Mark Pont, Assessment Programme Lead

Darren Morgan
Director of Economic Statistics Development
Office for National Statistics
(by email)

17 September 2019

Dear Darren

CAPITAL STOCKS AND FIXED CAPITAL ANNUAL CONSUMPTION

As you are aware we commenced a compliance check of your Capital Stocks and Fixed Capital Consumption statistics in June of last year against the Code of Practice for Statistics. Also in our regulatory work programme for the first half of 2019 to 2020 we undertook to conduct a compliance check on ONS communications of Blue Book changes for 2019. This letter confirms our findings from both reviews. I am pleased to confirm the continued designation of Capital Stocks and Fixed Capital Consumption Statistics as National Statistics.

Following extensive assessment in 2012, the Office for Statistics Regulation programmed these statistics for review in 2018 based on their strategic importance in understanding the size and composition of the economy's asset base, and its contribution to the UK's productive capacity.

The focus of our review has been on data quality. The Independent Bean Review of Economic Statistics and NIESR's review of *Asset Lives in the UK* highlighted several areas where National Accounts estimates related to capital stocks required developing. These areas included enhancements to the measurement of asset life lengths, forms of depreciation and approaches to estimating the retirement of assets.

We were impressed by your extensive work programme to address these issues and the exemplary work of your teams to undertake a range of extensive analysis in order to develop improved assumptions and so transform these statistics into high quality outputs, benefiting users and helping improve the quality of other economic statistics, such as Gross Domestic Product (capital consumption) and Multi-Factor Productivity (labour and fixed assets). The engagement with experts in NIESR has informed the work on asset life lengths and value of assets well. The details of the changes made to estimates of capital stocks have been fully set out and explained in an article that you released on 20 August 2019, and we welcome the thoroughness of that account.

We were encouraged to see, in response to recommendations in the Bean review, improvements to the robustness of assumptions about the efficiency of economic assets (e.g. buildings, transport, machinery) as they age and the adoption of depreciation functions appropriate to those ageing patterns. This capability will enable an improved reflection of the economic reality of the depreciation of assets, particularly in the service sector. Similarly, the adoption of a variety of statistical methods to model the potential retirement of assets better reflects the reality of when assets are totally exhausted and replaced.

The work to improve data on new asset lives has been extensive and has covered a range of assets, including greater detail on those in the "Other Structures", "Other Buildings", "Land

Improvements" and "Plant & Machinery" classes. Information on the latter class has been improved significantly to include detail on the lives of ICT Hardware, Telecommunications, Other machinery & Equipment and Purchased Software assets. We welcome your work with industry experts, including the Royal Institute of Chartered Surveyors, OFCOM and the DVLA, to improve estimates of asset life lengths amongst the named classes and the work on company accounts to improve measurements on assets such as "Other Machinery".

ONS's work to improve the quality of these estimates has not been restricted to the recommendations of the Bean and NIESR reviews. Statistics users often comment to us on their desire for a consistent, preferably up-to-date, time series, with back series provided where possible. By understanding the past better, analysts can produce improved models with higher levels of predictability of future trends. ONS has reviewed and modernised the classification of historical capital expenditure data to industries, assets and institutional sectors, improving the quality and value of these statistics to key users. The capital stocks data between 1828 and 1997 were reviewed and adjusted at a detailed level to explain and eradicate any discontinuities over time. We commend these developments.

Combining these improvements with the development of an open source Perpetual Inventory Model (PIM) has created the opportunity to produce quarterly calculations of net, gross and productive stocks for the first time. The combination of all these methodological improvements will enable users the opportunity to link the estimation of capital stocks and capital services and thereby enhance understanding of their role in the production process. These are exemplary developments and we would encourage you to continue to lead the way with the evolution of these statistics.

Changes to capital stocks statistics forms part of ambitious plans for the scope of the next Blue Book due to be published in October 2019. Preparing users for the scale and direction of changes is essential to maintaining the trustworthiness of the statistics. ONS has provided comprehensive information to prepare people for changes in the next set of National Accounts. The changes are well explained and published at the most appropriate time for users to prepare for the implications of these changes in their own analyses.

In June 2019 ONS prepared users for National Accounts in *Blue Book 19* by publishing an article on indicative impacts of changes on measuring GDP. Then on 20 August 2019, in addition to an article on changes to capital stocks, ONS published a package of valuable articles including changes made to the measurement of the economic contribution of Not for Profit Institutions, changes to gross fixed capital formation and business investment, to measures of UK trade and further information on the implications of changes on measuring GDP. These articles were followed on 30 August 2019 by a further set of articles estimating the impact on components of the National Accounts in *Blue Book 19* including an article on the impacts of changes to the capital stocks estimates. All-in-all, this represents a significant body of information to help users fully comprehend changes in the way the UK economy is measured and accounted for.

Changes made to the National Accounts in *Blue Book 19* go a long way to align ONS with international best practice across key elements of National Accounts and represents a key milestone in the delivery of the ONS's Economic Statistics Transformation Programme. On their own the changes being made to measuring capital stocks are significant but as part of the wide-ranging changes in Blue Book will mark a large leap forward in ONS's capability of reading and reporting on the UK's modern economy.

To enhance these statistics further we would suggest that you seek to, wherever possible, collect data directly from business to complement and to verify the assumptions of the PIM (most significantly on asset life lengths). And that further efforts are made to triangulate these estimates with other countries and macroeconomic indicators, and where possible external information, including company accounts. Observations on asset values over time (as undertaken in Japan and Canada) should be considered to complement and verify the choice of depreciation function used in the new model. These measures should serve to validate or challenge methodological choices and build confidence in the estimates among users and stakeholders.

I am copying this letter to Rob Kent-Smith, Deputy Director, National Accounts, Richard Campbell, Head of Economic Statistics Development and Support, and to Ian Macrory, Head of Capital Stocks statistics.

Yours sincerely

Mark Pont
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