

Statistical bulletin

Capital stocks and fixed capital consumption, UK: 2020

Annual estimates of the value and types of non-financial assets used in the production of goods or services within the UK economy and their loss in value over time.



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1 . Main points

- The UK's net capital stock was estimated to have reached £4.5 trillion in 2019, increasing by 1.6% compared with 2018; this was equal to the average growth rate observed between 2010 and 2019, but below the average increase of 2.6% per year from 1995 to 2008.
- Transport equipment recorded the strongest growth in net capital stock between 2018 and 2019 at 3.7%; this was moderately above the average growth of 2.8% observed between 2010 and 2019.
- Other buildings and structures accounted for 60% of the net capital stock growth in the UK in 2019.
- Dwellings accounted for just over 40% of the UK's net capital stock and grew just 0.9% between 2018 and 2019; which is equal to the average growth rate observed between 2010 and 2019, and less than half of the average increase of 2.0% per year from 1995 to 2008.

2 . UK net capital stock

The UK's net capital stock grew by 1.6% between 2018 and 2019, reaching an estimated value of £4.5 trillion. This is the seventh consecutive year of positive growth in the UK. The 2019 net capital stocks growth rate in the UK is consistent with the post-downturn growth between 2010 and 2019, however it is lower than the pre-downturn growth between 1995 and 2008 in capital stock of 2.6%.

Figure 1: Other buildings and structures drives growth in net capital stocks in 2019

Growth in UK net capital stock, chained volume measures, 1996 to 2019

Figure 1: Other buildings and structures drives growth in net capital stocks in 2019

Growth in UK net capital stock, chained volume measures, 1996 to 2019



Source: Office for National Statistics - Capital stocks and fixed capital consumption, UK: 2020

Notes:

1. The components of net capital stock growth do not always add to the total because of rounding or because chained volume measures data are not additive until the reference year.
2. Net capital stocks of other buildings and structures include buildings, other structures and land improvements.

In 2019, other buildings and structures accounted for 60% of the growth in net capital stock in the UK. Being the second largest fixed asset in the economy, other buildings and structures has been the main driver of growth in net capital stock since the 2008 global economic downturn, increasing from £1,362 billion in 2010 to £1,712 billion in 2019. Growth in other buildings and structures has remained steady, increasing from 2.5% to 2.6% during this period.

In contrast, dwellings, which account for around 40% of capital stocks in the UK, saw a decline in growth during the period following the 2008 global economic downturn, compared with the pre-downturn period, from 2.0% to 0.9%. Net capital stocks in dwellings experienced one of the slower growth rates in 2019 at 0.9%. This was lower than the 2.0% growth recorded in the previous year.

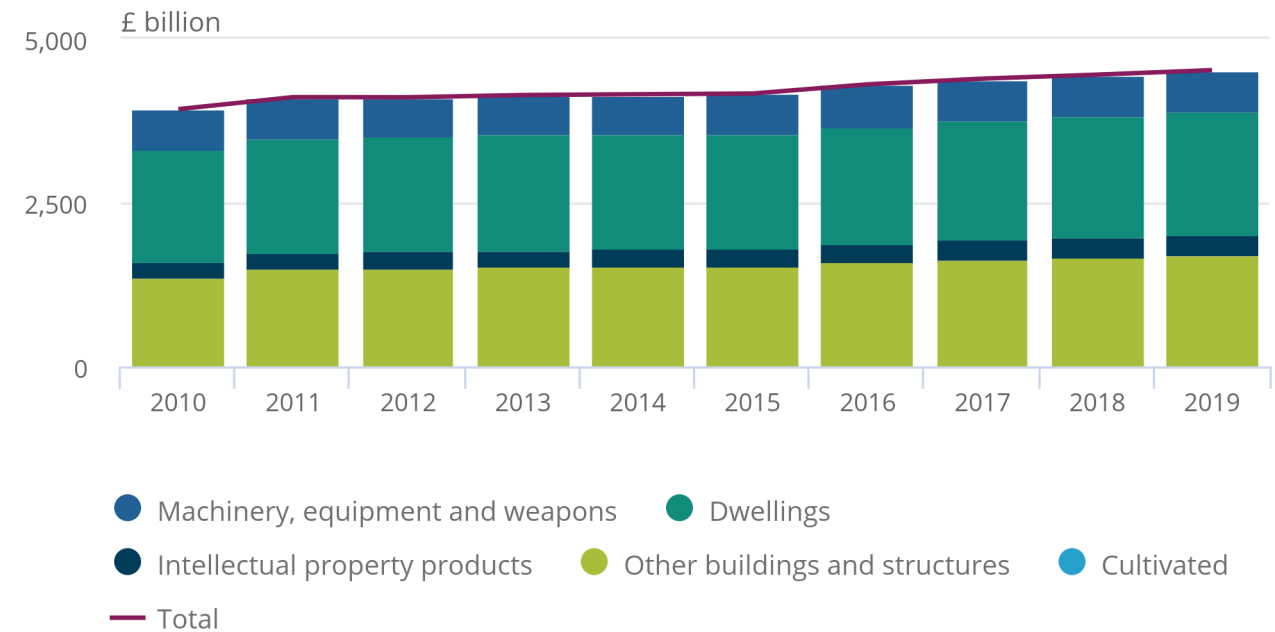
There has also been relatively slow annual growth in machinery, equipment and weapon systems of 0.3% in 2019. This follows two consecutive years of a fall in the growth rate during 2018 and 2017, which fell at 1.8% and 2.2% respectively.

