Office for National Statistics

Article

Business investment in the UK: analysis by asset

Analysis of UK business investment broken down by asset type.

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Correction

9 April 2019 09:30

A correction has been made to Figure 6 and the accompanying text. This was due to a small error when producing the chart and commentary. You can see the original content in the superseded version. We apologise for any inconvenience.

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1 . Introduction

Business investment is the acquisition of non-financial assets less the proceeds from disposal of these assets by private and public corporations. These include investments in:

- transport
- information and communication technology (ICT) equipment and other machinery and equipment
- cultivated assets (such as livestock and vineyards)
- intellectual property products (IPP, which includes investment in software, research and development, artistic originals and mineral exploration)
- other buildings and structures

While gross fixed capital formation is published by these broad asset types, with the addition of dwellings and costs of ownership transfer on non-produced assets, business investment is not broken down to its component assets.

As part of the quarterly estimates of business investment in the UK, contributions to growth of business investment by these assets are calculated and published only for the latest quarter but as of 29 March 2019, this release will include seasonally adjusted time series of business investment by asset in current prices and chained volume measures.

To accompany the first release of these data, this article will analyse the components of business investment and discuss past and current trends in the data.

2 . Historical trends within business investment

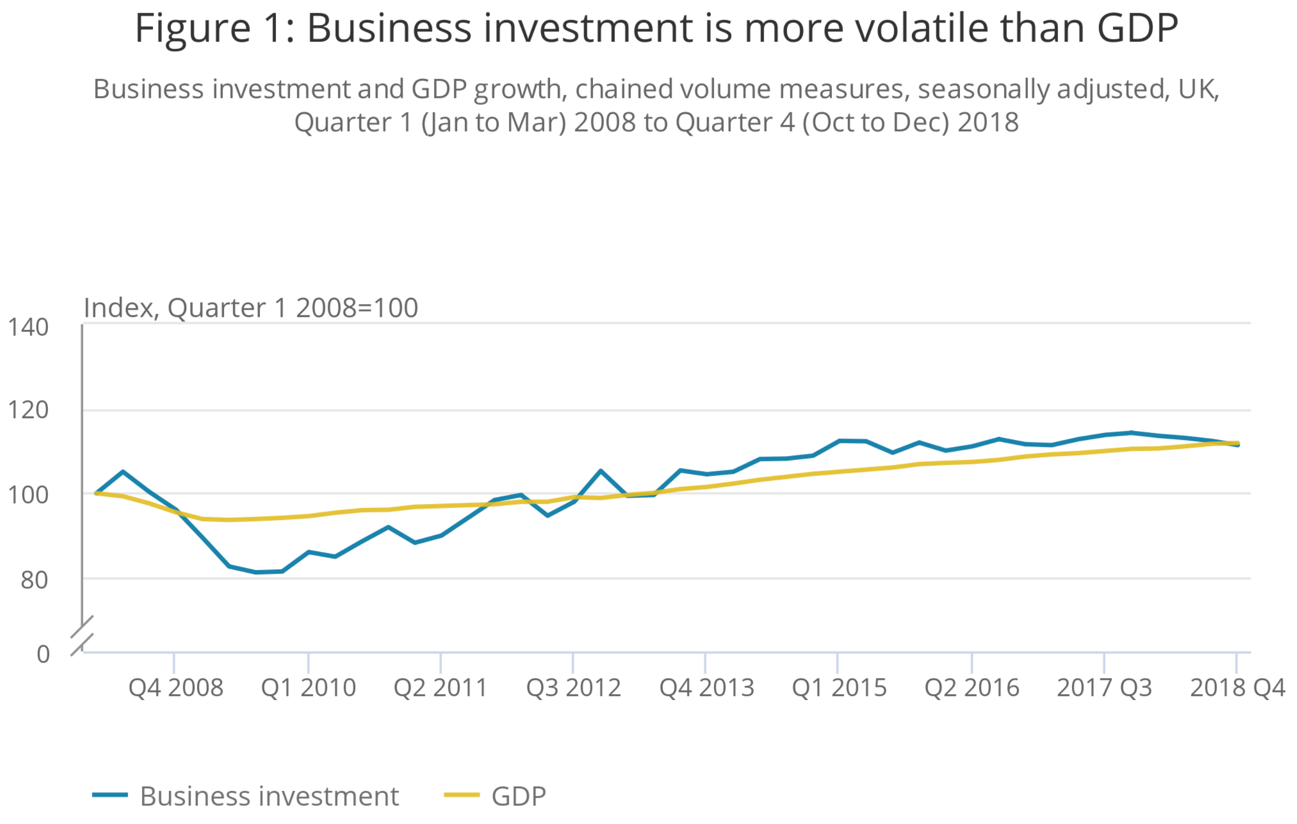
Business investment accounts for around 9% of gross domestic product (GDP) and at times has exhibited different behaviour. Figure 1 shows business investment and GDP in the UK since the beginning of the last economic downturn in 2008. It shows that over 2018, GDP growth continued broadly on trend while business investment fell. This can be partially attributed to the fact that private consumption, the largest component of domestic expenditure, continued to grow throughout 2018.

