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Making Public Sector Productivity Practical

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This report is part of The Productivity Institute's programme on Practical Productivity of organisations. The Productivity Institute is a UK-wide research institute with 10 academic partners working to improve productivity in a sustained and inclusive manner.

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The contents of the report are the sole responsibility of the author except where explicit references are made to published materials. Comments are invited and may be sent to theproductivityinstitute@manchester.ac.uk.

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Foreword from CEO Capita Public Service

“Productivity isn’t everything but in the long run it’s almost everything.” These famous words by the Nobel Prize winning economist, Paul Krugman, remind us that whilst productivity may seem like an abstract concept to some, it has profound implications on each one of us. The growth of our economy is largely determined by the amount of output a workforce produces with their given time and resources. Equally, growth is also influenced by our ability to release unnecessary resources and make sustained investments where it matters the most, such as healthcare, education, and infrastructure. Ultimately, productivity is one of the most practical ways to increase living standards and the quality of our public services.

Since 2010, there has been a slowdown in productivity across the UK. It’s a challenge that has influenced several political agendas for many years, particularly the existence of regional inequalities. Improving productivity not only boosts economic growth, but it can also encourage innovation, create employment opportunities, enhance educational attainment, and renew the social and cultural fabric across the UK. To address this challenge, Capita Public Service has partnered with The Productivity Institute to find practical ways to accelerate productivity and create a pathway to improve efficiency, opportunities and outcomes for all.

The public sector is a key driver of productivity growth for two main reasons. Firstly, public sector organisations have the critical capabilities to make investments in skills, innovation, and infrastructure to benefit people at a national, regional and local level. Their services assist private businesses to grow, and contribute to the creation of jobs, higher wages, and a better quality of life. Secondly, the public sector itself stands to gain greatly from improving its productivity levels. As this report demonstrates, productivity in the public sector creates higher quality services for customers, enhances employee engagement and motivates people to embrace change.

Public sector productivity is a complex topic with vast amounts of research by economists and statisticians on improving the measurements of outputs, as well understanding the key drivers of productivity growth. There is also an increasing body of knowledge about good management practices in public sector organisations. Yet most of this knowledge is not sufficiently integrated to enable leaders to drive productivity in their organisations. Consequently, the practical application of productivity is still a work in progress.

In this report, Capita partnered with Professor Bart van Ark, Managing Director of The Productivity Institute, professor at the University of Manchester, and a world-renowned expert in productivity, to connect the different perspectives from which we can approach productivity. The first part of the report outlines why productivity growth in the public sector is so important and what levers the public sector can use to achieve their goals.

To make productivity practical, it's essential for organisations to map out their service delivery chain in real time from budgets to inputs, outputs and outcomes. In parallel, organisations also need to create a robust strategy using the three key drivers of public sector productivity: adaptive business design, digital transformation, and building an agile workforce.

The report concludes by drawing together three recommendations on how to practically manage and improve productivity:

1. Systematically identify the major constraints or bottlenecks within an organisation and use an iterative approach to solve the most important constraints. Whilst prioritising tasks is challenging, subordinating everything else to it - especially in the public sector where day-to-day service delivery is critical - is even tougher.

2. A good, solid, real-time measurement system helps management to understand how their organisation is performing - and how it can improve productivity by removing key constraints. Measurement is equally essential when it comes to staff engagement, identifying opportunities and monitoring how these changes are helping your organisation to progress.

3. Communication and collaboration are invaluable when it comes to improving productivity; cultivating a culture of continuous innovation remains an essential component.

While these solutions may seem easier said than done, it is hoped that this report will provide leaders with some useful ideas for driving productivity growth within the timeframes they have available. There are several examples from healthcare, education and government which can help to shape good management practices supporting improved productivity. For example, by applying the constraints methods, managers can create the analysis space to understand the root cause of problems across their organisation and focus on the greatest bottleneck. Rather than focusing solely on accountability, developing and using metrics in collaboration with frontline workers, and communicating those regularly, can help to improve organisational performance and increase motivation.

