

Article

Investment in intangible assets in the UK: 2020

Experimental estimates of investment in intangible assets in the UK from 1997 to 2020, presented by asset category and industrial sector.

Contact:
Eurydice Fotopoulou
nfa-development@ons.gov.uk
+44 20 7592 8646

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Correction

16 December 2022 15:00

The wording and Figures 1, 2, 3 have been adjusted to reflect more clearly that 2020 intangible investment estimates do not include firm-specific training.

Notice

23 April 2024

The [latest data for investment in intangible assets](#) from 2021 onwards are now published as a statistical bulletin.

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1 . Main points

- Comparisons of total intangible investment are difficult to make because firm-specific training data are not available for 2020; firm-specific training would have been affected by coronavirus (COVID-19).
- Excluding firm-specific training, investment in intangible assets in 2020 remained at approximately the same level.
- The manufacturing sector was the biggest investor in intangible assets (excluding firm-specific training), with most of this investment (54%) going to research and development (R&D).
- In 2020, the largest positive change in investment was in financial product innovation which rose by 8.7%, while the sharpest decline (excluding firm-specific training) was in mineral exploration, which fell by 64.7%.

2 . Total investment in intangible assets in the UK in 2020

Intangible assets include products such as software and databases, research and development (R&D), mineral exploration, and artistic originals, as recorded in the UK National Accounts (capitalised). These are collectively referred to as Intellectual Property Products (IPP). However, there is an additional set of intangible assets, such as branding, financial product innovation, firm-specific training, and design, that are not included in the UK National Accounts. These are referred to as “uncapitalised intangible assets.” This bulletin discusses both capitalised and uncapitalised intangibles.

Investment in intangible assets is less volatile to economic shocks compared with that in tangible assets throughout the period examined in our data. However, like-for-like comparisons are not possible because of the absence of firm-specific training investment data. Excluding this asset, in 2020, investment in intangible assets increased slightly by 0.1% to £134.5 billion in current prices. Meanwhile, investment in tangible assets declined by 13.6% to £137bn in current prices. As firm-specific training is likely to have been affected by coronavirus in this period, we cannot make assumptions whether total intangible investment fell by more or less than tangible investment.

If the fall in intangibles was greater, this would be the first instance in our time series (covering the period from 1997 to 2020) when investment in intangible assets declined more than investment in tangible assets.

Figure 1: Growth rates of intangible assets are less volatile compared with tangible assets

Rate of change in intangible assets compared with the rate of change in investment in tangible assets, UK, 1997 to 2020, current prices

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Rate of change in intangible assets compared with the rate of change in investment in tangible assets, UK, 1997 to 2020, current prices



Source: Office for National Statistics – Investment in intangible assets in the UK

Notes:

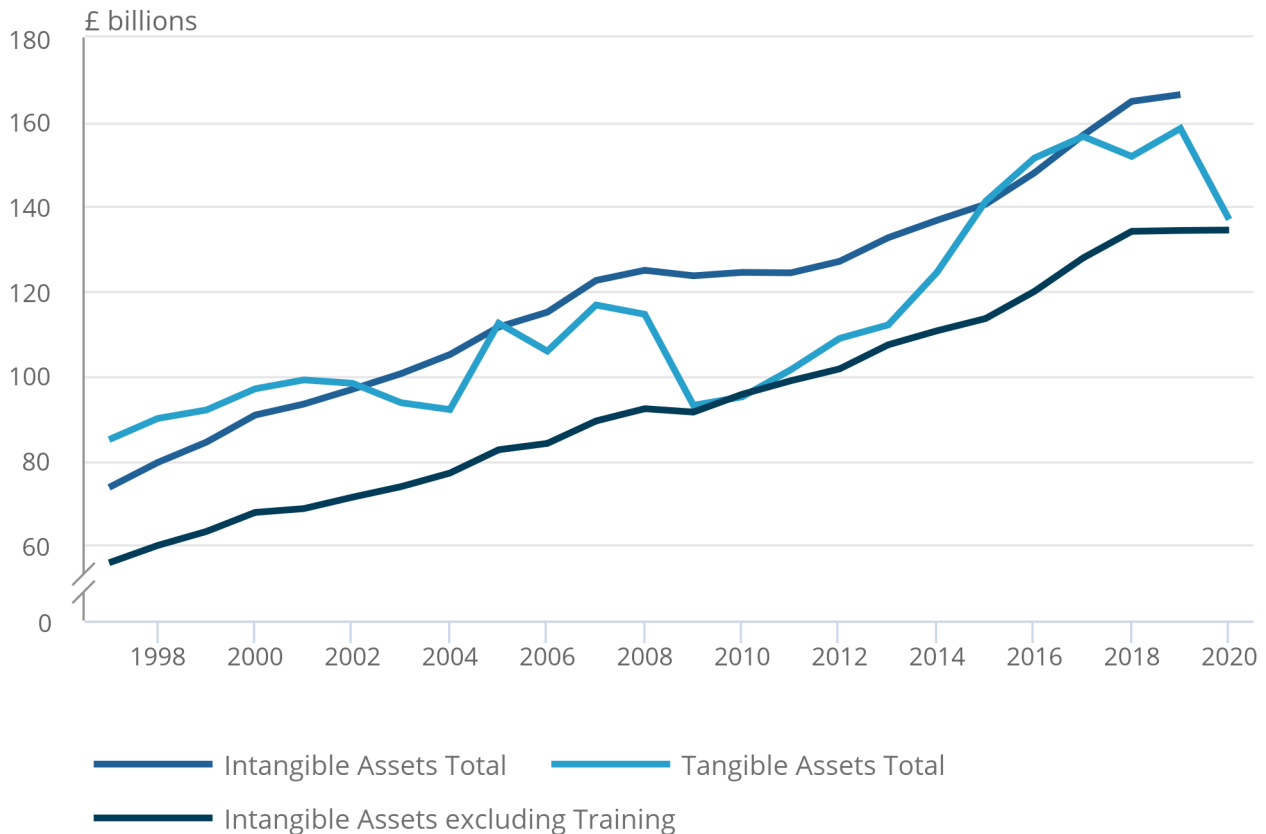
1. 2020 estimates of investment in intangible assets do not include firm-specific training.

Figure 2: Different movement of intangible and tangible investment

Total investment in intangible assets (purchase and own production) compared with the total investment in tangible assets, UK, 1997 to 2020, £ billions, current prices

Figure 2: Different movement of intangible and tangible investment

Total investment in intangible assets (purchase and own production) compared with the total investment in tangible assets, UK, 1997 to 2020, £ billions, current prices



Source: Office for National Statistics – Investment in intangible assets in the UK

Notes:

- 2020 estimates of investment in intangible assets do not include firm-specific training.