During the economic downturn of 2008 and 2009, business investment fell more, in percentage terms, than GDP despite increasing in Quarter 2 (Apr to June) 2008. The reasons for this spike will be explored later in this section.

Following the downturn, business investment and GDP recovered to pre-downturn levels in around the same length of time. Growth in business investment continued at a broadly faster pace than GDP, until 2015, when business investment slowed before falling in 2018, while GDP growth continued broadly on trend.

Figure 1: Business investment is more volatile than GDP

Business investment and GDP growth, chained volume measures, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2018



Source: Office for National Statistics

Notes:

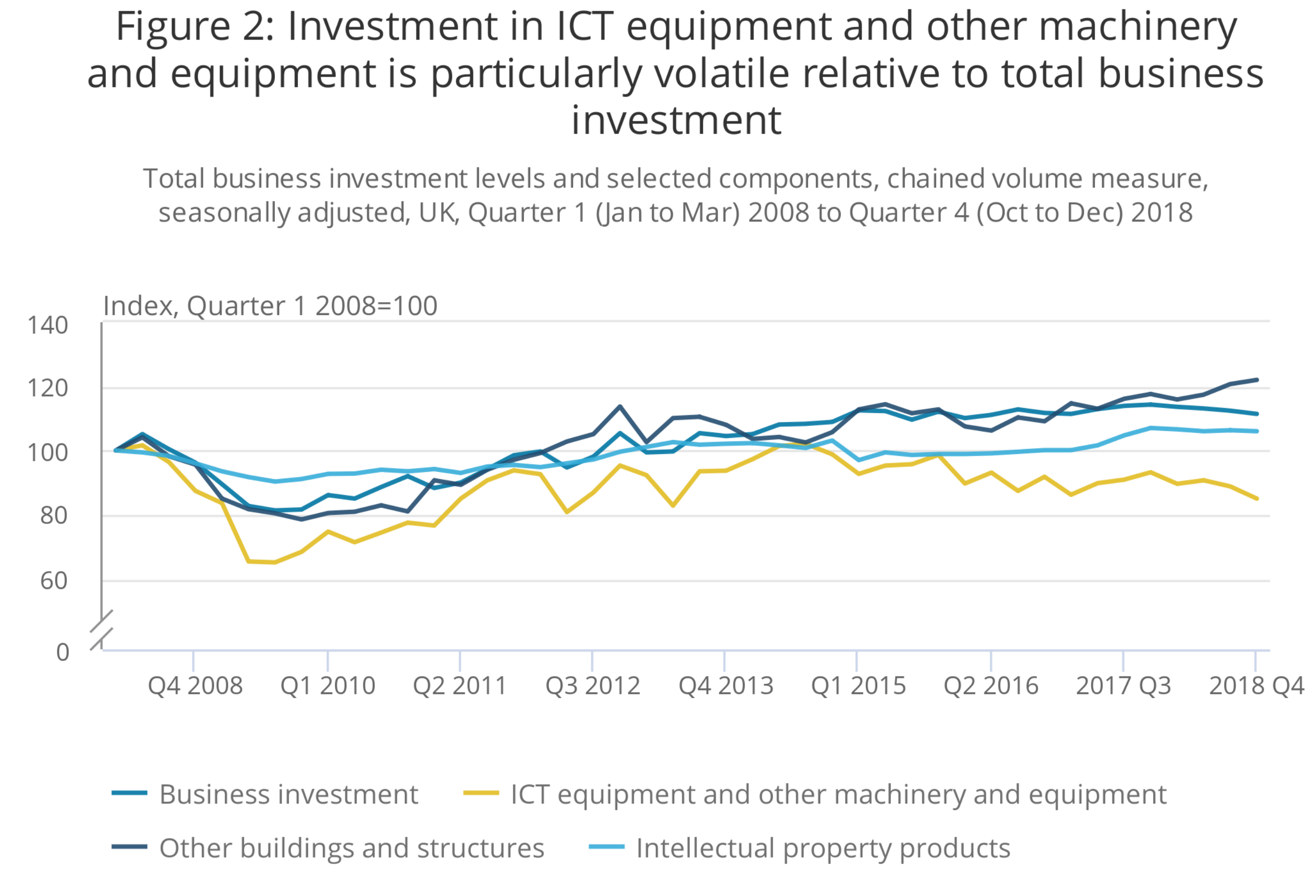
1. Q1 is Quarter 1 (Jan to Mar)
2. Q2 is Quarter 2 (Apr to June)
3. Q3 is Quarter 3 (July to Sep)
4. Q4 is Quarter 4 (Oct to Dec)

