

Article

# The impact of new Business Enterprise Research and Development Survey data on UK business investment: 2022

Indicative impact on UK business investment and gross fixed capital formation in the national accounts following improvements to Business Enterprise Research and Development Survey estimates.

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# 1 . Main changes

- For the 2022 reference period, the Business Enterprise Research and Development (BERD) Survey has undergone end-to-end redevelopment, including a new sample design that has seen the sample size increase to approximately 38,500 UK businesses, from 5,400.
- Initial analysis has shown that the BERD Survey improvements could raise the level of research and development within business investment and whole economy investment, technically known as gross fixed capital formation (GFCF), from £43.4 billion to £53.0 billion in 2022 in current prices, and from £39.6 billion to £48.4 billion in chained volume measures.
- Our early analysis shows that the BERD Survey improvements could raise the level of business investment in 2022 by 3.9% in current prices.
- The improvements to the BERD Survey, together with new data for the 2023 reference period and an updated time series back to 1997, will be incorporated fully within our annual national accounts for 2025.
- It is important to note that we cannot confirm the impact on headline levels of gross domestic product (GDP) until these new data have gone through the full supply-use process in 2025 because some of the impacts may be affected by adjustments elsewhere in the national accounts; the impact on the level of GDP will be smaller than that on business investment and GFCF.

## 2 . Overview of research and development within gross fixed capital formation

Research and development (R&D) was capitalised within the UK National Accounts in 2014 when it became an asset within the wider intellectual property products (IPP) asset of gross fixed capital formation (GFCF), as part of the [System of National Accounts 2008](#). Other assets within business investment and GFCF include transport, other buildings and structures and information and communications technology (ICT) equipment and other machinery and equipment for which other data sources are used.

Prior to 2014, R&D was intermediate consumption, used up within the production process, and so was not a component of GFCF.

The Business Enterprise Research and Development (BERD) Survey is the largest source of data for GFCF R&D estimates, and in 2019 accounted for approximately 88% of total R&D GFCF.

BERD data are one of the data sources used to form a whole economy view of R&D GFCF which covers:

- R&D spend by businesses
- estimates of R&D spending from the non-profit institutions serving households
- estimates of R&D spend by central government
- estimates of R&D spend by universities

BERD data are typically available for the latest supply use balanced year within the annual national accounts, for example Blue Book 2021 GFCF estimates included BERD data for 2019. Because of limitations and time lags on survey data availability, data beyond the latest available timepoint are projected forwards until they are replaced by actual survey data returns.

## Recent Business Enterprise Research and Development Survey improvements

Our [review of the R&D source data](#) highlighted the need to address under coverage, particularly of small- to medium-sized businesses. Among other end-to-end redevelopments, a new sample design was introduced for BERD, which was incorporated for data collection of the 2022 reference period. The new design samples directly from the Inter-departmental Business Register (IDBR), which ensures that the sample better represents the UK economy, both in terms of regional distribution and by type of R&D performed. Returns from the BERD Survey are weighted to represent the wider population of non-sampled businesses for BERD on the IDBR.

The new design is supplemented with data from HM Revenue and Customs (HMRC). The Office for National Statistics (ONS) use the HMRC R&D tax credit data to identify the top 400 R&D performing businesses. These are combined with the top 400 R&D performing businesses as identified in the previous year's BERD Survey and are sampled by BERD. The remainder of the sample is randomly obtained from the IDBR.

In the previous sample design, businesses were sampled from a reference list that was maintained annually by the ONS, and only consisted of known R&D performers.

Further information on these improvements can be found in the Methodological developments section of our [Business enterprise research and development, UK: 2022 bulletin](#), published 27 February 2024.

## 3 . Initial estimates of the improvements on business investment and gross fixed capital formation

### Analysis

We have analysed the impact that the 2022 Business Enterprise Research and Development (BERD) Survey data would have on currently published estimates of UK research and development gross fixed capital formation (GFCF). This provides an indicative impact and is subject to change once final information becomes available. Data for 2023 will be available in late 2024, so we currently do not know the impact on any change to the annual growth rates.

### The indicative impact of BERD improvements on levels of UK business investment and GFCF for 2022

The estimated impact as a percentage of previously published levels in current prices are:

- research and development: 22.2%
- business investment: 3.9%
- gross fixed capital formation 2.1%

These impacts show that for 2022 (the year for which the new estimates for BERD are available), the level of research and development (R&D) within GFCF would increase by 22.2% in current prices, from £43.4 billion to £53.0 billion. In chained volume measures the level of R&D within GFCF would increase from £39.6 billion to approximately £48.4 billion.

As there are no new BERD data prior to 2022 at the level required for GFCF R&D estimation, these indicative impacts are for 2022 only. This is an indicative impact of the BERD improvements in isolation, and excludes other R&D data source updates such as R&D spend by non-profit institutions serving households and universities, which would usually feed into the annual updating of GFCF estimates of R&D.

## 4 . Future developments

## Annual national accounts 2025

The improvements to the Business Enterprise Research and Development (BERD) sample will be taken entirely through the national accounts for the annual national accounts 2025 update, alongside updates of other research and development (R&D) source data. Gross fixed capital formation (GFCF) estimates will, as is usual, include methods updates where appropriate. They will also be subject to the annual supply-use balancing process and a review of our seasonally adjusted series.

In the annual national accounts 2025, we also plan to expand our work on the impact of globalisation, to consider multi-national enterprises involved in the manufacture of pharmaceuticals. This may include the impacts on the connected R&D services industry, specifically secondary activity around the manufacture of goods, which may affect estimates of GFCF. This work will not directly affect measurement of the R&D product, which is measured as part of BERD.

## Other future developments

We have ongoing improvements for the estimation and coverage of intellectual property products within the national accounts. In our work to construct imputed sum-of-costs estimates for investment in intellectual property, sometimes known as intangibles (for example, software, branding and data as an asset), we recognise the potential for double counting with the BERD R&D survey estimates. Branding and data have not yet been implemented in the UK National Accounts.

To address this likely overlap, we have aligned full-time equivalent (FTE) time factors across the sum-of-costs approaches with FTE time factors (technical occupations) from employment measures in the BERD Survey.

On average, between 1985 and 2019, we provisionally observe that the combined time factors exceed the 100% threshold by approximately 5% per year. As such, we propose applying, in a future annual national accounts dataset, a 5% double-counting adjustment to each set of aggregate BERD Survey returns annually. The timing for the introduction and size of this adjustment will be confirmed once our research is complete.

## 5 . Related links

### [Business investment in the UK: October to December 2023 revised results](#)

Bulletin | Released 28 March 2024

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

### [Measuring and Capitalising Research & Development in the UK National Accounts](#)

Article | Released 10 June 2014

Explains changes to the measurement and treatment of research and development (R&D) introduced in the UK National Accounts, consistent with Blue Book 2014.

### [Business enterprise research and development, UK: 2022](#)

Bulletin | Released 27 February 2024

Spending and numbers employed on research and development by businesses in the UK, including data on sources of funds and regional spread.

### [Update on transformation of research and development statistics: November 2023](#)

Article | Released 6 November 2023

Improvements to the ONS research and development (R&D) statistics. Outlines changes to both the Business Enterprise Research and Development (BERD) and UK Government Expenditure on Research and Development (GovERD) surveys and methods.

## 6 . Cite this article

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