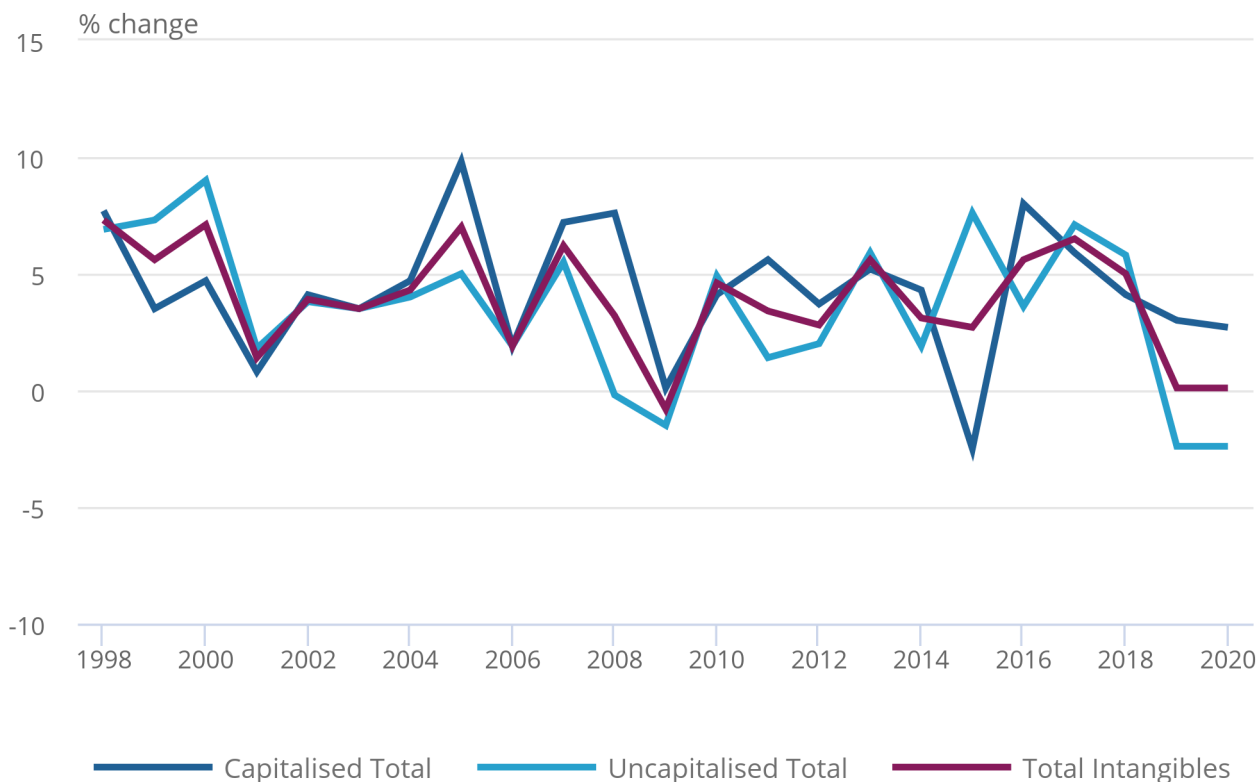
Disaggregating intangible assets, we observe different investment behaviour between capitalised Intellectual Property Products (IPP) and uncapitalised intangible assets. In 2020, investment in intangible assets included in the UK National Accounts (IPP) grew by 2.7%, while investment in uncapitalised intangibles (excluding firm-specific training) declined by 2.4%.

Figure 3: Capitalised intangible investment increased in 2020 while uncapitalised investment decreased sharply

Year-on-year rate of change of intangible investment in capitalised and uncapitalised intangible assets, 1998 to 2020

Figure 3: Capitalised intangible investment increased in 2020 while uncapitalised investment decreased sharply

Year-on-year rate of change of intangible investment in capitalised and uncapitalised intangible assets, 1998 to 2020



Source: Office for National Statistics – Investment in intangible assets in the UK

Notes:

1. Estimates of investment in uncapitalised assets and total intangibles do not include firm-specific training.

Investment by asset

Coronavirus (COVID-19) in the UK accelerated the shift to new ways of working, such as working remotely. This caused businesses to make more intensive use of the technologies already available to them.

The high levels of investment in 2020 in organisational capital and software and databases indicate this change in usual ways of working. Investment in organisational capital increased by 1.5% in 2020 compared with 2019, driven by a 3.6% increase in own account organisational capital. Investment in software and databases in 2020 increased by 4.4% compared with 2019; own account production of software and databases grew by 3.8%, while purchased software and databases increased by 5.5%. The increase in the latter could possibly be explained by businesses adapting quickly to the new ways of working and doing business by purchasing off-the-shelf technological solutions. Investment in research and development (R&D) also increased by 3.2% in 2020 when compared with the previous year.