Ultimately, to make productivity practical, there needs to be concerted effort and action within and across public and private sector organisations at national, regional and local levels. Capita's partnership with The Productivity Institute aims to develop more insights to help organisations make productivity practical - helping to unravel the productivity puzzle and make economic growth accessible, achievable, and sustainable.

Al Murray,
CEO Capita Public Service

Executive Summary

In times of rising economic and societal challenges, the public sector plays a pivotal role in protecting the wellbeing of citizens, providing a path to economic recovery, and stimulating sustained growth and improvement in living standards.

In recent decades, improved public sector productivity has been proven to provide large benefits to society, not only by using scarce public resources more efficiently, but also by improving the quality of services for everyone, and by providing more effective foundations for private enterprise and economy-wide productivity growth.

Although much has been written about public sector productivity - what it is, how it is measured, and what drives it to grow - we only have a limited understanding of how to improve it. This report aims to connect our knowledge about concepts, measurement, drivers and barriers to productivity growth in the public sector with practical insights into improving productivity.

Public sector productivity: measures and opportunities

- Public sector productivity increased by an average of 0.7 percent per year from 2010 to 2019, which represents a marked improvement over the preceding decade, as well as growing faster than its private sector counterpart.
- The recent gains in public sector productivity are partly due to measured improvements in the quality of public services delivered. Between 2010 and 2019, 0.2 percentage points of the 0.7 percent annual productivity growth was due to quality improvements.
- Tighter spending controls may have contributed to improvements in productivity in the past decade, but two recent reports suggest that cost savings are no longer sufficient, and some organisations may have reached their limits to improve productivity.[1]
- Raising productivity by increasing the numerator of the equation (output quantity and quality) rather that reducing the denominator (limiting inputs) can help enormously in meeting these challenges. For example, doubling annual productivity growth from 0.5 percent to 1 percent per year through greater output and quality would deliver about £1.8 billion in additional GDP every year.
- The provision of skills, innovation, and infrastructure will raise productivity and ultimately contribute to the wellbeing of people, both within the public sector workforce and in the wider economy.

Mapping the public sector delivery chain

- Public sector organisations are often more constrained than the private sector to pull the levers to improve productivity quickly. For example, public services need to deliver affordable, comprehensive, inclusive and high-quality services, often with an element of urgency and a recognition of rights, while private sector firms aim for revenue or profit growth without being too constrained by societal objectives.
- Public sector objectives are primarily determined through a democratic decision-making process, based on legal requirements or derived from broader policies set by umbrella organisations, such as government departments or local councils.
- Improvements in public sector productivity are often hindered by misunderstandings and misconceptions of the service delivery chain, and by a lack of tools to identify the major bottlenecks.
- From a managerial perspective, it is important to understand that value for money can be created in different ways: effectiveness (maximising the outcomes by producing the right outputs), organisational productivity (optimising a combination of inputs – labour, capital, technology – to generate the required outputs) and budget efficiency (obtaining inputs in a cost efficient manner).

The Public Sector Delivery Chain

How public money is turned into inputs, outputs and outcomes

Budget Efficiency
How cheaply are the inputs being purchased?

Organisational Productivity
How much output for each unit of input?

Effectiveness
How do the outputs affect desired outcomes?

"For how much?" | **"How?"** | **"Why?"**

Budgets › **Inputs** › **Outputs** › **Outcomes**

"Doing things right"
How well are inputs turned into outputs?

"Doing the right things"
Are the right outputs being produced?

Societal Productivity

"Value for Money"

Example

Health Budget › **Surgical Equipment** › **Surgery** › **Healthy Patient**

The key drivers of public sector productivity

Organisation: Adaptive business design

- Public sector organisations need to become more flexible in responding to changes. Internal challenges, such as budget changes and shortages in staff or skills, and external issues, ranging from policy changes to altering citizen preferences, all have an impact.
- Public sector organisations should strive for a better balance between hard budget constraints and spending flexibility.
- Balancing between scaling up the delivery of public services while tailoring to specific customer segments is also essential.
- Responding to contextual needs, especially regional or local requirements, is important for realising productivity gains in the public sector.

