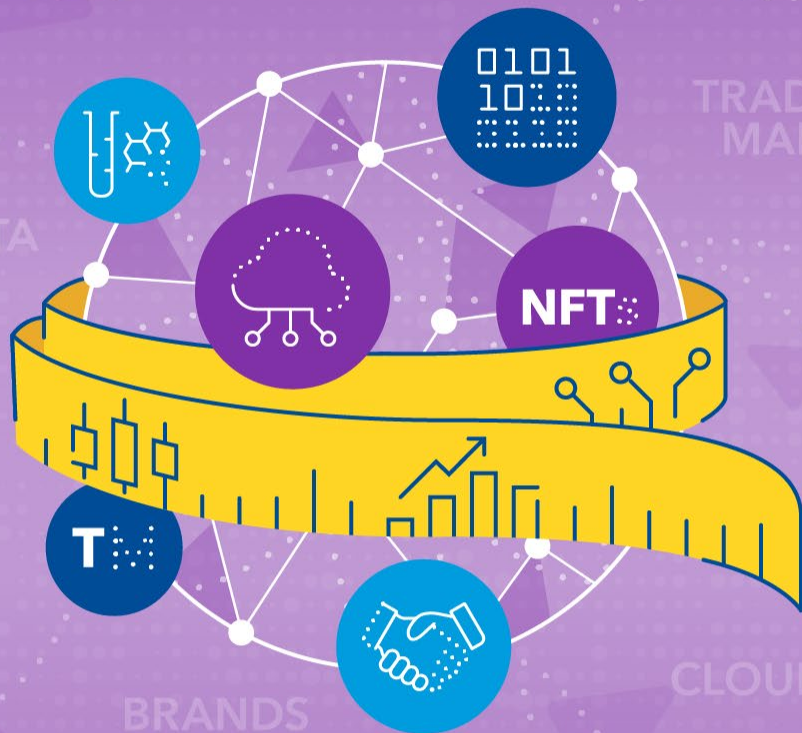


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MEASURING THE TANGIBLE BENEFITS OF INTANGIBLE CAPITAL



The “F words”: why surveying businesses about intangibles is so hard

NOVEMBER 17, 2022

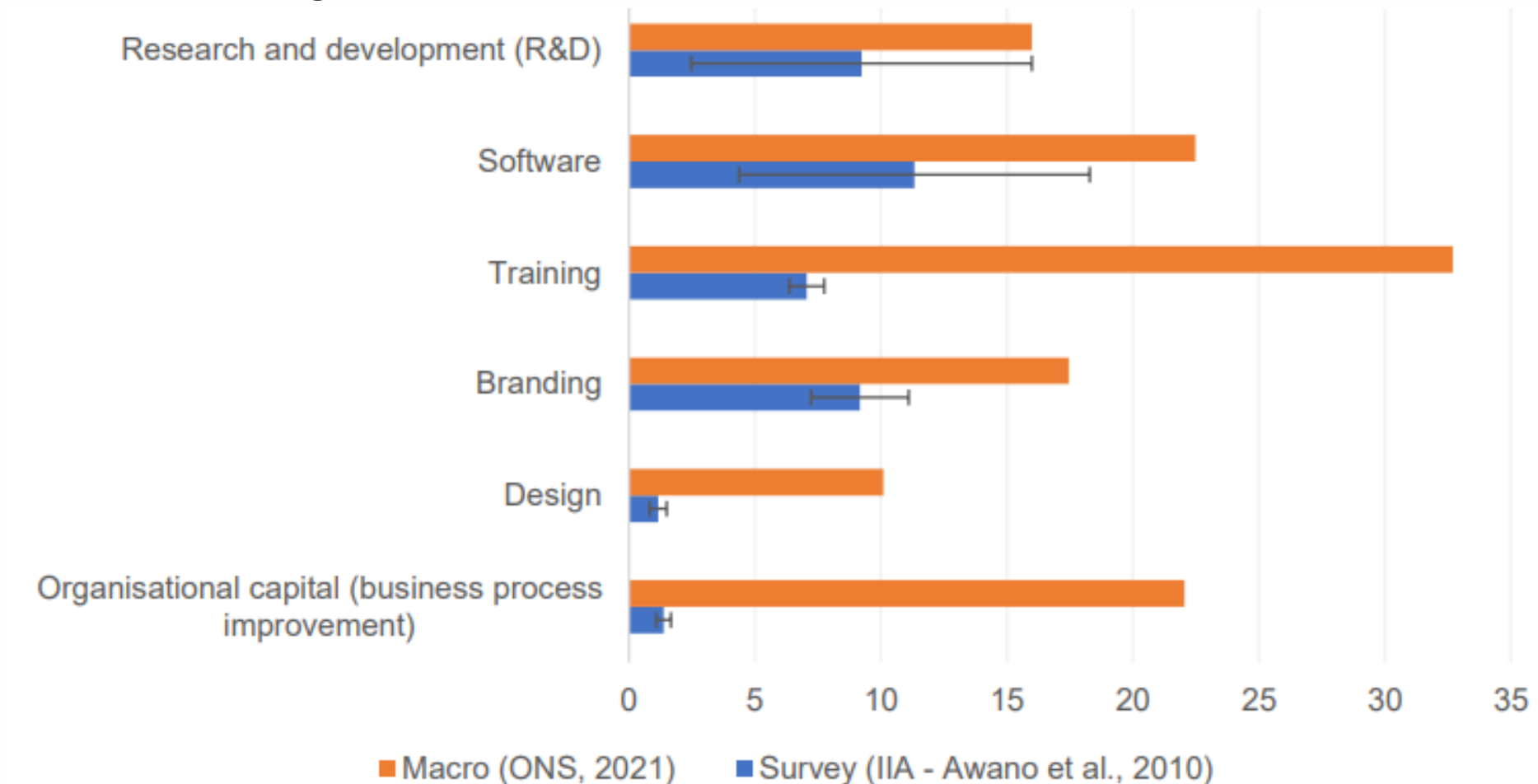
Josh Martin

Bank of England and Economic Statistics Centre
of Excellence (ESCoE)

Views are my own – not those of the Bank of England.

Motivation: survey estimates contradict macro estimates

Investment in intangible assets, UK market sector, £ billions (current prices), 2008



Source: Martin and Baybutt (2022), based on ONS (2021) and Awano et al. (2010)

Why is collecting data on intangibles so hard?

- Intangibles are intangible!
- Data might not be held, or might be very dispersed
- Concepts unfamiliar to respondents
- Often created 'on own-account'
- Valuation is difficult

The four “F words”

- Intangibles are easily **Forgotten**
- Definitions are **Fuzzy**
- Answers depend on question **Framing**
- Importance of survey **Frequency**

Survey data on intangibles in the UK

Survey	Details	Questions
Investment in Intangible Assets (IIA)	Research surveys, ad-hoc, small sample, voluntary	Investment (own-account and purchased) and benefit lives; various assets
UK Innovation Survey (UKIS)	Official surveys, every two years, large sample, voluntary	Investment and related qualitative questions; various (unusually-defined) assets
Annual Business Survey (ABS)	Official survey, every year, large sample, mandatory	Investment; software (purchased and own-account)
Quarterly acquisitions and disposals of Capital Assets Survey (QCAS)	Official survey, every quarter, large sample, mandatory	Investment; software (purchased and own-account)
Business Enterprise Research and Development (BERD) survey	Official survey, every year, small sample, mandatory	Investment and related quantitative questions; R&D

...and many more!

