between quarters one and two of 2010.



Table 9: Monthly Retail Sales Index (CVM, seasonally adjusted) quarter on quarter growth rates

Quarter	2007	2008	2009	2010	2011	2012	per cent
1	0.9	1.4	0.1	-1.9	0.3	0.6	
2	1.2	-0.3	0.7	1.4	0.4	-0.1	
3	0.8	-1.0	0.7	0.2	-0.5	1.0	
4	-0.6	-0.2	0.1	-0.8	0.9		

#### Impact of the Olympics and Paralympics on the retail sales index during quarter three 2012

There is little evidence that the Olympics and Paralympics had a significant impact on retail sales. We have though received feedback from on line retailers that sales were lower as consumers watched the Olympics instead of shopping on line. In contrast to this, we have seen increased sales in sporting goods and toys.

#### **4e: Quarterly output in the construction industry**

Figure 5: Quarterly construction output (chained volume measure, seasonally adjusted)

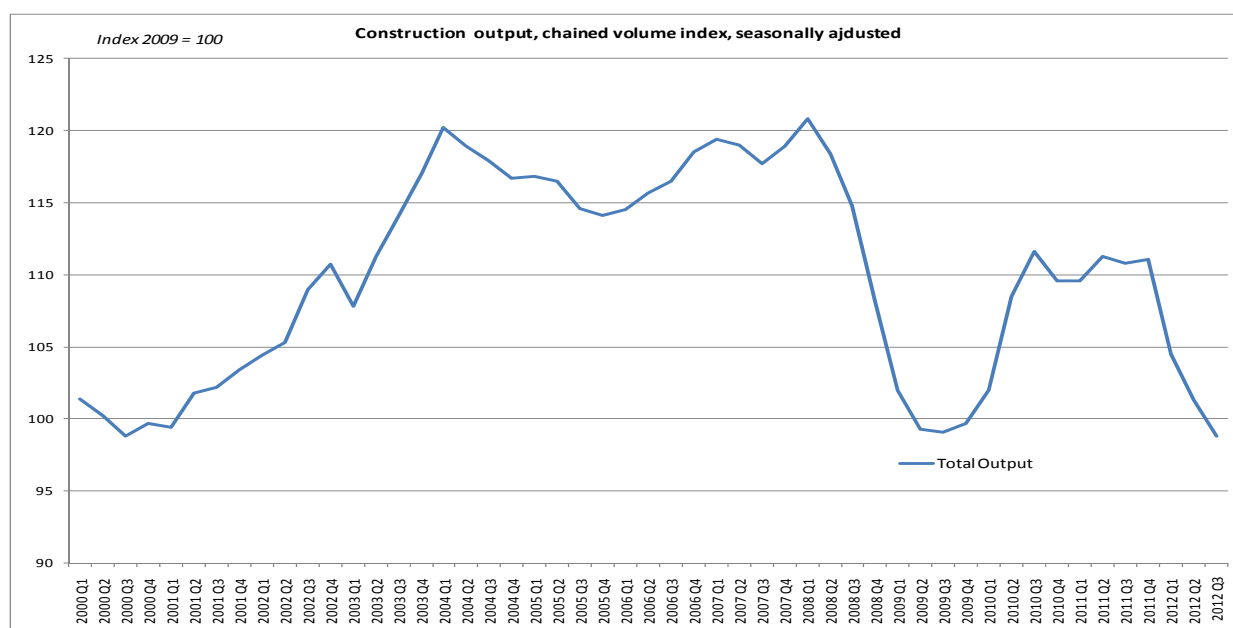


Table 10: Output in the construction industry (current price, non-seasonally adjusted) month on month growth rates

Month	2010	2011	2012	per cent
January		-6.7	-12.7	
February	16.1	10.4	7.7	
March	18.3	19.6	14.6	
April	-9.7	-12.2	-12.9	
May	2.7	3.9	7.0	
June	7.1	6.2	-3.1	
July	-1.3	-2.1	2.5	
August	3.2	0.8	-1.0	
September	-0.9	0.3	-1.0 <sup>1</sup>	
October	0.0	-0.1		
November	0.4	2.3		
December	-14.6	-9.8		

<sup>1</sup> based on early responses to the September Monthly Business Survey (MBS)

#### Monthly pattern in construction output and assumptions made for September 2012

Monthly data for the construction industries are only available from January 2010, and only on a non-seasonally adjusted basis. This makes it difficult to nowcast in the same way as for the services, production and manufacturing industries and this leads us to place more weight on the early MBS responses for September.

