

Article

Public Services Productivity Review progress report: February 2024

Update on progress toward making improvements to public services productivity measures as part of the Public Services Productivity Review.

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1 . Public Services Productivity Review progress overview

In June 2023, the Chancellor commissioned the National Statistician to review how productivity measures of public services could be improved. Since then, the Office for National Statistics (ONS) has been partnering with government departments, public service experts and academia to work towards developing better methodology and data sources to improve public services measures on productivity.

This work forms part of the UK Government's commitment to improving the way it delivers public services through the Public Sector Productivity Programme. Two-thirds of the UK government's spending is on public services (as opposed to benefits and transfers), which equates to around one-fifth of the output of the UK economy. Therefore, it is vital that productivity levels are reported as accurately and effectively as possible. Improving measures give an understanding of the value of public service performance and its contribution to the economy and the public more widely.

This report provides brief updates on the progress towards making improvements to public services productivity measures, including:

- healthcare
- education
- defence
- adult social care
- children's social care
- policing
- public order and safety
- social security administration (SSA)
- tax administration
- other service areas

Updates cover engagement, conceptual challenges, development of measures, exploration of data sources for inputs, output and quality adjustments. It also presents newly developing surveys that will report on the time spent by public sector workers on administrative tasks, in addition to new experimental improvements to productivity estimates using "nowcasting".

The review began with a phased approach looking at measurement improvements for public services in England. We are now working with the devolved administrations to share best practice, and identify data and methodological improvements that can be made to Scotland, Wales and Northern Ireland estimates. This is with a view to UK-wide coherence and the future incorporation of measurement improvements into the UK National Accounts by the ONS.

Improvements by service area

Healthcare

Healthcare is the largest expenditure area of public service provision and is a high priority area for continuing development. There is already a high level of quality and coverage, but further improvements include making use of new data sources, reviewing quality adjustments for patient satisfaction and General Practitioner (GP) outcomes, and inclusion of measures on alcohol and drug misuse and smoking cessation. We intend to implement improvements to these measures in March 2024 before undertaking work into a wider range of improvements for future public service productivity releases.

Education

Education is the second largest service area. Improving the outputs and quality adjustments included in productivity measures has focused on a number of areas. Namely, capturing the shift in the compulsory education age to 18 years, ensuring academies are treated appropriately, capturing the increase in activity from the increase in funding entitlement for pre-primary, and improving the calculations on healthcare training and teacher training (to avoid being double counted because these are already included in UK National Accounts).

The review has also identified several areas for potential improvement, including indicators of attainment during the coronavirus (COVID-19) pandemic, and is exploring student wellbeing, further education (FE) attainment and educational outcomes. The review aims to improve annual estimates from March 2024.

Defence

Defence is a large service area with substantial investment but is a long-standing conceptually challenging area to measure, with no agreed methodological approach currently available. The review is exploring conceptual frameworks, recognising challenges around data sources and security. We are collaborating closely with the Ministry of Defence (MOD) and academics to identify steps on improving measurement for 2024 to 2025.

Adult social care

Productivity measures in "adult social care" have received a significant amount of development in recent years, so are a lower priority for the review. However, regular robust measures will continue to be produced.

Children's social care

Productivity measures in "children's social care" have received a significant amount of development in recent years, so are a lower priority for the review. However, regular robust measures will continue to be produced.

Policing

Policing productivity is conceptually complex because of the preventive nature of much police activity, the attributability of crime outcomes on police activity, and the availability of data on the wide range of activities undertaken by the police. The review has prioritised assessment of data availability on activities suitable for improving the inputs and outputs measures currently in place, as well as identifying gaps and potential quality adjustments. This builds on the comprehensive audit of data sources undertaken by the [Policing Productivity Review \(PDF 5.0MB\)](#).

Public order and safety

The review is working with the Ministry of Justice (MoJ) to improve existing metrics on productivity in public order and safety, exploring UK National Accounts expenditure data and workforce data for professions with the potential to incorporate these into public service productivity for 2024 to 2025.

Social security administration

The review is working with the Department for Work and Pensions (DWP) and HM Revenue and Customs (HMRC) to develop measurement of administration across the main benefits, with a specific focus on the implementation of and transition to universal credit. An important aim is to develop a quality-adjusted output and productivity index for social security administration (SSA).