Business investment has generally been volatile relative to GDP growth, with the volatility of some of its components being even greater.

Figure 2 shows the level of business investment and some of its component assets relative to the pre-downturn peak of Quarter 1 (Jan to Mar) 2008. This shows that investment in information and communication technology (ICT) equipment and other machinery and equipment has been particularly volatile relative to total business investment since 2012. Conversely, investment in intellectual property products (IPP) has tended to much smoother. The nature of investment in transport equipment means that it is exceptionally volatile and so will be analysed separately later in this article.

Figure 2: Investment in ICT equipment and other machinery and equipment is particularly volatile relative to total business investment

Total business investment levels and selected components, chained volume measure, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2018



Source: Office for National Statistics

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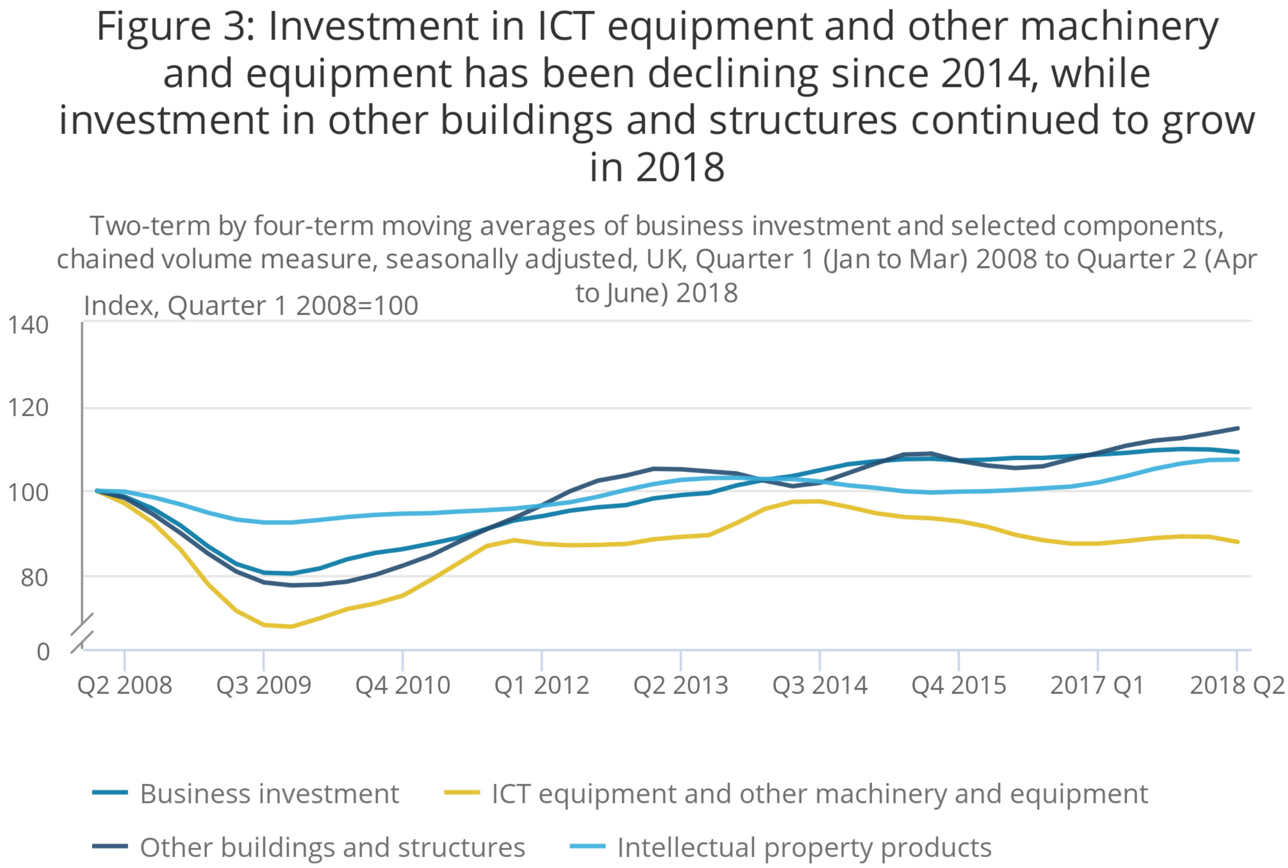
To better understand the trends in business investment and its components, a two by four period moving average has been calculated for each of these series to smooth some of the volatility. This is calculated by taking a series of four-term averages, rolling on by one quarter each time, then taking a series of two-term averages of these so that each data point refers to one quarter. One of the consequences of this is only being able to take moving averages up to Quarter 2 2018 since a data point referring to Quarter 3 (July to Sept) 2018 would require data for Quarter 1 2019.

Figure 3 shows these moving averages of business investment and its component assets from 2008. This shows that ICT equipment and other machinery and equipment fell the most during the economic downturn but had recovered to similar levels by 2014. Since then however, investment in this asset has been broadly declining.

Figure 3: Investment in ICT equipment and other machinery and equipment has been declining since 2014, while investment in other buildings and structures continued to grow in 2018

Two-term by four-term moving averages of business investment and selected components, chained volume measure, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 2 (Apr to June) 2018