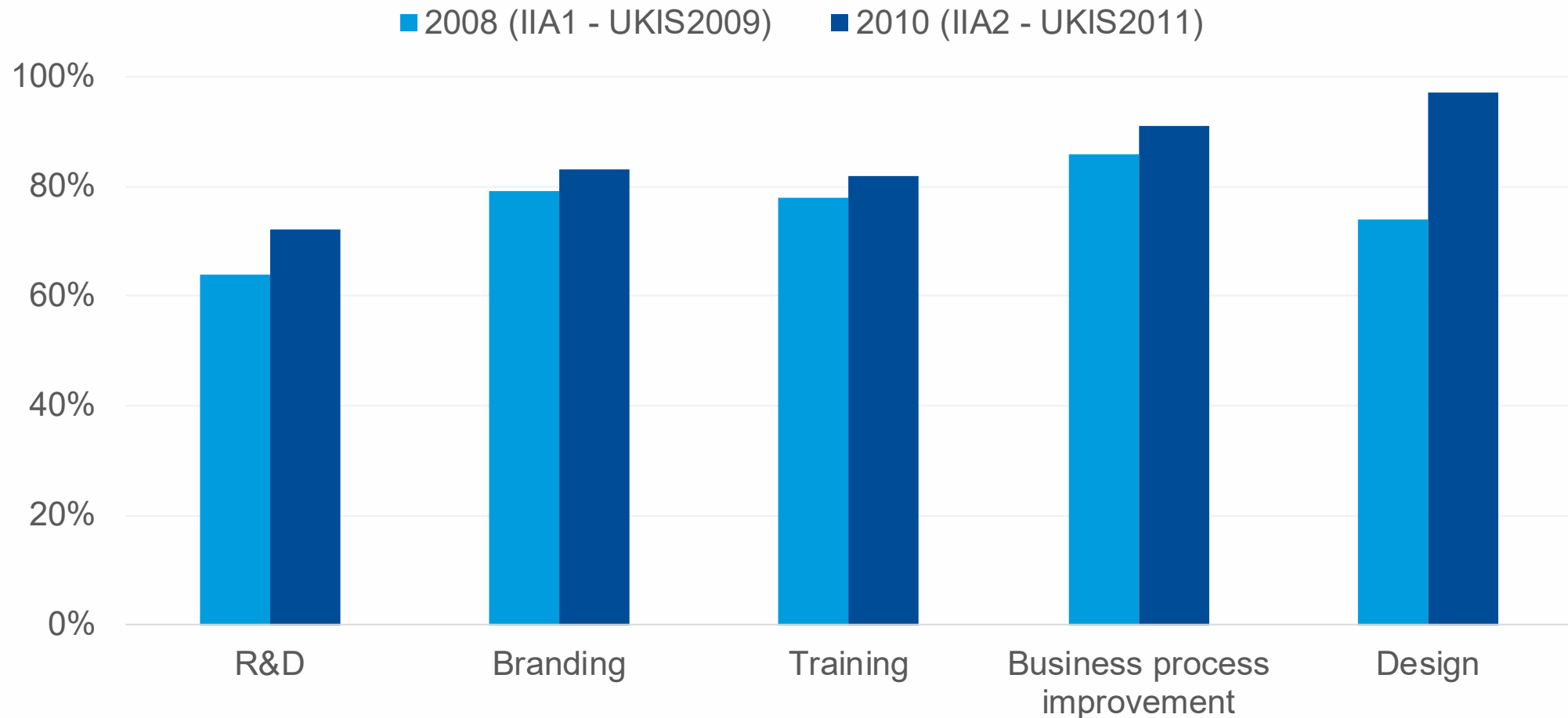
Source: Martin and Baybutt (2022)

Forgotten

Due to their intangible nature, and lower chance of data being retained, in part due to business accounting standards

Businesses report inconsistently on intangible investment across surveys

Proportion of respondents inconsistent between surveys (IIA and UKIS), contingent on positive response in either survey, UK



Source: Martin and Baybutt (2022)

Fuzzy

The concepts are unclear to researchers and businesses, increasing item non-response and reducing quality

Different survey questions and guidance

Annual Business Survey (ABS)

Computer software programs and databases

- i) developed by own staff for business use
- ii) purchased or developed externally (bespoke)

Include:

- Program descriptions, extensions, supporting materials for systems and applications

Exclude:

- Hardware. Report this at 9 (e)
- Cost of ongoing management

Different survey questions and guidance

Quarterly acquisitions and disposals of Capital Assets Survey (QCAS)

Computer software programs

Include: program descriptions, extensions and supporting materials for systems and applications.

- i) developed by own staff for business use?
- ii) purchased or developed externally (bespoke)?

Different survey questions and guidance

Investment in Intangible Assets survey (IIA)

Software

During the reporting period, what was your business's expenditure on software bought from other organisations?

Include:

- off-the-shelf software
- databases
- software licences and licence renewals
- generic and bespoke software.

Exclude:

- software embedded in other items of current or capital expenditure, e.g. software preinstalled on IT hardware

During the reporting period, what was your business's expenditure on software development carried out by its own staff?

Include:

- staff costs of all staff involved, excluding contractors
- associated costs, including office facilities, overheads and materials but not capital items.