Tax administration

Tax administration is currently represented very simply within productivity measures, under the assumption that output is equivalent to the inputs used, so is a high priority for review. The review is developing a measure that will enable productivity measures for taxation to be used alongside UK National Accounts data. The review is aiming to develop input, output and productivity indices for taxation by March 2025.

Improvements

In November 2023, we published [Public service productivity, UK: 1997 to 2022 article](#), which included new developmental analysis of long-term trends (from 1997 to 2019) for total public service productivity and for some specific service areas (healthcare, education, and public order and safety). For the years 2021 and 2022, we applied an experimental method called "nowcasting" to shorten the time lag in the publication of quality-adjusted estimates. The method was used to produce estimates of quality and bring these into the short-term measures to make them more comparable with the annual data, which were already fully quality adjusted. We also published our [Public service productivity: total, UK Quality and Methodology Information \(QMI\) report](#), which provides further details on the strengths and limitations of the data, methods used, and data uses and users.

The review is on track to deliver a first set of output measurement improvements into our next Public service productivity: total, UK: 2021 article, to be published on 26 March 2024. This will be preceded by an article describing the Improved methods for public service productivity total, UK: 2021, due to be published on 8 March 2024.

On 22 March 2024 we plan to publish an article titled Public service productivity, healthcare: England, financial year ending 2022. This will focus on productivity in the largest public service: healthcare.

We will continue to expand the coverage of public sector productivity outputs throughout 2024 to 2025.

Other improvements

To provide insight into the time spent on administrative tasks by public sector workers, we have:

- conducted a pilot [Public Sector Time Use Survey](#) based on the broader [Time Use Survey](#) of adults in UK households but examining the daily working activities of public service workers; the results, along with qualitative research on worker's lived experience, are planned for [publication on 1 March 2024](#)
- developed a new survey covering public sector organisations, drawing on the [ONS Management and Expectations Survey \(MES\)](#), which aims to measure management practices in the public sector, identify strengths, weaknesses and information on skills, hybrid working, time spent on administration, and use of technology and artificial intelligence (AI); results will be published in autumn 2024

2 . The challenge of measuring productivity in public services

Productivity is a measure of how well a society transforms work and other resources into products and services. Typically, this can be explained by how much of an "output" is produced by the quantity of an "input". This principle works well in the private sector, but applying this concept to public services is more challenging because there is no direct charge or price for the services that are provided to its users, they are free at the point of delivery.

To help overcome this challenge and ensure measures adequately reflect the value being produced by public services, methods can be developed to account for aspects of a "service's quality". Currently, "quality adjustments" are applied to fewer than two-thirds of productivity measures (by volume) in government services and, along with the variation in the types of adjustments used, this makes aggregating data difficult and headline numbers hard to interpret for overall policy purposes.

Public service productivity is estimated by comparing growth in the total quantity of output provided (adjusted for quality where possible) by growth in the total quantity of inputs used.

Total public service output and inputs are calculated by aggregating output and inputs of nine service areas based on their share of expenditure. A larger expenditure share means that the service area has a larger contribution to an overall productivity statistic. The largest expenditure shares for service areas are around healthcare (41.4%), education (16.2%), and defence (9.1%), but there is also a large "other" government services (16.0%) pot that captures a wide variety of government activity, including general government services such as tax administration and economic affairs. It is our aim in the review to differentiate between these services and provide better tailored measures of these domains.