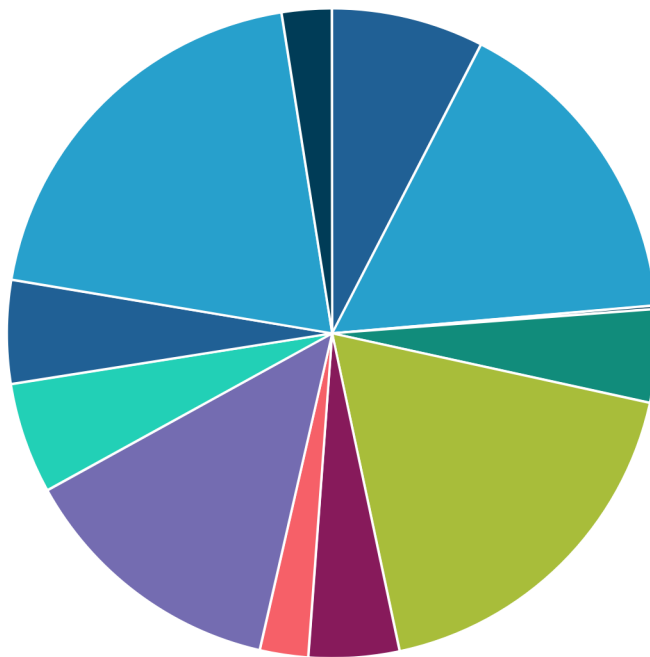
The highest rate of change compared with 2019 was in financial product innovation which rose by 8.7%. The sharpest decline was in mineral exploration which fell by 64.7%, possibly as a result of environmental initiatives.

Figure 4: Intangible investment greatest in own-account software, own-account organisational capital and research and development (R&D)

Intangible Investment by asset, current prices, £ millions, UK, 2020

Figure 4: Intangible investment greatest in own-account software, own-account organisational capital and research and development (R&D)

Intangible Investment by asset, current prices, £ millions, UK, 2020



Source: Office for National Statistics – Investment in intangible assets in the UK

Investment by sector

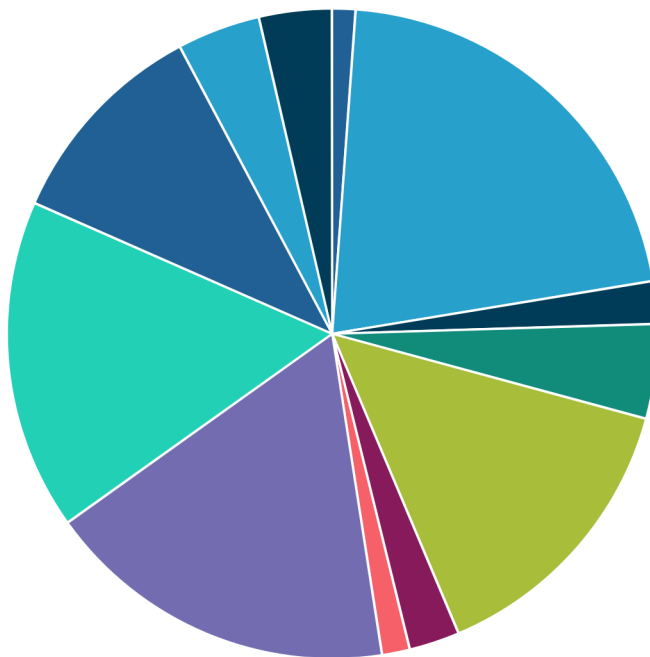
In 2020, the manufacturing sector led in investment in intangible assets, investing £28.5bn, followed by the information and communication sector, at £23.6bn, and the financial services sector at £22.1bn. Although the levels of investment are significantly lower compared with 2020, these sectors remained the most active in investment in intangible assets.