Technology: Digital transformation

- Building capabilities to innovate and to experiment depend on how much space is given to strategic thinking in the organisation.
- Digital transformation is critical in driving continuous innovation in public sector organisations. These technologies can simplify, streamline and enhance the delivery of products and services.
- It also leverages the new technologies and, importantly, the data they generate to connect organisations, physical assets, processes and people.
- Public sector organisations need to monitor new digital initiatives continuously, especially making use of algorithms.

People: An agile workforce

- Workforce skills: while digital technologies require STEM skills, softer skills are key to the creation of an agile workforce that can understand customer needs.
- While an agile workforce tends to generate greater employee satisfaction and higher morale, it needs to be preceded by strong consultative processes and ownership of new working arrangements by those most involved in the delivery.
- Management skills: an increase in managerial talent can raise office productivity substantially, as shown in a recent study for public administration offices in Italy. Strikingly, this was primarily driven by the exit of older managers who retire. This suggests that new technologies and innovations may be more easily adopted by better skilled younger workers.

Putting productivity into practice

Identify and solve constraints

- Avoid trying to improve everything at once. Focus on the greatest bottleneck in the flow of resources from inputs, outputs to outcomes, provide the resources for solutions and de-prioritise other pressure points.
- Public sector delivery chains are complex. By applying the constraints methods, managers can create the analysis space to understand the root of the problems across the organisation, without becoming overwhelmed by the symptoms.
- Focus on outcomes. Start from the end product, identify the outputs and the inputs for delivery - align these needs with any budget constraints.

Measure and manage performance

- Not everything that matters can be measured, and not everything we can measure matters. Data can be useful to assess if the output and productivity improvements are realised, but some may be more or less relevant for improving outcomes.
- There is a lot of untapped potential for improving the use of measurements to support managers in evaluating processes and allocating resources.
- The more important usage of metrics may be to improve organisational performance. Frontline workers often have the most knowledge about the service delivery process.

Collaborate and communicate

- The translation of continuous innovation into higher productivity depends strongly on internal processes. It is essential to create an engaged workforce that frequently communicates with management.
- External collaboration can create a community in which public and private sector executives learn from each other about productivity barriers and improvements.
- Public sector organisations can be viewed as part of a social infrastructure producing collective services to safeguard the health and wellbeing of communities. This approach makes organisations more resilient against shocks and crises impacting the system.
- Communication is a critical part of practical productivity. Public sector organisations should honestly, transparently and consistently communicate performance measures internally and, where needed, externally.

Future Focus

While there are no silver bullet solutions for raising public sector productivity and the struggle for more resources is eternal, a systematic approach can support organisations in pivoting and making productivity more practical. Overall, there is still scope for expanding the research agenda in several directions to gain a deeper understanding of how productivity works and how it can be implemented:

1. A significant need still exists for better methods for measuring the output, quality, and productivity of the public sector, particularly in government.
2. It is important to focus the research on the effectiveness of public sector management. To complement traditional organisational management approaches, the research might also benefit from literature in the political sciences, public sector economics, and intangible investment theories and insights from multi-product firm models.
3. There is also a need for more evidence that productivity has improved in individual public sector organisations. Case studies should be conducted for specific government entities or policy domains, such as social care or housing.

Terms used in the report:

An adaptive enterprise is an organisation which is able to successfully respond to the rapid and unexpected changes that occur in its environment by changing often deep-seated internal behaviours.

Digital transformation leverages the new technologies and, importantly, the data they generate to connect organisations, physical assets, processes and people.