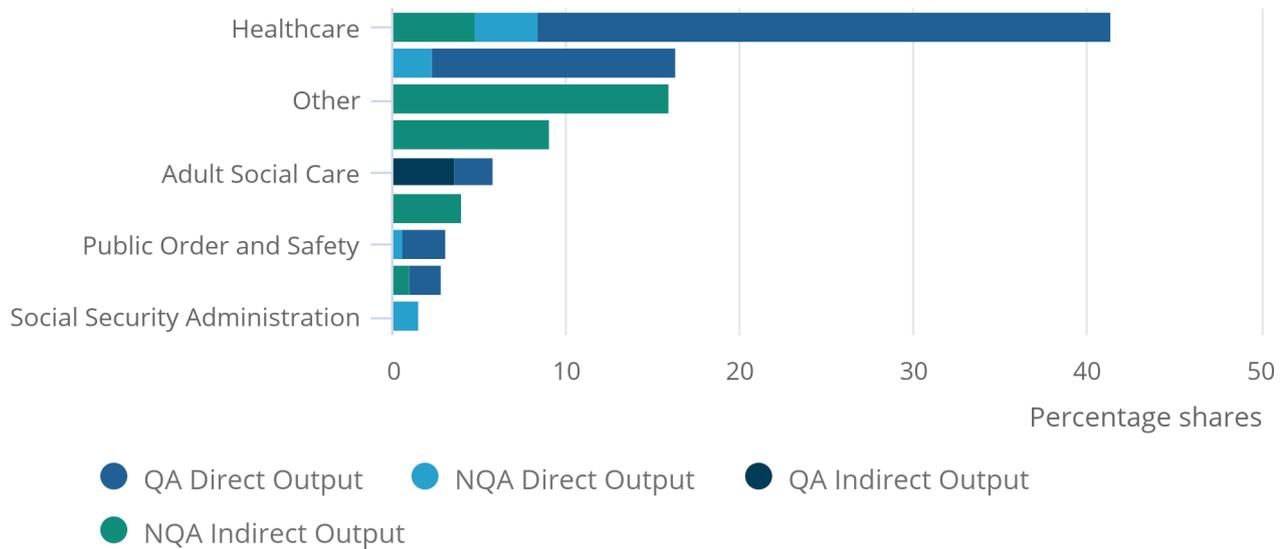
Figure 1 shows the expenditure shares and output types by public service area in the UK in 2020, and also highlights service areas (direct or indirect approach, and the inclusion of quality adjustment). For further details, see our [Public service productivity: total, UK, 2020 article](#).

Figure 1: Expenditure shares and output types by public service area

UK, 2020

Figure 1: Expenditure shares and output types by public service area

UK, 2020



Source: Public service productivity from the Office for National Statistics

Notes:

1. Percentage share of components may not sum to 100 because of rounding.
2. "QA" means quality-adjusted. "NQA" means non-quality adjusted.
3. "Direct" means output is measured using activity indicators. "Indirect" means output is measured following the "output-equals-inputs" convention.

3 . Progress on Measuring Public Services Productivity, by service area

Healthcare

Healthcare is the largest expenditure area of public service provision (41.4%), and the Office for National Statistics (ONS) is working with the Department for Health and Social Care (DHSC), NHS England and academia to continually review and improve well-developed productivity measures.

A review of the inputs, specifically the value of goods and services used in the provision of healthcare activities (intermediate consumption), showed that we use the best existing data. Therefore, only small improvements are required, like the inclusion of legal and audit services. We have, however, updated the weights used to calculate the labour inputs to better align with our measure of full-time equivalent (FTE) staff.

A review of activity data sources to estimate output has concluded that our existing approach is the best available, including for community health services and mental health data sources. We intend to include output for adult national screening programmes where activity and costing information is being introduced from next year into the [NHS National Cost Collection](#).

We have reviewed the coverage of local authority commissioned public health services in our existing public service productivity estimates. While many services are already accounted for, we intend to improve the coverage of alcohol and drug misuse, and smoking cessation services from March 2024.

In collaboration with the NHS, DHSC and Imperial College London's School of Public Health, we have reviewed our current quality adjustments for patient experience and General Practitioner (GP) outcomes and concluded the main data sources used are the most appropriate available. Planned improvements include use of the GP and dental patient elements of the GP Patient Survey and an expansion of the Quality and Outcomes Framework indicators included in the GP outcomes adjustment.

After March 2024, other aspects of quality adjustment will be reviewed, such as waiting times, and we have commissioned research from the [Economic Statistics Centre of Excellence \(ESCOE\)](#) into conceptual issues in measuring preventative aspects of healthcare.

Education

Education is the second largest service area and already possesses relatively well-developed productivity measures. The review is working with the Department for Education (DfE) to explore data sources and methodologies to improve output and quality adjustment measures.

In particular, for the output, the review has assessed:

- how academies and alternative provision are included and weighted in the output measure
- the potential treatment of the expansion of UK government funding for pre-primary that now captures all government-funded pre-primary activity (where it previously only captured those aged 3 to 4 years)
- improvements in the treatment of healthcare training and teacher training to restrict these to only the components within further education, in line with the definition used in public service productivity

The review has considered alternative data sources for the cost weights used for education output, and updated the sources to make use of the revenue outturn provided by local authorities and school-specific expenditure provided by DfE. This will allow for a more accurate weighting for the splitting out of the academies from their local authority-maintained counterparts.