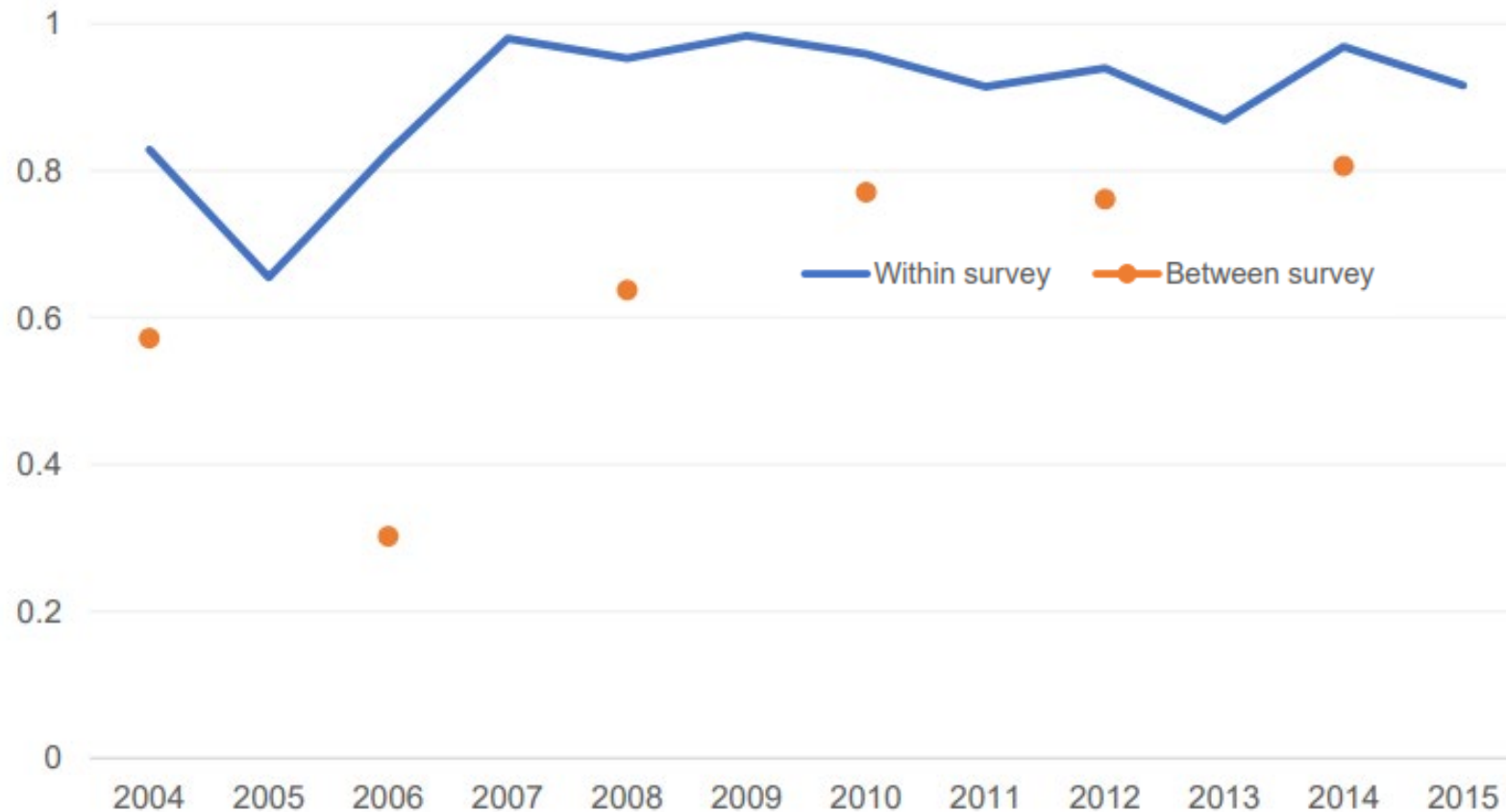
Note: Estimates based on proportions of staff time are acceptable

Framing

Without robust data, responses are likely estimates or 'best guesses', making respondents susceptible to framing effects

The correlation of reported investment is higher within BERD than compared to UKIS

Correlation coefficients on investment in R&D, between UKIS and BERD, and between adjacent years of BERD, UK



Source: Martin and Baybutt (2022)