An agile workforce is one that gets work done with maximum flexibility and minimum constraints by using the full potential of full-time, part-time and contingent workers who are constantly engaged with the organisation.

01

1. Introduction

In the UK, productivity has been a high-profile topic of policy importance for over a decade. This is partly due to the pronounced slowdown of productivity growth since 2008. There have also been growing concerns about the significant spatial differences between London and the South East of England in comparison to the rest of the UK, but also between the capital and large second-tier cities.[2]

The recent political discourse on the need to transition from a "low wage, low skill and low productivity" trap to an economy characterised by a virtuous cycle of "high wages, high skills and high productivity" has been underpinned by the government's levelling up agenda.[3] However, the journey between those two states of productivity will not be easy to engineer. It won't happen simply through the free market price mechanism or even smart market design alone. Rising costs, shortages in the supply of materials, and labour shortages across the economy have dimmed the prospects of an imminent productivity recovery.

The role of the public sector

The public sector plays a crucial role in the productivity transition across the whole economy. First, it is a key enabler of productivity growth for the private sector. The provision of skills, innovation, and infrastructure will raise productivity and ultimately contribute to the wellbeing of people.[4] This makes productivity a matter of societal importance. The government plays a key role in maximising productivity and distributing its benefits widely. The markets cannot resolve all the complex coordination issues between the many parties involved on their own. Collaboration between private and public sector organisations is essential, especially in place-based contexts.

Secondly, the public sector can improve its own productivity performance. Since the public sector represents about 20 percent of the UK's GDP, any increase in its productivity has a direct impact on the economy as a whole. Public services are expected to be provided at a faster pace and at a higher level when the public sector is highly productive. As government expenditure accounts for around 40 percent of GDP, increased productivity in the public sector can also help to reduce tax burdens and support fiscal sustainability.[5]

Policy actions and challenges in raising public sector productivity

Public sector productivity has received considerable attention from subsequent governments over the past four decades. Under the Thatcher and Major governments, the formation of Efficiency Units and the development of Public Service Agreements reflected the desire for a smaller government. The creation of a Prime Minister's Delivery Unit under the Blair government represented a drive towards a more business-like approach to raise the effectiveness of government. Since 2010, under the influence of austerity, the government's focus has predominantly been on public sector budget efficiency. This has included budget cuts, a reduction in pay increases, and the introduction of digital technology through implementing a Government Digital Service (GDS).[6]

Despite some apparent successes (see section 2), it is often assumed that the public sector doesn't have much scope, if any, to raise productivity. It has also been widely argued that a zealous focus on efficiency gains in the public sector - common in New Public Management approaches using private management techniques - might be detrimental to the quality of services and people's livelihoods.

Many economists argue that Baumol's cost disease is why services in general, including public services, continually see rising costs while productivity remains stagnant.[7] The observed stagnation is partly the result of how productivity is measured. Even today, official productivity statistics assume a zero-productivity growth rate for just over 40 percent of public sector services, using the so-called "output-equals-inputs" convention.[8]

However, the thinking about productivity and its outcomes in the public sector has evolved significantly.[9] There is a greater understanding of the key drivers of productivity, and there are more signals of purposeful improvements in productivity at a practical level within individual public sector organisations.[10]

It is essential to document this progress as it can help other public sector bodies to better understand how productivity can be raised and what can be done practically to achieve those gains. However, there is still a lot to do. For example, a major review by Michael Barber in 2019 concluded that a long-term strategy for continuously improving efficiency and productivity through both disruptive and incremental innovation was still largely missing.[11]

The public sector accounts for about 20% of UK GDP. Any improvements in productivity in the public sector contributes directly to an economy-wide productivity improvement. Government expenditure accounts for about 40% of GDP and during the pandemic in 2020, it was close to 50% of total spending. Therefore increased productivity in the public sector can also help relieve pressure on the government's fiscal situation.

Aim and outline of the report

In this report, we aim to identify the drivers of public sector productivity and the actions required to implement them.[12]

Section 2 provides an overview of the current measures and opportunities for productivity growth in the public sector.