The construction estimate is based on published data for the first two months of the quarter with an estimation for the third month. For the quarter three 2012 preliminary estimate of GDP the relevant published construction data are for July and August 2012 in the [Output in the Construction Industry](#) release published on 12 October 2012. Using the early responses from businesses to inform the nowcast, the estimate for September 2012 is for a fall of 1.0 per cent (in terms of current price non-seasonally adjusted) between August 2012 and September 2012.

It is perhaps useful to remind users that as the construction activity relating to the staging of the Games was completed before the Games commenced this activity will already have been captured in the National Accounts.

#### Quarterly pattern in construction output

The published data detailed above and the assumption made for September, following deflation and seasonal adjustment lead to construction output falling by an estimated 2.5 per cent between quarters two and three of 2012. Table 11 shows that construction output continues to fall in 2012 although at a slower rate than in the first six months of the year.

Table 11: Quarterly output in the construction industry (CVM, seasonally adjusted) quarter on quarter growth rates

Quarter	2007	2008	2009	2010	2011	2012
1	0.8	1.6	-5.8	2.3	0.0	-5.9
2	-0.3	-2.0	-5.8	6.3	1.6	-3.0
3	-1.1	-3.0	-2.6	2.9	-0.5	-2.5
4	1.0	-5.8	-0.1	-1.8	0.2	

#### Impact of the Olympics and Paralympics on the output of the construction industries during quarter three 2012

As noted above, there is little evidence that the Olympics or Paralympics had an impact on the output of the construction industries during quarter three 2012. Construction activity relating to the Games was completed before the Games commenced and this activity will already have been captured in the National Accounts.

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### Annex A: The impact of the Olympics and Paralympics on the UK and Australian economies

This section contrasts the impact of the London 2012 and Sydney 2000 Olympic Games on the host nation's economy. It will consider their effect on GDP, the labour market, prices, and visitor numbers to determine which aspects of the economy were most affected.

Olympic and Paralympic Games occur once every four years in different regions of the world under different economic conditions, meaning that direct country comparisons are problematic. Comparing the impact of the Games between host nations must therefore be treated with caution. For London 2012, the most appropriate comparison can be made with Sydney 2000, because of the broad similarities in the structure of both economies and the relatively short time between the two events. However, London 2012 occurred in the third quarter of the year, while Sydney 2000 started later and was consequently hosted in the latter part of the third quarter and early part of the fourth.

Figure 6: Australian GDP growth throughout the Olympics period, quarter 1 1999 to quarter 4 2001