Figure 2: Dwellings and other buildings and structures accounted for nearly 80% of net capital stock in 2019

UK net capital stock, chained volume measures, 2010 to 2019

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Source: Office for National Statistics - Capital stocks and fixed capital consumption, UK: 2020

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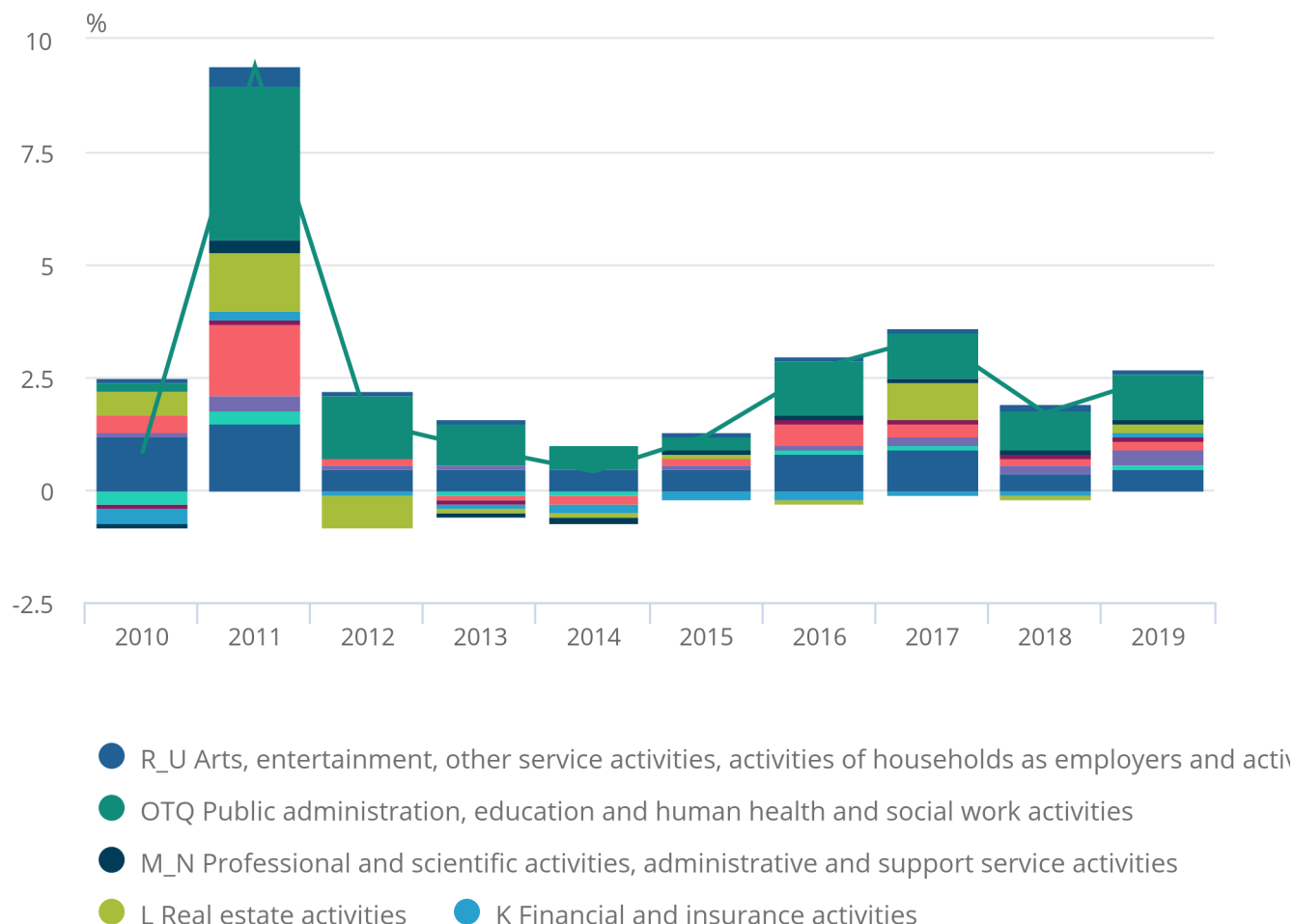
Other buildings and structures is the second largest asset in the economy, and contributed 60% of the net capital stock growth in 2019.