Section 3 describes how mapping the delivery chain in a public sector organisation can help identify the scope for implementing productivity improvements.

Section 4 examines three key strategic areas for productivity improvement: the creation of an adaptive business design, the role digital technologies play in driving continuous innovation, and the creation of an agile workforce.

Section 5 translates the conceptual and strategic insights into practical measures to help drive productivity improvements. Among these drivers are effective measurement and management of performance, collaboration and communication, and the identification of constraints.

Section 6 outlines the next steps in the agenda to support productivity improvements in the public sector.

02

Productivity measurement in the public sector

The measurement of public sector productivity in UK official statistics has significantly improved over the past two decades. This is thanks in part to the Atkinson report, which included a variety of recommendations to better measure public sector output and productivity.[13] In 2021, the Office of National Statistics (ONS) reported that public sector productivity has increased by an average of 0.7 percent per year from 2010 to 2019, which represents a marked improvement compared to the past decade.[14] Whilst this is still not a stellar performance, it is striking that public sector productivity growth has recently in fact been faster than its private sector counterpart. The most comparable figure for the market sector shows that multifactor productivity has stayed relatively flat.

These official productivity measures demonstrate that when properly monitored and measured, public sector organisations can raise productivity through greater quantity and better quality of services. The healthcare and education sectors account for the majority of productivity improvements since 2010, whereas adult social care and public order and safety show, on average, small negative contributions to productivity growth. Police, defence, and other government services are still measured on an 'output equals inputs' basis, which means that official statistics still do not provide adequate guidance on their "true" productivity performance.[15]

The recent gains in public sector productivity are partly due to measured improvements in the quality of public services delivered. For example, between 2010 and 2019, 0.2 percentage points of the 0.7 percent annual productivity growth was due to quality improvements. Quality improvements were particularly evident in healthcare (for example, as measured by post-operation survival rates) and education (such as different measures of attainment), but not as evident in children's social care, adult social care, or public order and safety.[16]