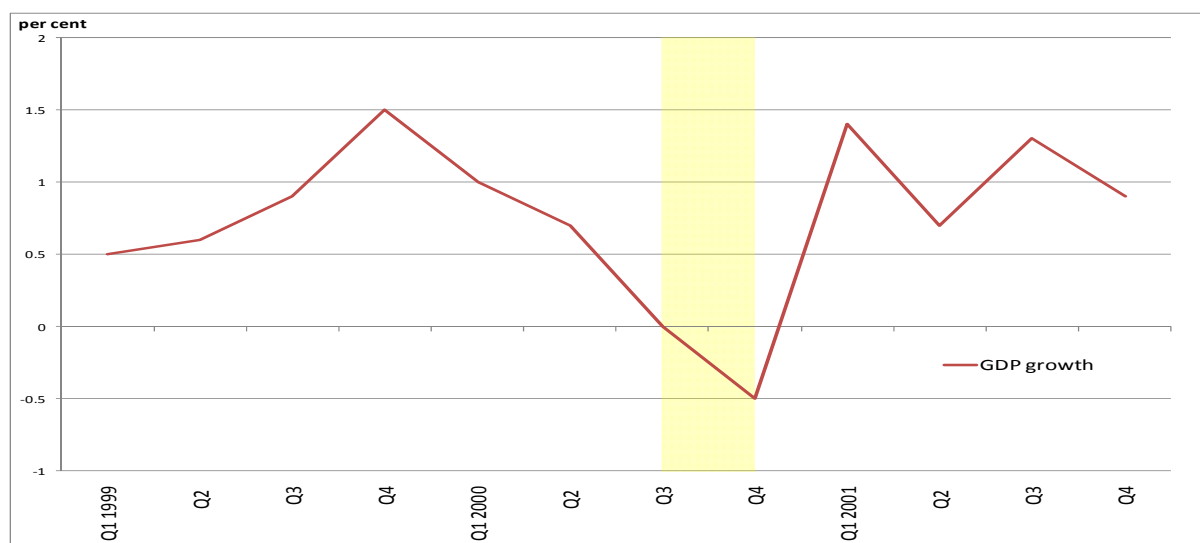
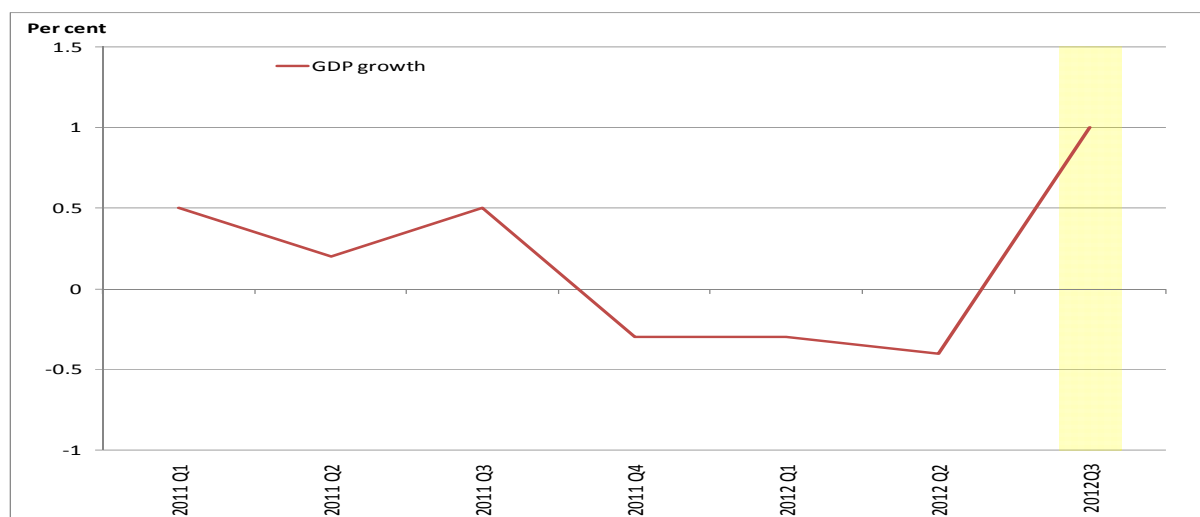


Figure 7: UK GDP growth throughout the Olympic period, quarter 3 2011 to quarter 3 2012



### GDP

A comparison of GDP over the Olympics and Paralympics period for London and Sydney is challenging due to the difference in the world economic climate at the time of each event. Prior to the Sydney 2000 Games, the Australian economy experienced a period of sustained economic growth. In contrast, the UK economy was weak in 2012 following a pronounced fall in output caused by the 2008 global financial crisis.