Figure 3: The public administration and energy industries are driving growth in other buildings and structures

UK net capital stock of other buildings and structures, chained volume measures, by industry, 2010 to 2019

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UK net capital stock of other buildings and structures, chained volume measures, by industry, 2010 to 2019



Source: Office for National Statistics - Capital stocks and fixed capital consumption, UK: 2020

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2. Net capital stocks of other buildings and structures include: buildings, other structures and land improvements.

Annual average growth in the net capital stock of other buildings and structures following the 2008 economic downturn came mainly from the public administration, education and health industry, which increased by 4.5% – from £325 billion in 2010 to £483 billion in 2019.

Public administration and defence; compulsory social security has mainly driven this growth, with an average annual growth of 5.4% per year in net capital stocks of other buildings and structures, increasing from £180 billion in 2010 to £290 billion in 2019.

Non-manufacturing production (ABDE) had the second largest annual average growth in other buildings and structures in the post-downturn period of 3.0% – from £297 billion in 2010 to £389 billion in 2019. This was mainly driven by an increase in net capital stock in electricity, gas, steam and air conditioning supply, from £54 billion in 2010 to £110 billion in 2019. The increase in net capital stocks of other buildings and structures in the energy industry is in part the result of increases in the flows of investment and partly because of a larger share of investment in this industry being focused on other buildings and structures, as opposed to other machinery and equipment, which has seen decreases in net capital stock over the past three years.

3 . Investment in dwellings

During the period prior to the 2008 global economic downturn, investment in dwellings continuously exceeded capital consumption by at least £13 billion a year, reaching a peak in 2004 when net capital stocks increased by £39 billion (Figure 4). This consequently continued to increase the net stock of dwellings.

Investment in dwellings started to fall in 2005, well before the economic downturn, and between 2007 and 2009, investment fell by an annual rate of 18.0% from £93 billion to £63 billion. This resulted in the net capital stocks of dwellings decreasing. During 2009 to 2012, investment in dwellings barely replaced capital consumption causing the net capital stocks to broadly remain unchanged or decrease across this period.

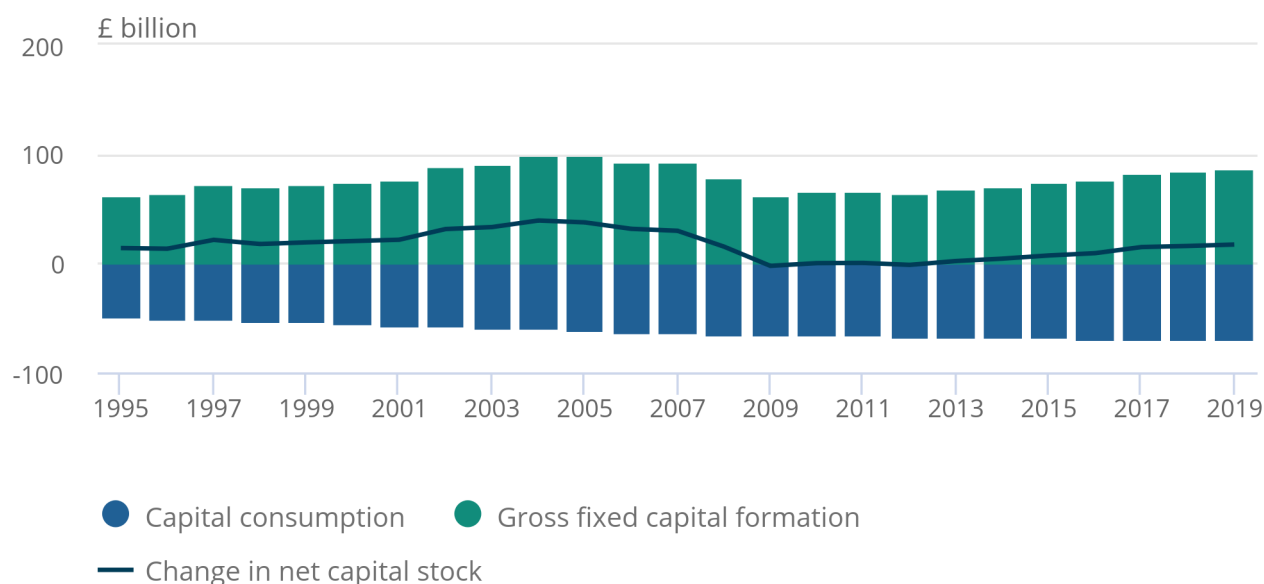
From 2013 onwards, growth in dwellings investment has outpaced growth in capital consumption leading to an increase in the net capital stocks of dwellings. In 2019, net capital stocks of dwellings grew by 0.9%, reaching a value of £1.9 trillion. Figure 4 shows how investment and capital consumption affect additions to the net capital stock of dwellings.