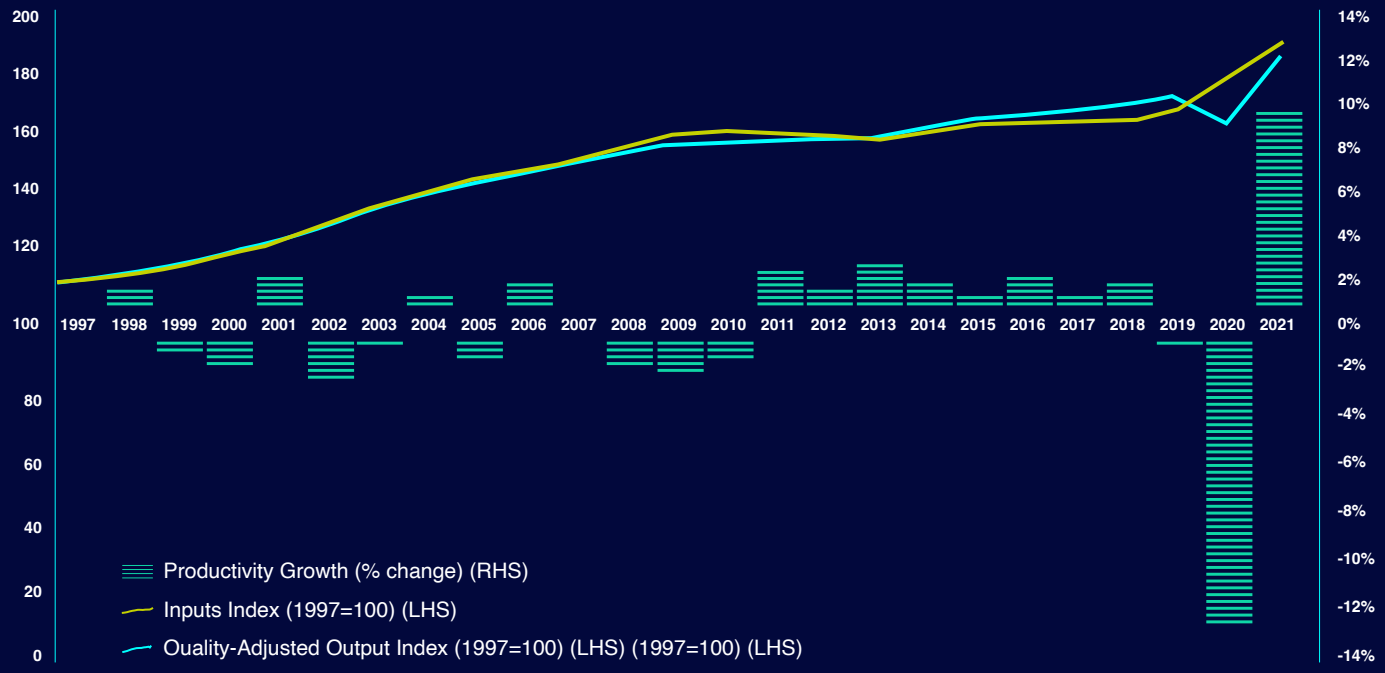


Figure 1: Public sector quality-adjusted output and inputs (1997=100) and total factor productivity (annual % change)

Source: Office for National Statistics Public Service Productivity: total, UK, 2019 (22/2/2022) and Public service productivity, quarterly (7-4-2022).