Olympics and Paralympics related expenditure in comparison to the size of the host country's economy is another factor that must be considered when making a country comparison. LOCOG estimate overall spending at £9.3 billion for London 2012, which equates to 0.6 per cent of annual nominal GDP. This was higher than spending for Sydney 2000, which the Australian Olympic Co-ordination Authority estimates at £5.4 billion. However, Australian Olympics and Paralympics spending was 0.8 per cent of annual nominal GDP, a little higher than the UK. You may expect there to be a greater Olympic and Paralympic effect where spending is a higher proportion of GDP.

The effect of the Games on GDP, especially during the quarter when they were being held, is very different for each country. The UK economy grew by 1.0 per cent, while the Australian economy contracted by 0.5 per cent.

Growth in the UK economy for the Games period was supported mainly by the services industries and a small contribution from production, while the construction industries contracted. The weakness in the quarter immediately preceding the Olympics can be partly attributed a reduction in working days due to an additional Bank Holiday for the Queen's Jubilee and, to a lesser extent, poor weather. Therefore estimating the Olympics and Paralympics effect over the same period is made especially difficult.

The services industries also supported the Australian economy during the Games period. However, there was a much larger negative contribution from construction and consequently growth was negative. In contrast to the UK, in the run up to the Olympics and Paralympics the Australian construction industries had undergone a period of sustained expansion. This continued after the Games were held and therefore the contraction was isolated to the Olympics and Paralympics Games period.

During the Games period in both countries, the services industries contributed positively to growth while the construction industries contributed negatively. However, the positive contribution from the services industries was stronger in the UK and the negative contribution of construction weaker.

#### Labour market

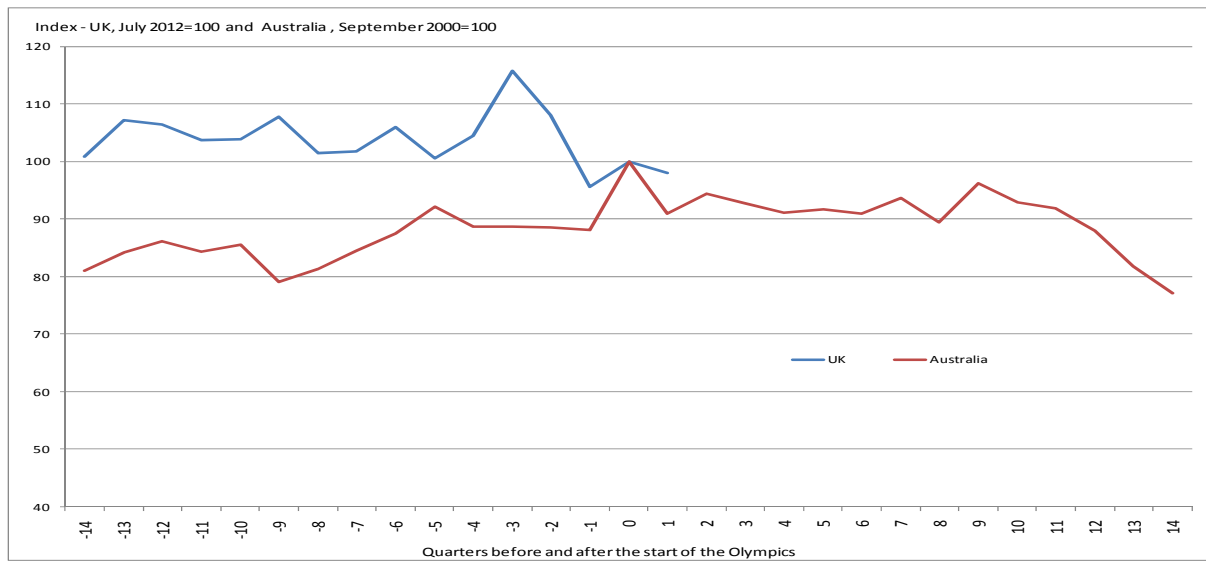
Labour market improvements were being witnessed in the UK and Australia before the Games had started. Infrastructure improvements and anticipation of increased demand as a consequence of the Games may have made an additional positive impact. That said, it is difficult to attribute the improvements to the Olympics or Paralympics rather than to the underlying movements in the labour market.