Figure 4: Investment in dwellings is starting to outpace growth in capital consumption

Additions to UK net capital stock for dwellings, constant prices, 1995 to 2019

Figure 4: Investment in dwellings is starting to outpace growth in capital consumption in capital consumption

Additions to UK net capital stock for dwellings, constant prices, 1995 to 2019



Source: Office for National Statistics - Capital stocks and fixed capital consumption, UK: 2020

Notes:

1. Values are shown in constant prices.
2. In this presentation capital consumption has a negative effect on net capital stocks because it reduces capital stock levels, while gross fixed capital formation has a positive effect because it adds to the capital stock levels.

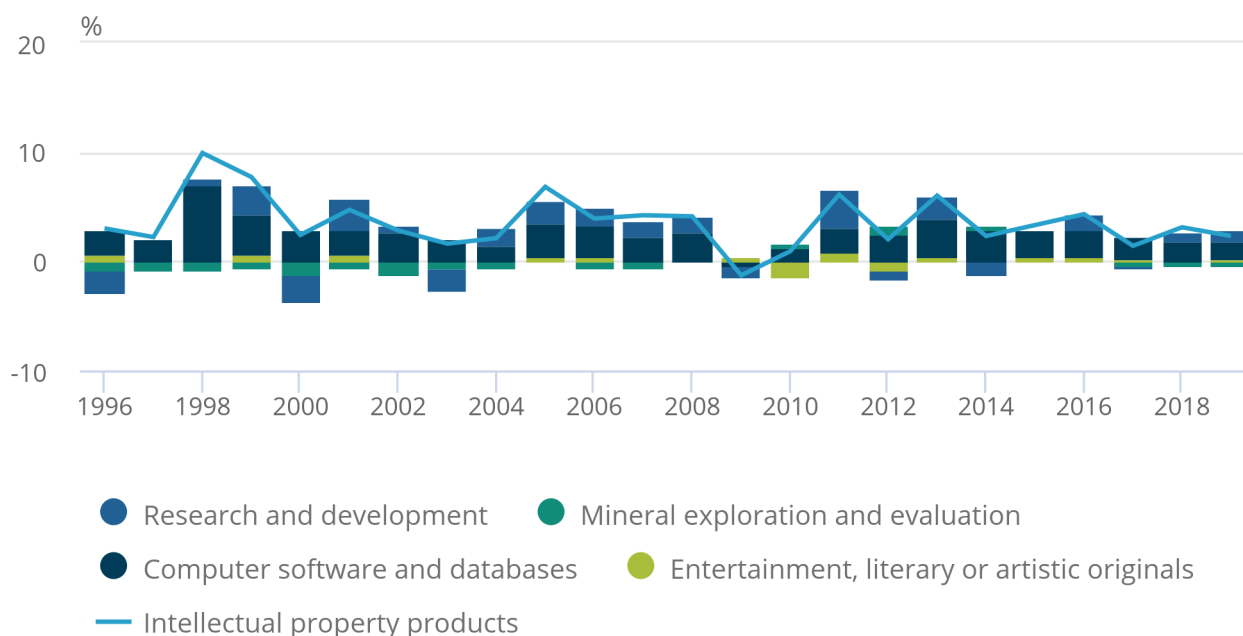
The net capital stock of intellectual property products (IPP), which includes investment in computer software and databases, research and development, entertainment, literary or artistic originals and mineral exploration and evaluation, grew at an average annual rate of 4.4% between 2010 and 2019. Software and databases increased on average by 5.4% a year from £97 billion in 2010 to £156 billion in 2019. Net capital stock in research and development has increased on average by 1.7% a year from £101 billion in 2010 to £117 billion in 2019.

Figure 5: Intellectual property products increased 4.4% between 1996 and 2019

Contributions to growth of UK net capital stock of intellectual property products, chained volume measures, 1996 to 2019

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Contributions to growth of UK net capital stock of intellectual property products, chained volume measures, 1996 to 2019



Source: Office for National Statistics - Capital stocks and fixed capital consumption, UK: 2020

Notes:

1. The components of net capital stock do not always add to the total because of rounding or because chained volume measures data are not additive until the reference year.