Figure 5: Manufacturing, financial services and information and communication are the largest investors in intangibles

Intangible investment by industry, current prices, £ millions, UK, 2020

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Intangible investment by industry, current prices, £ millions, UK, 2020



Source: Office for National Statistics – Investment in intangible assets in the UK

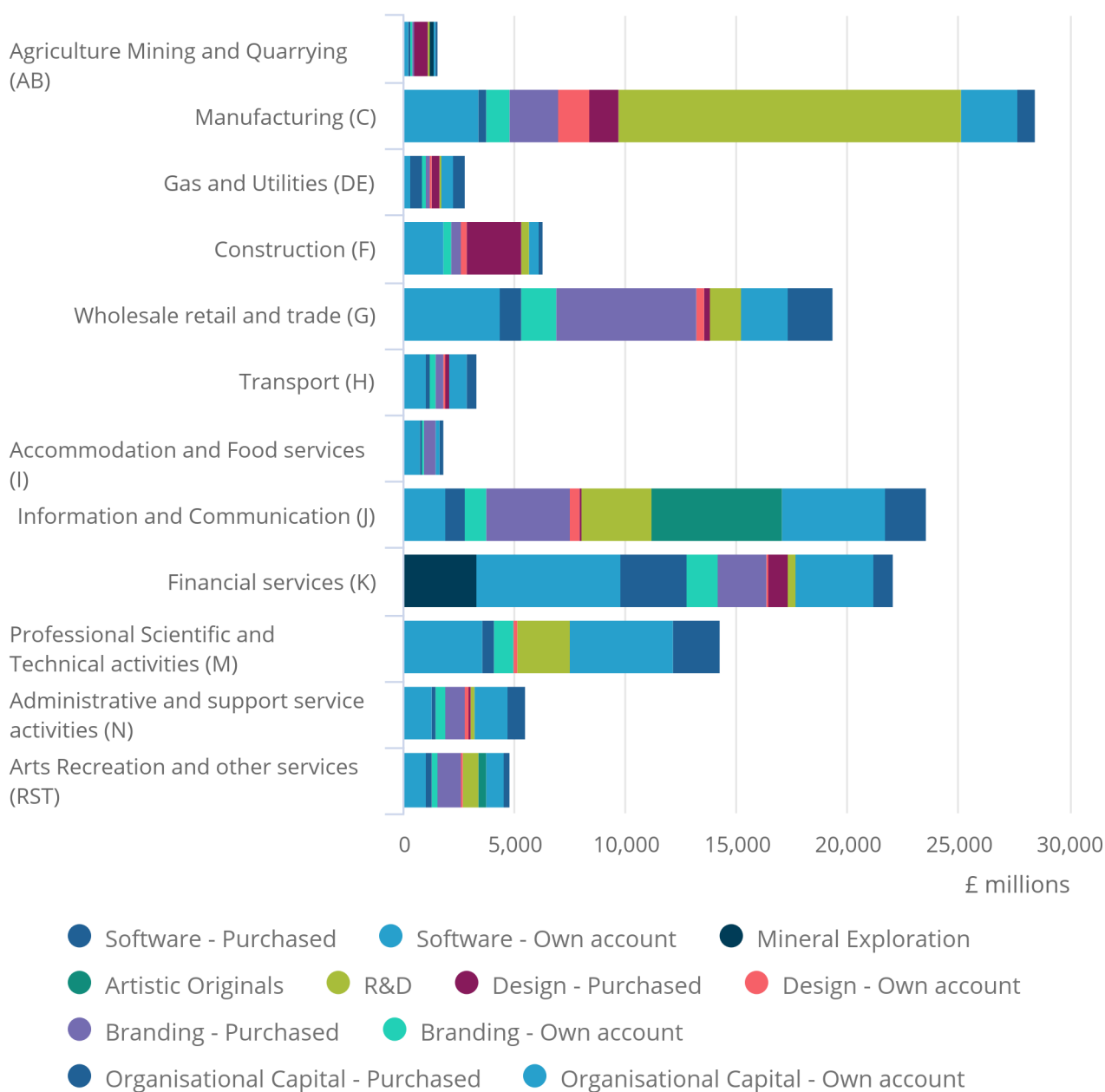
In 2020, 54% of the intangible assets investment by the manufacturing sector was in research and development (R&D). The gas and utilities sector invested mostly in software and databases, with 38% of their investment in intangible assets. Reflecting the change in ways of working because of the coronavirus (COVID-19) pandemic, the professional, scientific and technical activities sector directed 47% of their investment in intangibles in software and databases (purchased and own account). Similarly, the administrative and support service activities sector also invested 41% of their total intangible assets investment in software and databases (purchased and own account). Unsurprisingly, the information and communications sector also dedicated most of its intangible asset investment to software and databases, purchased and own account (28%). Both accommodation and food services, and financial services, invested their total investment in intangible assets mostly in organisational capital, at 46% and 43%, respectively. The wholesale and retail sector invested mostly in branding, at 41% of their total investment in intangibles. 2020 investment in firm-specific training by sector is not included.