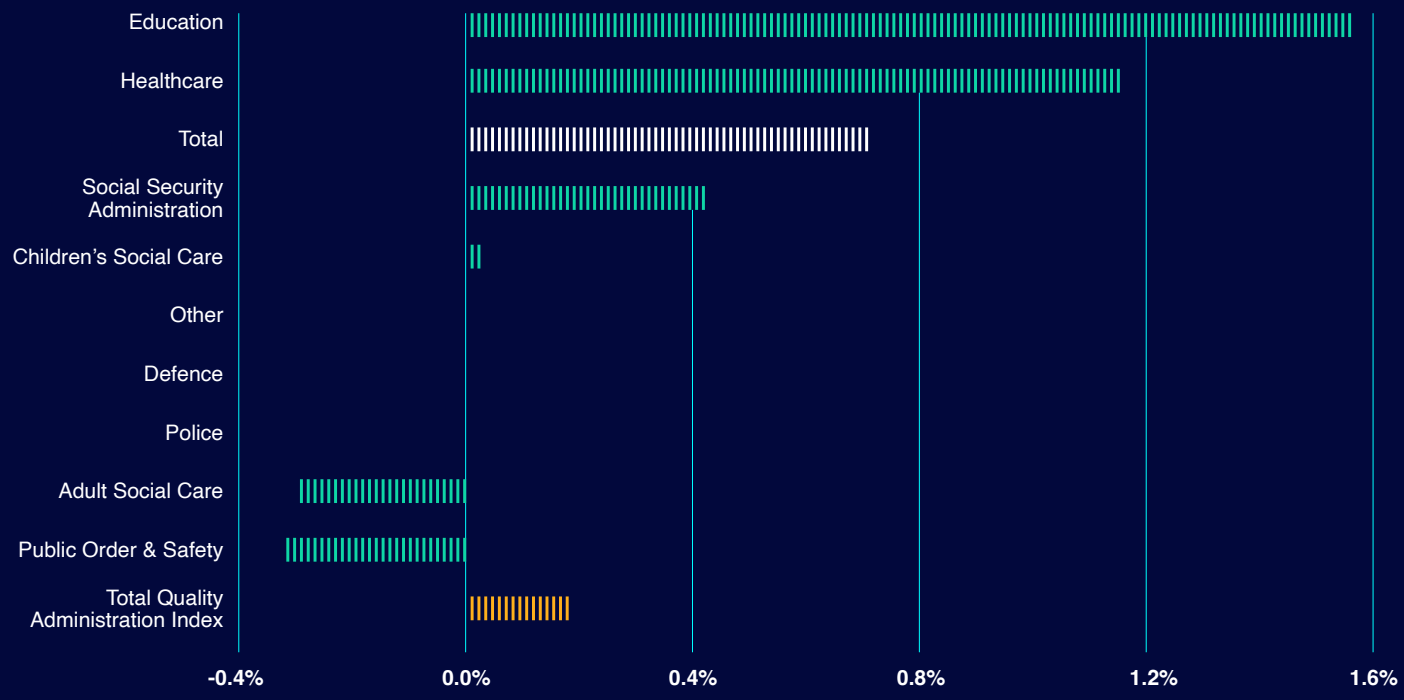


Figure 2: Public sector total factor productivity (TFP) incl. quality adjustment (annual % change)

Note: Total factor productivity is a measure of efficiency which measures how much output can be produced from a certain amount of inputs, mainly labour and capital. 'Other' government services (economic affairs, recreation and housing), defence and police sectors are measured by equating output growth with input growth, which means that the measured productivity growth is zero. Source: Office for National Statistics Public Service Productivity: total, UK, 2019 (22/2/2022).

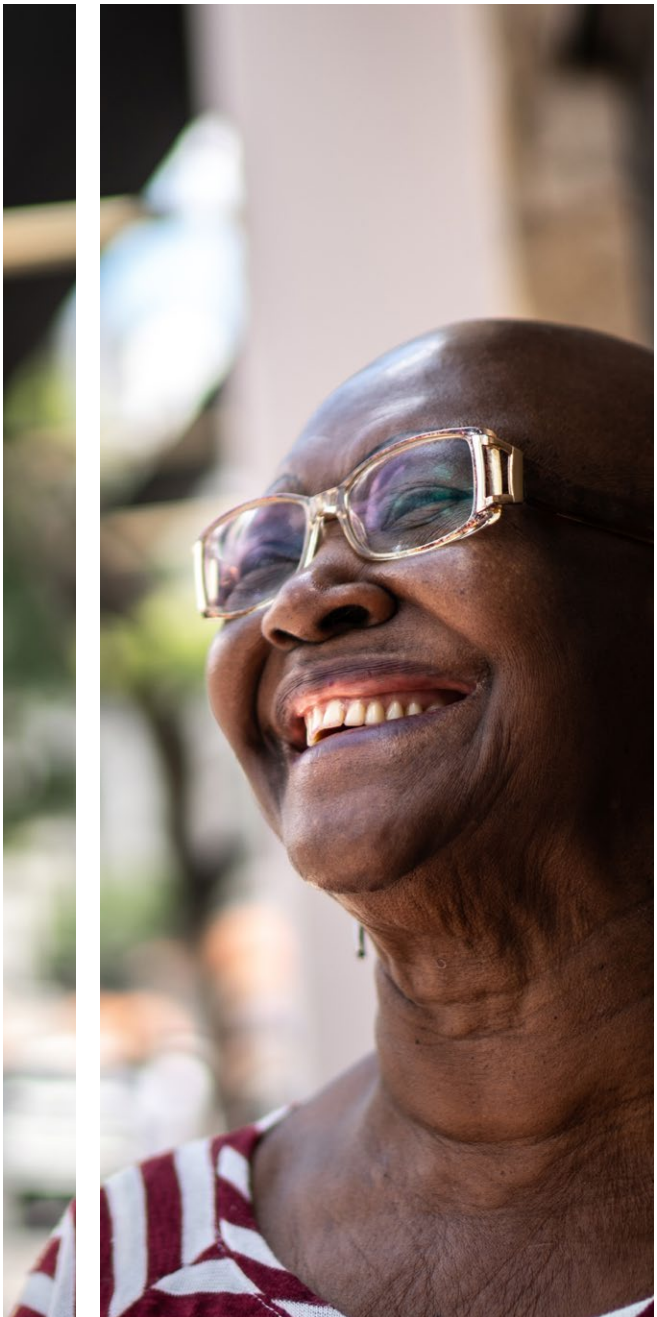
Productivity has been steadily increasing over the last 15 years. Both the Atkinson report and the Office of National Statistics (ONS) have reported that public sector productivity has increased by an average of 0.7% per year from 2010 to 2019.