4 . Machinery, equipment and weapons systems

The net capital stock of machinery, equipment and weapons systems demonstrated modest annual average growth of 0.1% from £609 billion in 2010 to £615 billion in 2019. Transport equipment has seen the stronger growth of 2.9% in the net capital stock from £110 billion in 2010 to £141 billion in 2019, which is partly driven by an increase in households leasing cars. Cars that are leased to households are included in estimates of net capital stock, whereas those owned by households are classed as consumer durables and so are not included in capital stock estimates. Further information on the impact of leasing cars can be found in our [Analysis of increases in the net capital stock of transport equipment for non-financial corporations, UK: 2013 to 2017](#) article.

The net capital stock of ICT, other machinery, equipment and weapons systems fell by 0.6% from 2010 to 2019. The decline is partly because of changes in investment by asset type, with a reduction in other machinery and equipment in electricity, gas, steam and air conditioning supply, coupled with a greater increase in investment in other buildings and structures.

5 . International comparisons

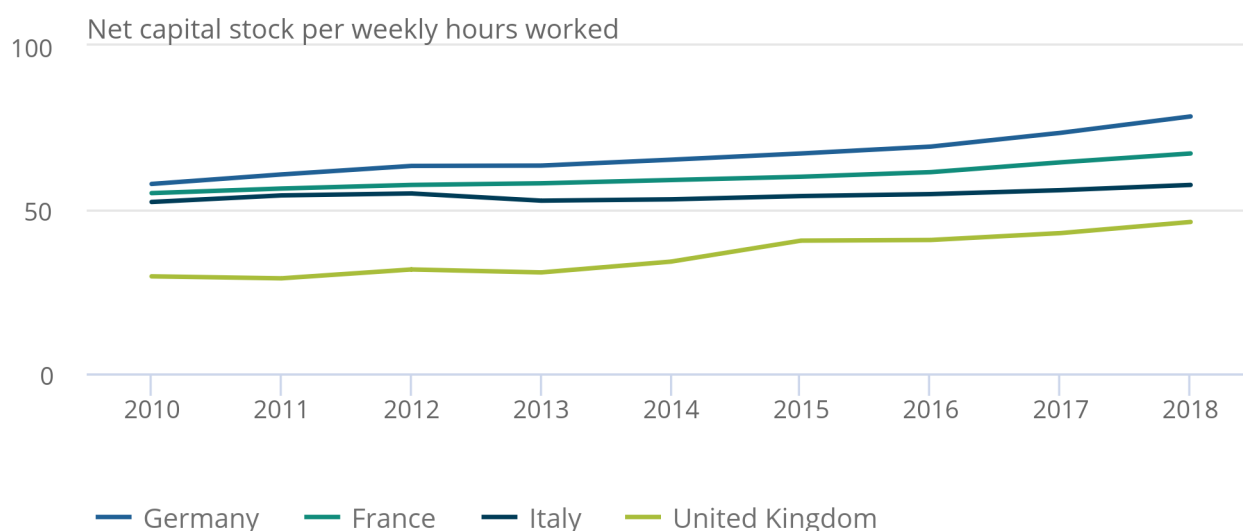
Net capital stocks per hour worked demonstrates the amount of capital available to producers and is linked to how much output can be produced. In 2010, the amount of capital per hour worked in manufacturing for the UK was almost half of that in Germany. Since 2010, the amount of capital per hour worked in manufacturing has increased faster in the UK than in Germany, France and Italy.

Figure 6: The gap between capital per hour worked in the UK compared with other countries is closing in manufacturing

Net capital stock per weekly hours worked in the manufacturing industry in Europe, current prices, 2010 to 2018

Figure 6: The gap between capital per hour worked in the UK compared with other countries is closing in manufacturing

Net capital stock per weekly hours worked in the manufacturing industry in Europe, current prices, 2010 to 2018



Source: Eurostat

Notes:

1. UK estimates in capital stock measured in Euros are more volatile due to changes in exchange rates.
2. Estimates of capital stock are sensitive to estimates of life length and depreciation parameters, which differ across countries.