Unemployment in Australia during the Games fell to 6 per cent, considerably lower than the 8.2 per cent seen three years earlier, and lower than the unemployment experienced for three years after the Games. The reduction in UK unemployment was modest, falling from a peak of 8.3 per cent during the latter part of 2011 to 7.9 per cent at the start of the Games period. Notably, these gains were achieved despite the faltering economy.

#### Consumer prices

In the UK and Australia there are differences in the level of inflation before and after the Games. The UK annual inflation rate had been falling since September 2011, from a high of 5.2 per cent to an average of 2.4 per cent over the three Olympic months. Australian inflation is measured on a quarterly basis and had been steadily increasing since a trough of 1.1 per cent in quarter two 1999 until it reached a peak in the first Olympic quarter. Inflation in quarter three 2000 stood at 6.1 per cent - a ten year high - and remained above 5.8 per cent until 2011 Q3. The effect of the Olympics and Paralympics on inflation in both the UK and Australia was negligible, possibly due to the size of the Games in comparison to the overall economy. Other factors such as interest rates and household expenditure would generally be expected to have a more dominant influence.

Figure 8: Visitors from overseas residents to Olympics and Paralympics host nations



During an Olympics and Paralympics Games period you may expect an increase in foreign visitors as spectators travel to the host nation to watch the Games. This is clearly apparent in Australia as the number of visitors increased substantially on the same period a year earlier and did not reach a similar number during the year after. In contrast, visits to the UK fell on the same period a year earlier and were below the number of visitors generally seen for the year prior to the Games. The UK had a greater inflow of visitors for the Queen’s Diamond Jubilee in June 2012.

### Conclusion

The UK experienced an increase in output over the period, while Australia underwent a mild contraction. It is difficult to distinguish how much of the growth during the third quarter was due to Olympics and Paralympics Games activities, underlying growth in the economy, or the recovery from a poor second quarter. Due to a number of factors affecting the quarterly path of GDP, it is also difficult to determine the effect of the Games on official statistics before and after the Olympics and Paralympics period.

The other statistic of note was the number of visitors attracted by the Games. London, which is already one of the most visited tourist destinations in the world, experienced a significant dip in visitors. This was perhaps due to the Queen’s Diamond Jubilee held four months earlier or possibly due to potential visitors choosing not to visit the UK due to the Olympics and Paralympics. In contrast to this, visitors to Australia increased markedly over the Games period as would have usually been expected.

Both economies saw improvement in the labour market running up to the Games, albeit a smaller improvement in the UK. However it is difficult to attribute these improvements to an Olympics or Paralympics Games effect rather than long-term underlying trends already present in the labour market.

## **Annex B: ONS Policy on Special Events**

In May 2012 ONS published a [policy](#) on the identification and treatment of special events. The policy defines special events as those which are identifiable, do not recur on a regular cycle and have at least the potential to have an impact on statistical estimates. Where a possible special event is identified that is either planned (e.g. moving bank holidays) or unplanned (e.g. extreme weather conditions as seen in quarter four of 2010), the ONS special events group will determine whether to treat an event as 'special' using the following criteria:

- whether it has a general effect across a number of outputs
- whether it is restricted to one (or at most very few) periods
- whether the effect is, or is likely to be, noticeable (specifically, any effects which are difficult to distinguish from the normal variation in a series will not be special)
- the views of users

The policy goes on to state that when a special event is identified ONS will:

- provide commentary alongside the published statistical estimates to help users understand the estimates
- co-ordinate across the affected statistical outputs to gather and summarise the available information

ONS will not normally attempt to quantify the impact of special events on statistical estimates based on movements in the time series because of the difficulty in isolating the effect of them from the normal variation in the series.

ONS may, though, sometime after the special event when more data periods are available for the affected statistical outputs, produce an analytical article interpreting how the relevant series moved in the affected period. An example of such an [article](#) is a retrospective analysis published on the impact of the bad weather in December 2010 and the Royal Wedding in April 2011.