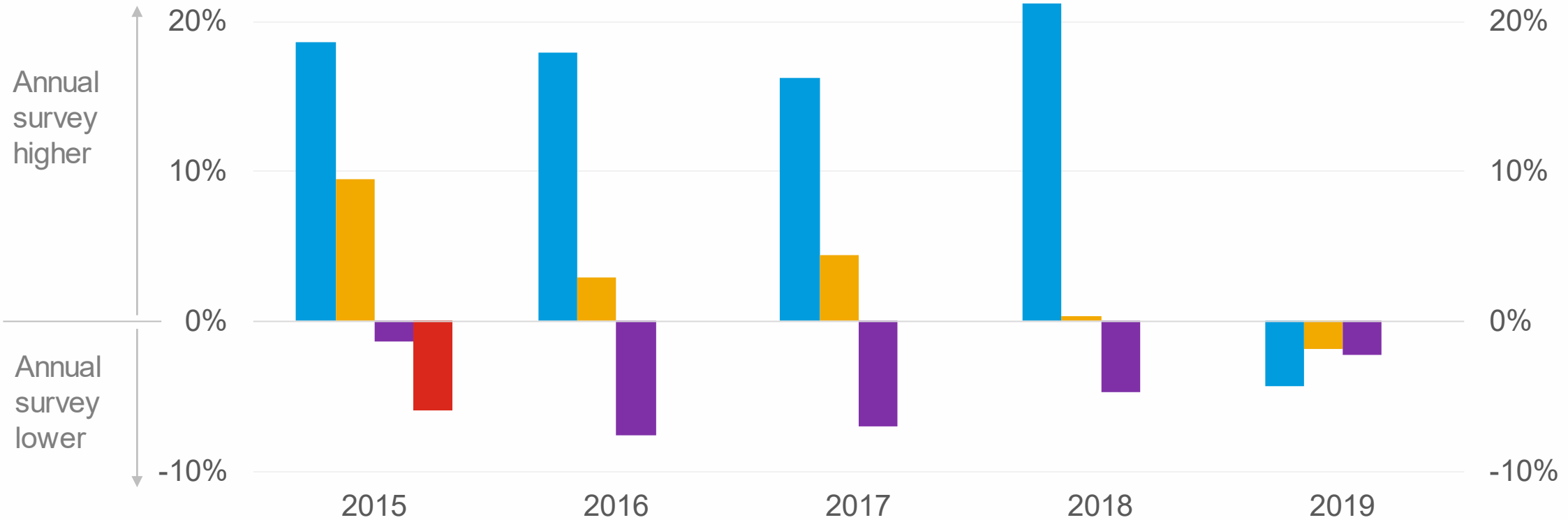
Frequency

Intangible investment is often iterative or continuous, and often on own-account, making accounting periods difficult

Persistent differences between respondents in quarterly and annual surveys

Percentage difference in average reported investment between annual (ABS) and quarterly (QCAS) surveys, selected assets, UK

■ Purchased software ■ Machinery & equipment ■ Buildings & structures ■ Own-account software



Source: Martin and Baybutt (2022)

Designing a better intangibles survey

Finding the right respondents

A good respondent is one who:

- Is aware of the existence of the data
- Knows how to access it
- Can access it

Who are good respondents for intangibles?

- Purchased investment – finance department?
- Own-account investments – HR/function-specific department?
- Qualitative questions – function-specific department?

Designing a better intangibles survey

- Organisation by 'data type' (not by asset)
- Guidance on likely location of data (separate logins?)
- Collect more 'components' rather than 'totals'
- Provide more clarity (where helpful)
- Allow flexibility (in timings and methods)
- Solidify definitions (in research community)
- Do more testing!

Example of data collection

Section F - Design

20. During the year, did this business fund any external or internal design?

For example, the design of products or services to improve their look or performance.

Exclude design of scientific prototypes (part of R&D) and design of software.

Yes → Go to question 21

No → Go to question 24 20

21. During the year, what was this business's expenditure on design activities by other organisations?

Include costs of bought-in design services.

Exclude costs of design embedded in other items of current or capital expenditure

£ , ,

22. During the year, what was this business's spending on design work carried out by its own staff?

Include:

- staff costs of all staff involved, e.g. graphic designers, product designers, architects, design engineers, etc.
- associated costs, including office facilities, overheads and materials but not capital costs.

Note: Estimates based on proportions of staff time are acceptable . . .

£ , ,

Years Months

23. On average, how long does the business expect to benefit from a typical investment in design?

 23

Data likely to be with your finance department

- Use whichever reporting period works best for you

Data likely to be with your product design department

- How many designers?
- How much time do they spend on design for use in your business?
- What is their average wage?

Thank you

Josh Martin

Bank of England and Economic Statistics Centre of Excellence (ESCoE)

Twitter: [@JoshMartin_econ](https://twitter.com/JoshMartin_econ) 

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