6 . Capital consumption

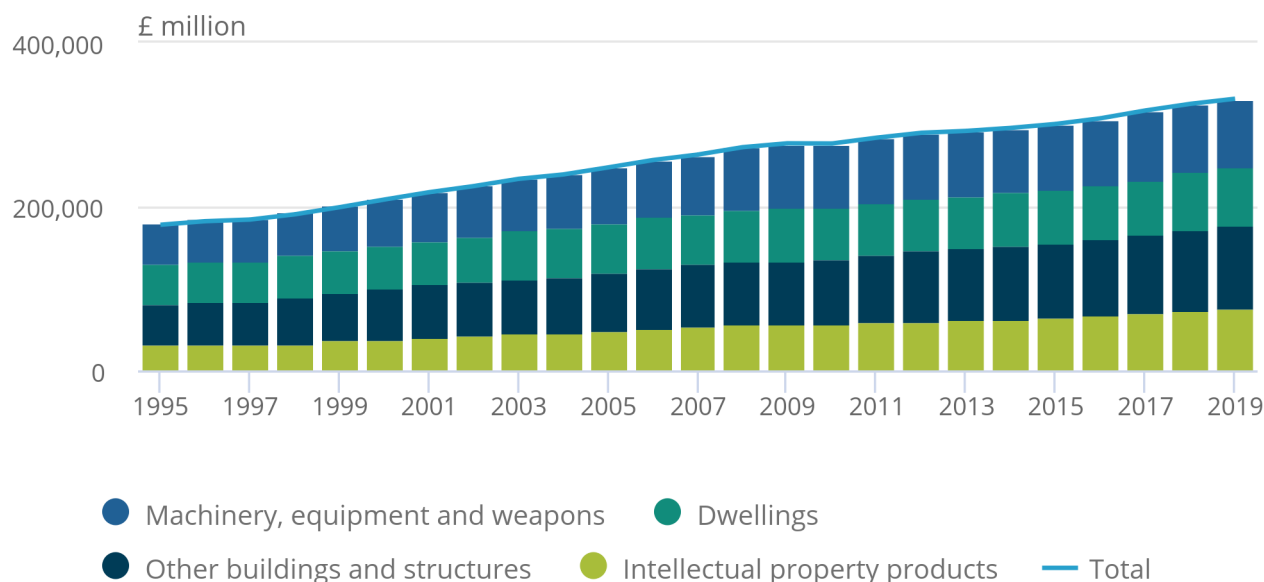
Capital consumption increased by 1.9% between 2018 and 2019. Although capital consumption has been growing for the past eight years, the growth seen in 2019 is both below the 2018 growth and the post-2008 global economic downturn growth, which were 3.3% and 2.0% respectively.

Figure 7: Capital consumption increased 1.9% in 2019 with intellectual property products making the largest contributions

UK capital consumption, chained volume measures, 1995 to 2019

Figure 7: Capital consumption increased 1.9% in 2019 with intellectual property products making the largest contributions

UK capital consumption, chained volume measures, 1995 to 2019



Source: Office for National Statistics - Capital stocks and fixed capital consumption, UK: 2020

Notes:

1. The components of capital consumption do not always add to the total because of rounding or because chained volume measures data are not additive until the reference year.
2. Capital consumption of other buildings and structures include: buildings, other structures and land improvements.

Intellectual property products account for 23% of capital consumption in the UK and have seen an increase of five percentage points as a share of capital consumption since 1995. Other buildings and structures and dwellings accounted for 22% and 21% of capital consumption in 2019.

Although consumption of fixed capital of other buildings and structures increased by three percentage points as a share of the whole economy compared with 1995, during the same period, the proportion of capital consumption for dwellings has decreased by six percentage points, from 27% to 21%.

In 2019, intellectual property products contributed to 46% of the growth in capital consumption. This is a large increase compared with 1995 where they contributed just 8% of capital consumption in the UK.

Other buildings and structures accounted for 37% of growth in capital consumption in 2019 while machinery, equipment and weapons systems contributed to 8% of growth.

7 . Revisions

Revisions to the gross fixed capital formation (GFCF) data since the last capital stocks and consumption of fixed capital publication have resulted in revisions to both capital stocks and capital consumption. These included increased estimates of GFCF from improved coverage of higher education and the inclusion of transfer costs on land in the non-market sector.