Figure 6: Manufacturing invested mostly in research and development (R&D), the financial services sector invested mostly in own-account organisational capital

Intangible investment by industry and asset, current prices, £ millions, UK, 2020

Figure 6: Manufacturing invested mostly in research and development (R&D), the financial services sector invested mostly in own-account organisational capital

Intangible investment by industry and asset, current prices, £ millions, UK, 2020



Source: Office for National Statistics – Investment in intangible assets in the UK

Notes:

- 2020 estimates of investment in intangible assets do not include firm-specific training.

3 . Data

[Investment in intangible assets in the UK: 2020](#)

Dataset | Released 15 December 2022

Experimental estimates of investment in intangible assets for the UK, from 1997 to 2020.

4 . Glossary

A detailed glossary of the working definitions of the assets in this publication can be found in our [Investment in intangible assets in the UK by industry: 2019 bulletin](#).

5 . Measuring the data

Notes on measurement

Total estimates include a high level of suppression at different processing levels, and so there is a small difference between the totals in Table 2 and Table 3 of the [accompanying dataset](#).

The published estimates exclude the non-market sector (Standard Industrial Classification 2007 (SIC) 84-88). Real estate activities (L) are excluded from own account branding as well as design and organisational capital because of imputed rental, to ensure there is consistency with the previous estimates.

Estimates on firm-specific training intangible investment for 2020 are not included in this publication, because of a lack of updated microdata.

Table 4 of the Supply Use Tables (SUTs), which contain Gross Fixed Capital Formation (GFCF), were not available at the moment of writing. Therefore, estimates of purchased design, purchased branding and purchased organisational capital have been extrapolated for 2020, and as such will be subject to revision, and should be treated with caution.

Quality

The estimates in this bulletin and dataset are based on experimental data and are subject to revision.

More quality and methodological information on strengths, limitations, appropriate uses, and how the data were created is available in our [earlier publications](#).

In addition, the Office for National Statistics (ONS) will continue to work with the international community, sharing insight and experience in contribution to revisions of the System of National Accounts (SNA) and other guidance.

User feedback is crucial in informing our work. Please send any questions or comments on the development of these statistics to nfa-development@ons.gov.uk.

6 . Strengths and limitations

Strengths

The current publication accounts for revisions in business investment estimates, as outlined in our [Business investment in the UK: July to September 2021 revised results bulletin](#). The revisions consider the availability of new survey data, other revised source data, an in-depth seasonal adjustment review and a correction to transport data that was identified after the provisional publication of Gross Fixed Capital Formation (GFCF) estimates in late 2021.

Limitations

In this publication we were not able to produce new constant price estimates for intangible investment because of ongoing improvement in deflator methodology for intangible assets.

Likewise, we have not been able to produce estimates of investment in intangible assets by industry at the Standard Industrial Classification 2007 (SIC) division level. This is because of ongoing developments that will improve the disaggregation of data in a methodologically consistent way at this level of granularity.

7 . Related links

[Investment in intangible assets in the UK by industry: 2019](#)

Statistical bulletin | Released 1 December 2021

Experimental estimates of investment in intangible assets by industry at the Standard Industrial Classification 2007 (SIC) division level.

8 . Cite this article

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