

How well is productivity of the UK construction industry measured on a sectoral basis?

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RESEARCH QUESTION

Does the current, 'narrow' definition of the construction industry and aggregated productivity measurements provide an accurate and insightful reflection on the industry?

BACKGROUND

The importance of the construction industry is unquestionable: building construction accounts for between 6 and 10% of output in the UK economy in the long run (Broadberry et al, 2015), and buildings, excluding dwellings, account for nearly 2/3 of capital stock of assets in terms of both wealth and cost as used in capital services (ONS, 2015). Yet, the headline statistics does not account for the variety of economic activity that the industry encompasses to produce its final output. Construction is perceived as a very 'on-site', labour-intensive industry. However, the construction production process does not only take place on-site and does not only require the input from 'on-site' labour. Numerous services, provided by the professional services firms, are a direct input into the process, and these are not included in the current definition of construction. Very different sets of skills and types of labour and capital are required to undertake 'development of building projects', '[management of] construction of residential and non-residential buildings', 'specialised construction activities' and 'architectural and engineering activities'.

The 'broad' definition of the construction industry

| | Description | SIC 2007 | Relative to Construction (by aGVA, \bar{x} of 2008-2019) |
|--------------------------------|-------------------------|------------|--|
| 'Narrow', on-site construction | Construction | (F) | 1 |
| | Developers | 41.1 (F) | 0.14 |
| | Main contractors | 41.2 (F) | 0.25 |
| | Civil engineering | 42 (F) | 0.17 |
| | Specialised contractors | 43 (F) | 0.44 |
| 'Broad' construction services | Real estate activities | 68 (L) | 0.43 |
| | Architectural services | 71.11 (M) | 0.05 |
| | Engineering services | 71.12 (M) | 0.29 |
| | Quantity surveying | 74.902 (M) | 0.02 |
| | Plant hire | 77.32 (N) | 0.04 |
| | Facility management | 81 (N) | 0.15 |



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DATA SOURCES & METHOD

To capture the broader nature of the construction industry and include related services, construction-related services firms are added using SIC codes. To disaggregate the current, ONS' ABS-based productivity measurements (ONS, 2021), firm-level data, i.e. digitised companies' financial accounts from the Fame database (Bureau van Dijk, 2022), is used.

Expanding the scope of the current, 'narrow' definition is important to understand the changes in the structure of the construction industry, including growing interest and in modern methods of construction, such as modular and offsite construction, and development of IT systems such as Building Information Modelling (BIM). 'Services' are seen as more productive than 'Construction', and the services' sectorial contribution is, in fact, significant relative to the overall construction.

OUTCOME & NEXT STEPS

The obvious variance and significant inconsistencies between the measurements, derived from ONS's ABS and financial accounts, likely result from both a degree of misclassification of firms' activities (i.e. inaccurately assigned SIC codes) and the use of financial accounts' data suggests a need for further review of existing methodologies.

The self-determining nature of economic activity classification: similar to financial reporting requirements, which are depended on a company's size, it is suggested to introduce stricter requirements around SIC codes assignment, review and confirmation.

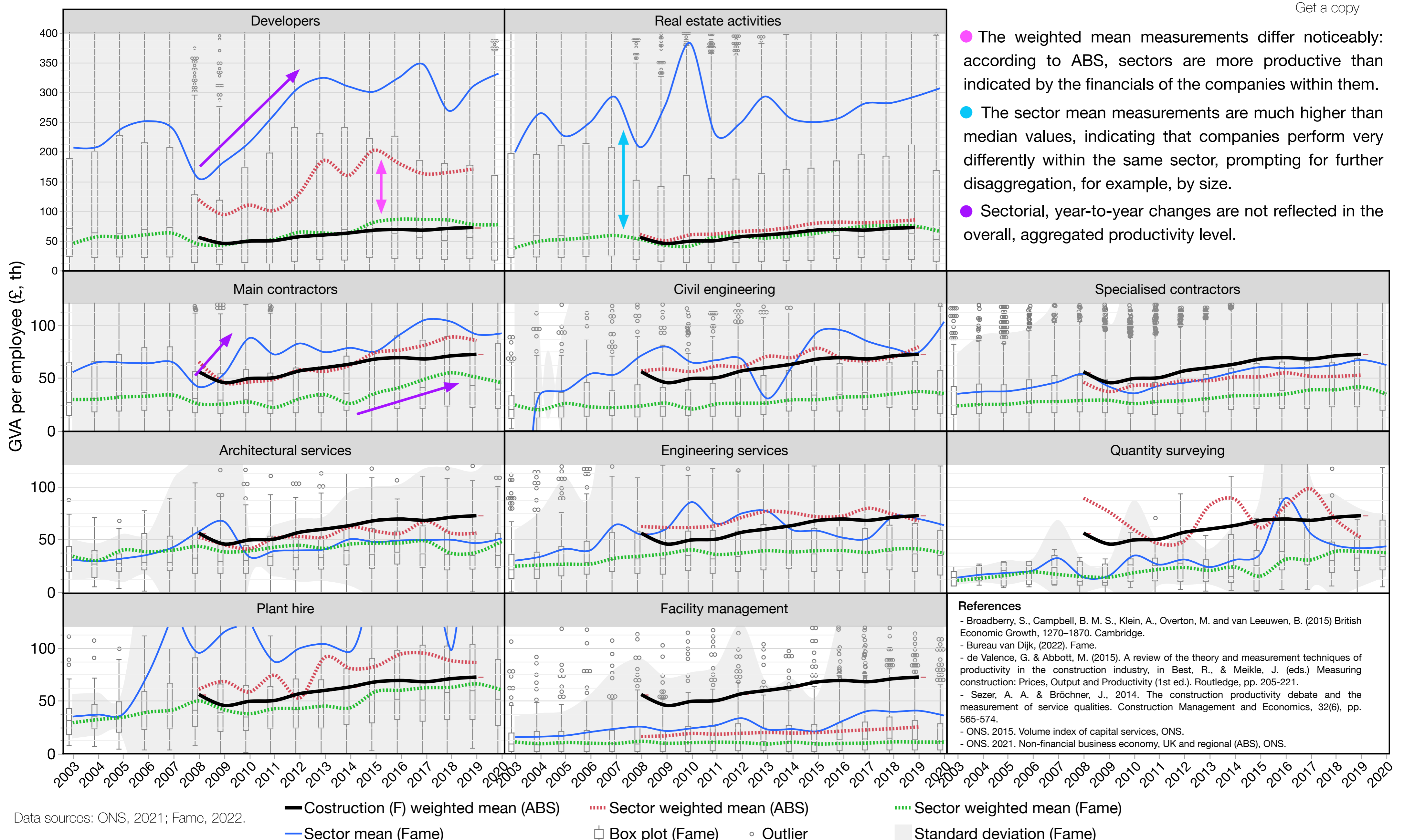
An in-depth, empirical study accounting for the 'broad' definition of the industry is likely to significantly revise the current productivity estimate. Such revisions will have direct implications on how the industry is viewed by investors and policymakers.

A deeper understanding of the structure and state of the industry and new explanations to its performance on a sectoral basis will contribute to knowledge from both academic and practical perspectives.



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Disaggregated GVA per employee by sector, UK, 2003 to 2020



Data sources: ONS, 2021; Fame, 2022.

- The weighted mean measurements differ noticeably: according to ABS, sectors are more productive than indicated by the financials of the companies within them.
- The sector mean measurements are much higher than median values, indicating that companies perform very differently within the same sector, prompting for further disaggregation, for example, by size.
- Sectorial, year-to-year changes are not reflected in the overall, aggregated productivity level.

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