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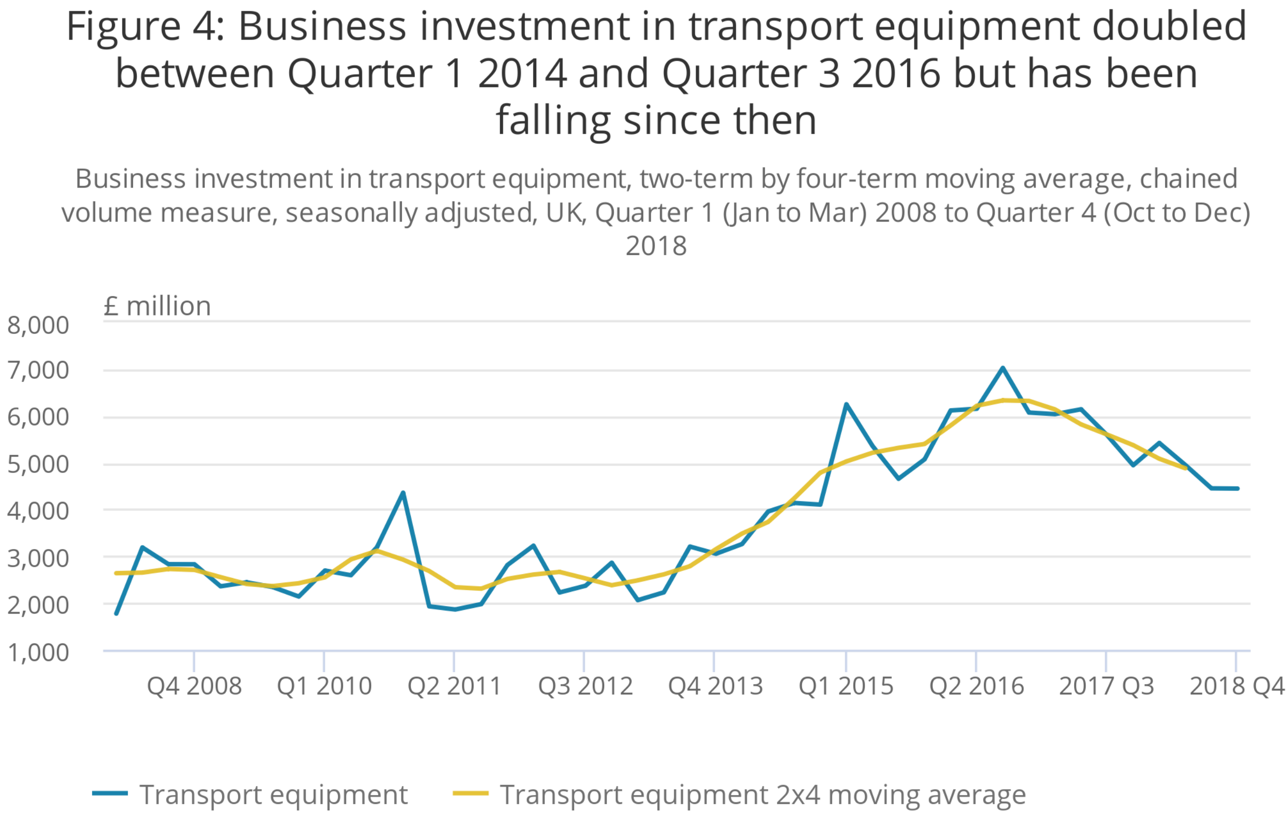
A similar decline in investment in ICT equipment and other machinery and equipment can also be seen in gross fixed capital formation (GFCF). Annual GFCF by industry and asset data suggest that the mining and quarrying industry made the largest negative contribution to growth in investment in machinery and equipment between 2014 and 2017. Other industries where investment in this asset fell from between 2014 and 2017 include electricity, gas, steam and air conditioning supply and construction. These data also show that between 2014 and 2017, investment in ICT equipment fell in 16 of the 22 non-government industries with available data on investment in ICT equipment.

Investment in buildings and structures, other than dwellings, recovered quicker than ICT equipment and other machinery and equipment, and total business investment, having not fallen as much during the economic downturn. Investment in intellectual property products (IPP) also fell during the economic downturn, and although this fall was smaller relative to the other larger assets, it was not until Quarter 1 2013 that it surpassed its pre-downturn peak of Quarter 1 2008. There was strong growth in IPP in 2017 but this was not sustained into 2018.

Although volatile, investment in transport equipment stayed broadly flat between 2008 and 2014, with a slightly downward trend. Unlike the other assets within business investment, transport equipment did not fall below the level seen in Quarter 1 2008 during the economic downturn of 2008 and 2009. This was due to a large increase in investment in transport equipment in Quarter 2 2008, which was followed by a broad decline lasting until Quarter 4 (Oct to Dec) 2009 (Figure 4).