The review has also identified several potential areas for improvement for attainment measures for the quality-adjusted output measure, including those relating to the disruption to attainment caused by the coronavirus (COVID-19) pandemic. We are exploring whether the National Reference Test could be a better source for this period than the learning loss measures that were previously used.

These improvements, if confirmed, will be included into official statistics for the total public service productivity publication in March 2024.

Improvements concerning other measures of quality adjustment (student wellbeing, further education attainment, consistent measurement of attainment over time) and determining the attribution of the education sector to educational outcomes are areas under exploration.

Defence

Defence is a large service area, and the review is working with the Ministry of Defence (MOD) and academics to develop feasible methods to capture productivity as appropriately as possible. Historically, productivity has been measured on an "output-equals-inputs" basis because of the challenges of identifying a distinct measure of output. This is because defence is a classic public good and therefore the most conceptually challenging to measure because services are not provided to people individually but collectively. The challenge to measuring productivity in defence is also an international one, not specific to the UK.

Defence assets (such as ships and aircraft), for example, are designed to perform core roles both for rare combat situations (which makes it hard to track productivity through time), and to act as a deterrent to stop those situations arising. This makes understanding how to quantify the concept of "deterrence" an important factor in understanding defence productivity in terms of quality adjustment.

The review is working closely with the MOD to better understand how inputs and deflation are measured within the department, and there is also scope to improve the measurement of output in terms of readiness, availability, capability, and sustainability of the armed forces.

Furthermore, the review is also working towards a proposal for improving the granularity of data sources for inputs through exploring the number of staff employed at different ranks and modelling the enhancement of defence capabilities through the provision of capital assets and equipment.

It is also important in the short term that we review the [Classification of functions of government for defence \(COFOGs\)](#). Work is currently underway to develop subgroups for Section 2.1: Military Defence because the current COFOGs for defence do not have the granularity of other departments. Additionally, we are reviewing whether the delivery of other services in support of defence should be treated as intermediate consumption or the final output of other service areas.

These will be the first steps in building a better picture of productivity for defence, and the review is looking to have an agreed proposal for an improved methodological approach in 2024 to 2025.

Adult social care

Adult social care (ASC) is the provision of care and support to older people, adults with learning or physical disabilities, adults with mental health problems, drug and alcohol misusers, and carers. For further details, see Section 4: Adult social care in our [Sources and methods for public service productivity estimates methodology](#).

This area has received considerable development in recent years, including refining of the inputs, outputs including contributions from the [devolved administrations](#), and quality adjustment. Therefore, it is considered a low priority for the review because [improvements have been made](#) and current measures are up-to-date with the latest available data sources. We will, however, continue to produce robust estimates in this area and investigate if better data sources on activities exist or become available.

Policing

Improving police productivity is a priority for the UK government, as recently reported in the [Policing Productivity Review](#) (PDF 5.0MB). It is a conceptually complex and challenging area, unlike most public services, as much of police work is hard to allocate to countable activities. This is both because of the integrated nature of activities and the multiplicity of functions performed by the police.

For example, the output of a school can be defined in terms of the number of pupils receiving education, whereas policing includes crime prevention and detection and a disparate range of activities (such as crowd control at sporting events, missing persons, dealing with road traffic accidents, and so on), where the time taken to complete each activity varies greatly. Additionally, the outcomes of policing include the reduction or absence of crime, where isolating the effect of improvements in policing on crime from external societal factors is another challenge.

The review is working with HM Inspectorate of Constabulary, the police, Home Office and other organisations and academics, to undertake a review of the availability of data sources on activities suitable for improving the inputs and outputs measures currently in place, as well as identifying gaps and potential quality adjustments.

The review will also be exploring the public perception of safety and confidence in the police, and the quality of victim support, while also looking to see how prevention strategies can be robustly measured, ensuring these are linked to tangible outcomes such as reducing the likelihood of offending.

Public order and safety

Public order and safety (POS) covers four main service areas: courts, probation, prisons, and fire. There are currently existing input and output metrics for these services, with the majority of these having quality adjustment measures in place. Working with the Ministry of Justice (MoJ), the review will ensure they are fit for purpose and include the best data sources available.