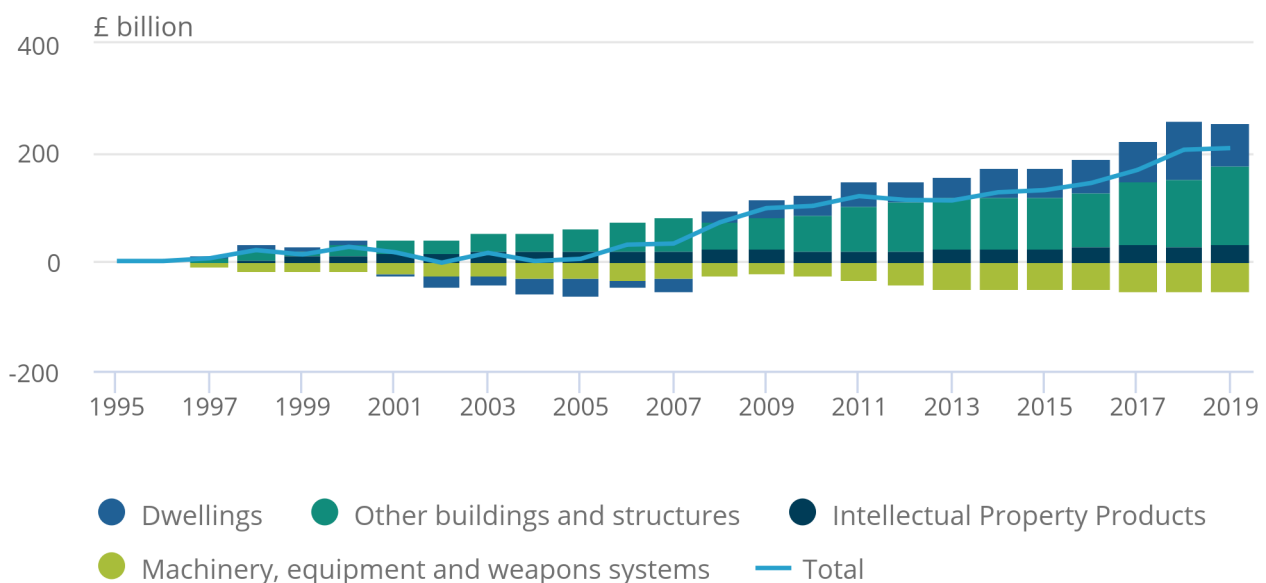
The largest revisions to net capital stock estimates from the previous publication are seen in other buildings and structures, which have been revised up by £125 billion for 2018, of which government and non-profit institutions serving households (NPISH) sectors accounted for £67 billion.

Figure 8: Other buildings and structures, and dwellings account for the largest revisions to net capital stocks

UK net stock revisions from 2019 publication

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UK net stock revisions from 2019 publication



Source: Office for National Statistics - Capital stocks and fixed capital consumption, UK: 2020

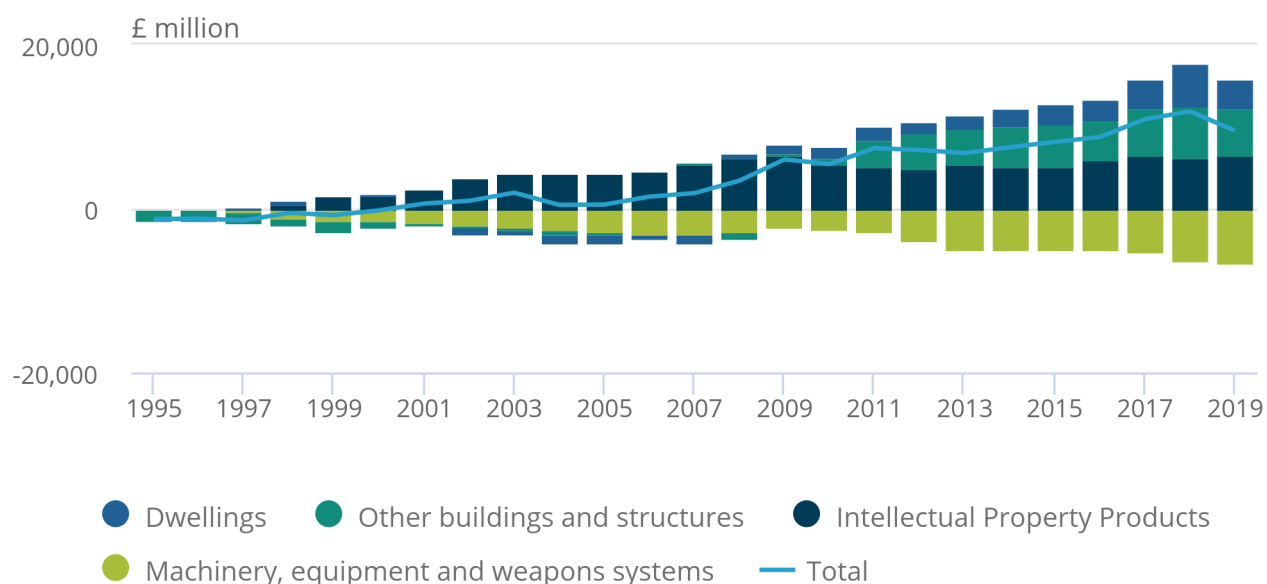
The largest revision to capital consumption estimates compared with the previous year's publication are seen in intellectual property products, which include upward revisions to [gross fixed capital formation estimates for software and databases](#).

Figure 9: Intellectual property products accounted for the largest revisions to capital consumption

UK capital consumption revisions from 2019 publication

Figure 9: Intellectual property products accounted for the largest revisions to capital consumption

UK capital consumption revisions from 2019 publication



Source: Office for National Statistics - Capital stocks and fixed capital consumption, UK: 2020

8 . UK capital stocks data

[Capital stocks and fixed capital consumption](#)

Dataset | Released 1 December 2020

Annual estimates of gross and net capital stocks and consumption of fixed capital in the UK, from 1995 to 2019, in current prices and chained volume measures.