Figure 4: Business investment in transport equipment doubled between Quarter 1 2014 and Quarter 3 2016 but has been falling since then

Business investment in transport equipment, two-term by four-term moving average, chained volume measure, seasonally adjusted, UK, Quarter 1 (Jan to Mar) 2008 to Quarter 4 (Oct to Dec) 2018



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The large rise and subsequent fall in transport equipment investment from 2014 can be largely attributed to investment in aircraft. Between Quarter 1 2014 and Quarter 3 2016, business investment in transport equipment increased by 115.6%. UK imports data by country and commodity suggest that this could have been partially attributed to imports of aircraft from the United States.

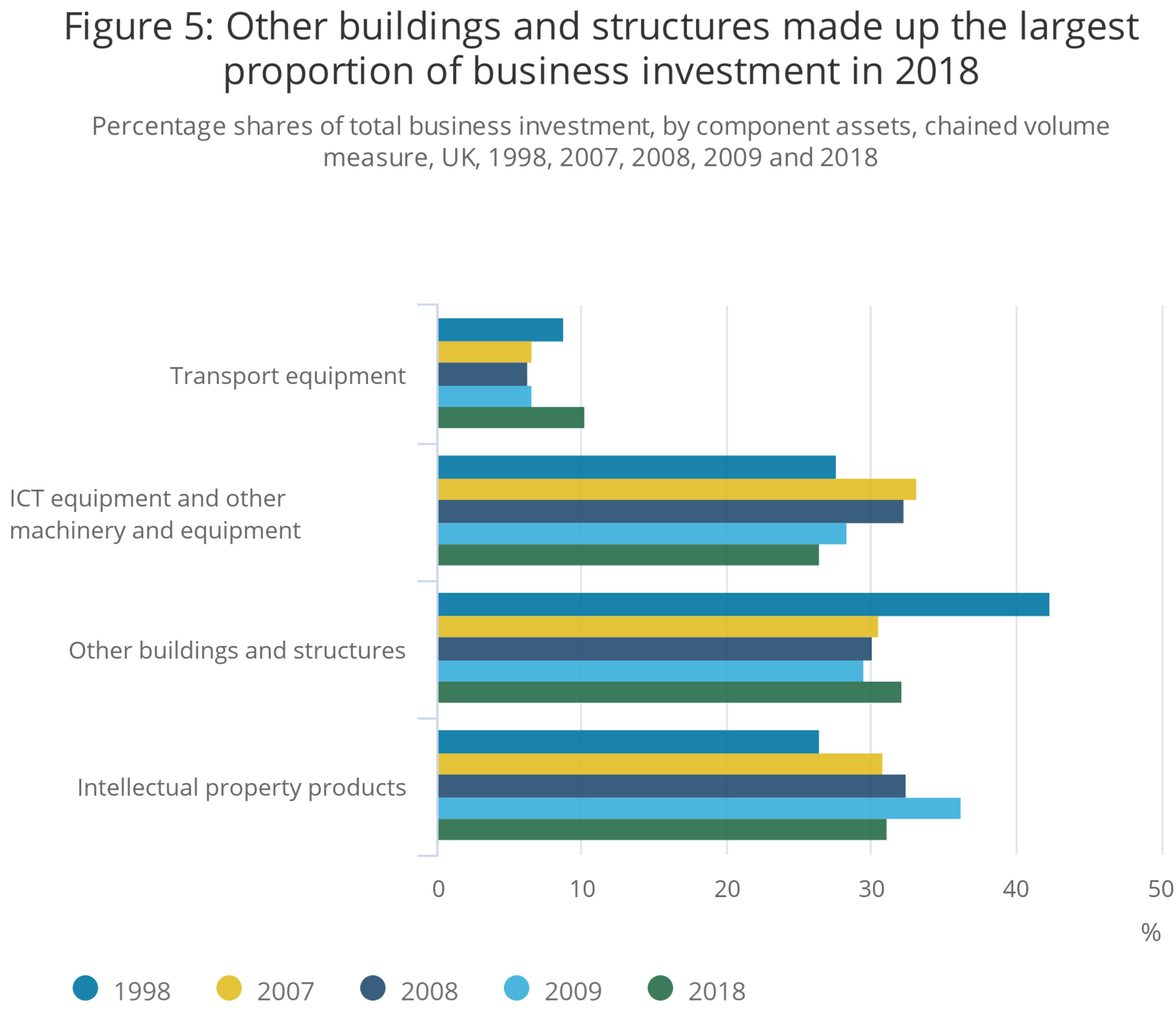
There is also evidence from large UK airlines that the acquisition of aircraft through operating leases has increased in recent years. This has been through acquiring new aircraft by operating leases rather than buying them outright and selling aircraft they own and leasing them back.