The review has identified full-time equivalent (FTE) workforce data across the POS areas, using the UK National Accounts expenditure data for the relevant categories from the [Classification of the functions of government \(COFOG\)](#). The review is also exploring the availability of average salary data for the professions with the potential to incorporate these into public service productivity from 2024 to 2025.

There are several metrics used to derive quality-adjusted POS outputs and we have identified that updating the data sources for the output of criminal courts and updating the quality adjustments with the best data on case timeliness in courts are priorities for 2024 to 2025. The impact of the coronavirus (COVID-19) pandemic has been highlighted where adjustments based on re-offending data (which are used across probation, prison and court services) will be considered for refinement in the measure.

For the other services, further exploration is also planned to consider whether scope and granularity of quantity output data can be improved for 2024 to 2025.

Children's social care

Children's social care (CSC) is the provision of social work, personal care, protection or social support services to children in need or at risk, and has received considerable improvements in recent years. For further details, see Section 6: Children's social care of our [Sources and methods for public service productivity estimates methodology](#).

With the additional measures for direct quantity output, quality adjustment and case mix that have enabled an increase of the percentage of CSC services that are directly measured from a third to around two-thirds, this area is not considered a priority for the review [as recent improvements have been made](#). However, we will continue to produce robust estimates and consider potential new data sources.

Social security administration

The review is working with the Department for Work and Pensions (DWP) and HM Revenue and Customs (HMRC) to explore data sources and methodologies that will help to improve productivity measures for social security administration (SSA).

An important focus of SSA is to produce an output model that captures activity for benefit administration that includes Universal Credit, which was introduced in 2013 and continued to be rolled out between 2017 to 2018. The review will also assess the best method of measuring output across all benefits and will be working with departments to implement this.

Prior to Universal Credit, each individual benefit that it replaced was assigned a unit cost before aggregation into a chain-volume measure of output. However, unit costs for the individual benefits which it replaced are not currently available for Universal Credit claims. As a result, this service area reverted to an "output-equals-inputs" methodology in 2018, pending further work. This work was delayed by the coronavirus pandemic and has been brought into the scope of the review as a priority area.

Universal Credit combines many former benefits, this presents a challenge because payments are subject to greater variability as entitlements will vary between recipients. Our aim is to produce an updated output model for SSA that incorporates data which accurately represent benefits administration within a Universal Credit framework.

With productivity statistics around SSA not currently quality-adjusted, the review aims to identify measures that could inform a quality-adjusted output and productivity index for SSA. The review has been looking at the feasibility of sources (such as fraud, official error rates, and claimant satisfaction with the benefits system). The review is also keen to explore measures which relate not only to benefits administration, but also those which indicate outcomes within the job coaching aspect of SSA.

Additional work is also underway around the composition of inputs into COFOG. The review aims to finalise outputs and quality-adjusted output models by the end of the review period (March 2025).

Tax administration

Tax administration is a high priority area for development because there are not currently any productivity estimates for this service area. In collaboration with experts from HM Revenue and Customs (HMRC) and academics, the review is developing a measure which will enable productivity estimates for taxation to be produced for the first time. For consistency, the review is looking to adopt the method used in other service area productivity measures.

Public service areas are closely aligned with expenditure for weighting and calculation of the input and output indices based on National Accounts data and are coded under the relevant COFOG. However, this is challenging as the classification does not have a dedicated code for taxation, so exploration is underway looking at potential sources of expenditure data.

The review has been considering HMRC published data to assess the potential to construct the input and output indices for a taxation productivity measure. The review is identifying possible sources to ensure adequate granularity and has identified possible categories for types of taxes collected, to establish appropriate weighting in the coming months.

The review aims to develop inputs, output and productivity indexes for taxation by March 2025. The review will explore quality adjustments in 2024 to 2025, but these may not be implemented at that stage.

Other government services

Environment

If resources allow, the review will be exploring the potential to develop productivity measures for the environment. The first task is assessing existing relevant activities and evaluating different approaches to agree a suitable measure to take forward.

4 . Improving public sector productivity

Nowcasting

We recently published new experimental baseline estimates to show long-term productivity growth using a method called "nowcasting" for the first time in our [Public service productivity, UK: 1997 to 2022 article](#).

This approach allows us to produce timelier annual estimates and compensate for a time lag between the publication of quarterly estimates, which are not quality adjusted, and the annual estimates, which are produced with a two-year lag. We acknowledge that using nowcasts has limitations, but we have developed robust methods to increase reliability.