9 . Glossary

Capital stock

Capital stock is the quantity of non-financial assets with a lifespan of more than a year (for example, buildings and machinery), which contribute to the production of goods and services, without being completely used up or transformed in the process. Capital stock produces a flow of capital services into the production process.

It is an important variable in multi-factor productivity which looks at the efficiency with which an economy can transform inputs, such as labour and capital, into output.

Capital consumption

Capital consumption measures the loss of value of assets as they age. It is the decline in the current value of the stock of fixed assets owned and used by a producer as a result of physical deterioration, normal obsolescence or normal accidental damage.

10 . Measuring the data

Capital stock estimates are published in gross and net values. The difference between gross and net stock in a particular period, is consumption of fixed capital.

Capital stocks are also presented in current prices and chained volume measures (CVMs); the latter reflects changes in volumes after removing price effects. Further information about how CVMs are calculated can be found in [Chain-linking methods used within the UK National Accounts](#).

All CVM values in this bulletin are referenced to 2018. Analysis of contributions to growth of net stocks broken down by GFCF and capital consumption are presented in constant prices with 2018 as the base year.

Changes in the real net capital stock from one period to another consist of increases to the net capital stock from gross fixed capital formation (GFCF) and reductions from capital consumption and other changes in volume (for example, war losses). GFCF includes the acquisition of capital (minus disposals) plus expenditure on non-produced assets that are classified as land improvements.

Annual growth rates are calculated as compound annual growth rates.

References to the pre-downturn period refer to the years 1995 to 2008, while the post downturn period refer to the years 2010 to 2019.

More quality and methodology information on strengths, limitations, appropriate uses, and how the data were created is available in the [Capital stocks and fixed capital consumption QMI](#).

11 . Strengths and limitations

The capital stocks estimates are an important variable within the accumulation accounts which show how the value of assets within an economy change over time. Net capital stock estimates of produced assets are identical to the market value of these assets presented in the National Balance Sheet, which measures the net worth of the UK. Net capital stock accounted for just over 45% of the UK's net worth in 2019.

Capital consumption will depend on the average life of each asset type. For assets such as dwellings this means the value of the asset will slowly depreciate having a weighted life of 50 years. By contrast investment in software will depreciate more rapidly having a weighted life of five years. Further information on asset lives can be found in [National Accounts articles: Changes to the capital stock estimation methods for Blue Book 2019](#).

Values of capital stock and consumption of fixed capital estimates produced in this release differ from [2020 Blue Book estimates](#), as this release includes the final supply use balanced GFCF estimates when calculating estimates of gross stock, net stock and consumption of fixed capital.

Estimates of capital stocks and capital consumption differ from those published in the 2020 Blue Book. The Blue Book production schedule was not able to accommodate gross fixed capital formation (GFCF) supply use balanced estimates in the Perpetual Inventory Method when calculating estimates of gross stock, net stock and consumption of fixed capital.

The estimates in this publication are consistent with the GFCF supply use balanced estimates in Blue Book 2020. Subsequently, current price estimates of net capital stock are £150 billion or 3.4 % higher in 2019 than estimates published in the 2020 Blue Book. Similarly, capital consumption has been revised up by 2.8%, or £9 billion during the same period.

More information on the strengths and limitations of the data can be found in the [Capital stocks and fixed capital consumption QMI](#).

12 . Related links

[The UK national balance sheet estimates: 2020](#)

Statistical bulletin | Released 1 December 2020

Annual estimates of the market value of financial and non-financial assets for the UK, providing a measure of the nation's wealth.

[National Accounts articles: Changes to the capital stock estimation methods for Blue Book 2019](#)

Article | Released 20 August 2019

Details the improvements to capital stock methods and estimates updated as part of the Blue Book 2019 to align our approach with the international best practices.

[National Accounts articles: Latest developments and changes to capital stocks to be implemented in Blue Book 2019](#)

Article | Released 30 August 2019

National Accounts article on the impact of method changes on capital stock estimates and estimates for the lives of assets in Blue Book 2019.

[Business investment in the UK: April to June 2020 revised results](#)

Statistical bulletin | Released 30 September 2020

Estimates of short-term indicators of investment in non-financial assets, business investment, and asset and sector breakdowns of total gross fixed capital formation.

[Multi-factor productivity estimates, UK: July to September 2019](#)

Article | Released 8 January 2020

Growth accounting estimates for the UK market sector and 10 industry groups. Experimental estimates.