An operating lease means that, in this example, an airline has the use of an aircraft, but the aircraft leasing company retains economic ownership. Assets on operational leases are reported by their economic owner, the lessor (aircraft leasing company) and evidence suggests that many large aircraft leasing companies are based in the Republic of Ireland and the US, not the UK. This could mean that many aircraft leased by UK airlines on operational leases do not appear in UK business investment estimates.

Figure 5 shows each asset's share of business investment in a selection of years. Other buildings and structures made up the largest proportion of business investment in 1998, followed by ICT equipment and other machinery and equipment, and then IPP. By 2007, these assets made up more equal proportions of business investment, with ICT equipment and other machinery and equipment, and IPP increasing and other buildings and structures decreasing.

Figure 5: Other buildings and structures made up the largest proportion of business investment in 2018

Percentage shares of total business investment, by component assets, chained volume measure, UK, 1998, 2007, 2008, 2009 and 2018



Source: Office for National Statistics

Including 2007, 2008 and 2009 means it is possible to see how the structure of business investment changed during the economic downturn. Transport equipment’s share of business investment was affected the least, reflecting the relative size of this asset within business investment and the increase seen in Quarter 1 2008 offsetting the more gradual decline to Quarter 4 2009.

Investment in other buildings and structures fell broadly in line with total business investment, meaning its share of business investment remained broadly unchanged. Figure 5 suggests that during the economic downturn investment moved from ICT equipment and other machinery and equipment to IPP.

Since 2009, investment in ICT equipment and other machinery and equipment has fallen further relative to total business investment, so it now makes up the third-largest share of business investment. From being the largest asset in 2009, IPP has been overtaken by other buildings and structures, which has grown generally faster than total business investment since 2017.

Intellectual property products (IPP) saw a large increase in its share of business investment between 1998 and 2008, making it the largest asset in 2008. This reflects the fact that investment in IPP did not fall as much in 2008, relative to the other larger assets. Between 2008 and 2018, IPP's share of business investment fell below that of other buildings and structures. Transport equipment has consistently been the smallest part of business investment and made up a similar proportion in 2018 as it did in 1998.