Our next annual publication on "total public service productivity" in the UK will be published on 26 March 2024. On 22 March 2024, we will publish an article on Public service productivity, healthcare: England, financial year ending 2022. This will be preceded by an article describing the Improved methods for public service productivity total, UK: 2021, due to be published on 8 March 2024. Our update on the method and estimates on nowcasting will follow in April.

Public sector Time Use Survey and qualitative research

To support the wider review on improving the measures of public service productivity, it is important to understand how public sector workers spend their time. The review also wants to ensure productivity is measured consistently across the public services and that change is measured as comprehensively as in the private sector.

We recently conducted a pilot [Public Sector Time Use Survey](#) that looked at how public sector workers spent their working day (including travel, administration and delivering services directly). This survey was based on the broader [Time Use Survey](#) of adults in the UK, but was modified to focus on the daily working activities of public service workers (such as teachers, civil servants and prison workers).

Previous analysis from the UK Time Use Survey showed that adults who worked in the public sector were reported to be [spending more than an hour more a day undertaking administrative tasks compared with private sector workers](#). Reducing the amount of time frontline workers such as doctors, nurses and police spend on administrative tasks should allow more time to support patients and the public.

To understand more clearly the roles and impact of administrative tasks on productivity for public sector workers and to offer possible improvements to reduce administrative burden (including through automation and artificial intelligence), qualitative work has also been undertaken.

We will publish results from the Public Sector Time Use Survey, interviews and focus groups in our [Time use in the public sector, Great Britain: February 2024 article](#) on 1 March 2024.

Public Sector Management Practices Survey

The review is working closely with stakeholders across government and academia to develop a new survey that covers UK public sector organisations, drawing on the [ONS Management and Expectations Survey \(MES\)](#).

This new survey aims to:

- measure the quality of management practices in the public sector
- identify strengths and weaknesses in management practices
- provide insight on skills, hybrid working, time spent on administrative tasks, and use of technology and artificial intelligence (AI)
- enable comparisons with private sector firms

We will be contacting organisations, including those in healthcare, education, central government, local government, police and fire services, using a unique sample frame of the public sector from the Interdepartmental Business Register.

Measuring management practices in a consistent way across the public sector for the first time will help establish a baseline performance across public sector organisations, allowing for follow up in future surveys. Subject to successful outcomes of development and testing, fieldwork will be conducted for this survey in spring 2024, with a plan to publish initial results in early autumn 2024.

5 . Related work

Deflators

Deflators allow us to adjust for the effect of price inflation, enabling us to compare like-for-like over time. They are used within public sector productivity measurement to derive the real value of inputs. To ensure that the deflators are the most appropriate, the review plans to address a number of areas where quality assessment needs to be considered to ensure that the deflators are of good quality, that weights and methodology are up-to-date, and that they are applied using the best approach. For more information about deflators and how they are used, see our [Deflators and how we use them in economic estimates methodology](#).

Research and development

In collaboration with Go Science, we have been working on identifying and improving the collection of statistics for Government Expenditure on Research and Development (GovERD), because these are an important aspect of government spending that contributes to gross domestic product (GDP) and public sector productivity (PSP). We will be comparing this with government returns to the Online System for Central Accounting and Reporting (OSCAR) currently used in the UK's National Accounts, which feeds into measurement, and we are looking to identify ways in which these sources differ to better understand measuring PSP.

6 . Next steps

UK National Accounts

There will be development of the longer-term roadmap required to incorporate measurement improvements into the UK National Accounts, in alignment with the implementation of anticipated changes to the System of National Accounts scheduled for publication in 2025.

The review began with a phased approach looking at measurement improvements for public service departments in England. Future work with devolved administrations will be undertaken to identify data sources and methodologies to make improvements to public estimates for Scotland, Wales and Northern Ireland. This is with a view to explore how UK-wide measurement improvements will be incorporated into the UK National Accounts in future.

We welcome feedback on this release. If you would like more information, please contact PSP.Review@ons.gov.uk.

7 . Related links

[Public service productivity](#)

Related releases | Updated regularly
All publications related to public services productivity.

[Public Services Productivity Review](#)

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Reviewing and improving the methods for measuring public service productivity, as commissioned by HM Treasury.

8 . Cite this article

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