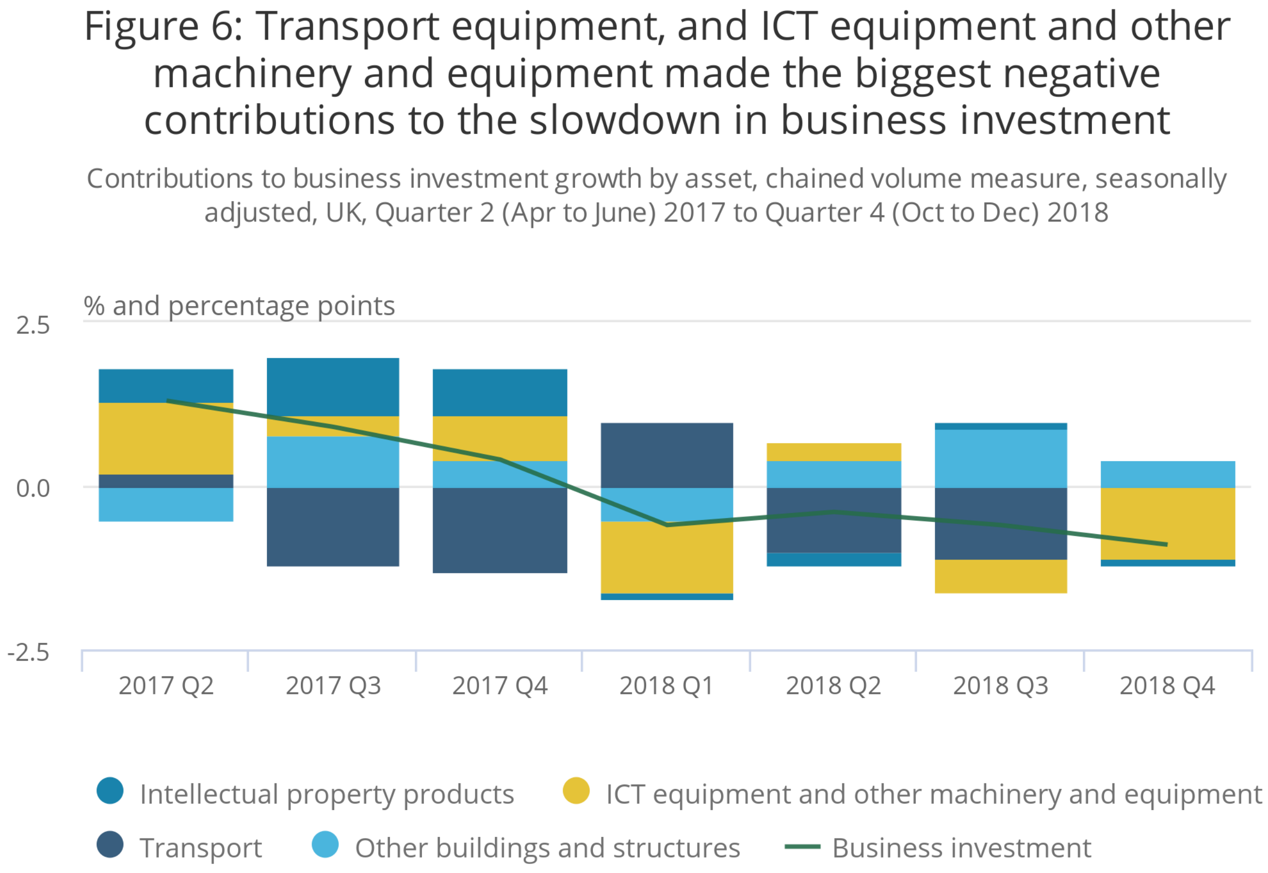
3 . The recent slowdown in business investment

Business investment fell in each of the four quarters of 2018. This was the first time business investment fell for more than three consecutive quarters since the economic downturn in 2008 to 2009. In their February 2019 Inflation Report, the Bank of England said that "although weaker global growth may have reduced the demand for investment, it is unlikely to explain the marked weakness over the past year", pointing to a "UK-specific factor depressing investment", which the Bank's Agents' summary of business conditions attributed to "a growing proportion of contacts putting new capital investment on hold until there is greater clarity around Brexit."

Figure 6 shows contributions to business investment growth by asset since Quarter 2 (Apr to June) 2017. While there is no single asset driving the slowdown in business investment over the past two years, ICT equipment and other machinery and equipment made negative contributions to business investment growth in three of the four quarters of 2018. Transport equipment is the other main contributor to the overall slowdown, with recent fall in this asset due largely to a decrease in aircraft investment.

Figure 6: Transport equipment, and ICT equipment and other machinery and equipment made the biggest negative contributions to the slowdown in business investment

Contributions to business investment growth by asset, chained volume measure, seasonally adjusted, UK, Quarter 2 (Apr to June) 2017 to Quarter 4 (Oct to Dec) 2018



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However, in 2018, growth in this asset was broadly flat and so its contributions to growth were much smaller, between positive 0.1 and negative 0.1 percentage points.

4 . Future releases of these data

This article serves as a summary of trends of components within business investment as well as providing clarity and context for the new breakdown of business investment. This is part of the improvements that the Office for National Statistics (ONS) is making to its outputs on the subject of gross fixed capital formation (GFCF) and business investment, by providing more detailed breakdowns of data.

Business investment broken down by asset will be published quarterly alongside the Business investment in the UK statistical bulletin and as such, analysis of business investment and its components will be included in that publication.