Over the past decade, tighter spending controls have largely contributed to improvements in productivity, which essentially means doing more with less, for example, through pay reductions and maximising on existing resources. However, a recent report by the Health Foundation claims that cost savings to generate productivity gains are not sustainable.[17] A report by the Chartered Institute of Public Finance and Accounting and the Institute for Government argues that limiting staff pay increases and prompting workers to be more productive is "approaching – or has already reached – its limit." The budgeted spending by government and local authorities was deemed just enough to meet demand while maintaining standards. Further expansion of those services or additional quality improvements would have been challenging even with a significant increase in budget.[18] The impact of the pandemic and the government's ambitious plans of levelling up the weaker regions across the UK has put even more pressure on the demand for resources in the public sector.

Since 2010, tighter spending controls have largely contributed to improvements in productivity, which in essence meant doing more with less.

Doubling annual productivity growth from 0.5% to 1% per year through greater output and quality would deliver about £ 1.8 billion in additional GDP every year. Resources of this amount could be reinvested in the public sector to help strengthen the sector's role in supporting economy-wide growth or to improve the government's overall finances.

Raising productivity by increasing the numerator of the equation (output quantity and quality) rather than reducing the denominator (limiting inputs) can help enormously in meeting these challenges. For example, doubling annual productivity growth from 0.5 percent to 1 percent per year through greater output and quality would deliver about £ 1.8 billion in additional GDP annually. Potential gains of this amount could be reinvested in the public sector to help strengthen its role in supporting economy-wide growth and improving the government's overall finances.



03

Mapping the public sector delivery chain

The power of productivity in public sector organisations is often underappreciated because of several misunderstandings and misconceptions. Already in the late 1970s, it was acknowledged that the lack of good definitions, adequate measurements and methods for implementing change, reflected both a concern about meaning as well as a lack of action to raise public sector productivity.[19]

Much of our thinking about how public sector productivity can be improved derives from the private sector context and is primarily reflected in the New Public Management approach. However, the objectives of public sector organisations are often different, both in nature and how they are determined.[20] Private sector firms aim for revenue or profit growth without being too constrained by societal objectives. In contrast, public services need to deliver affordable, comprehensive, inclusive and high-quality services, often with an element of urgency (e.g., emergency services) and a recognition of rights (e.g., immigration appeals).[21] Public sector objectives are primarily determined through a democratic decision-making process based on legal requirements or derived from broader policies set by umbrella organisations, such as a government department or a local council.

The delivery system of the public sector also differs from the private sector. More often than not, public sector organisations deliver a wide range of activities through complex organisational structures.

Public sector organisations often face hard budget constraints, set annually with little flexibility across years. They are also often limited in their control over setting or adjusting the appropriate output and input levels.[22]

At their core, misunderstandings and misconceptions of public sector productivity are due to a failure to adequately map the service delivery chain and identify the key bottlenecks for improvement. Figure 3 outlines the key elements of a simplified service delivery chain derived (with some adjustments) from the Public Sector Efficiency Group.[23] The mapping of these chains can be tailored to any organisation in the public sector. Many often have multiple delivery chains, or one organisational outcome is linked to multiple sets of outputs, which can all be mapped separately. The delivery chain can alter – sometimes often – and the mapping needs to be flexible enough to accommodate such changes and make organisational changes as required (see section 5).

The Public Sector Delivery Chain

A simplified model of how public money is turned into inputs, outputs and outcomes

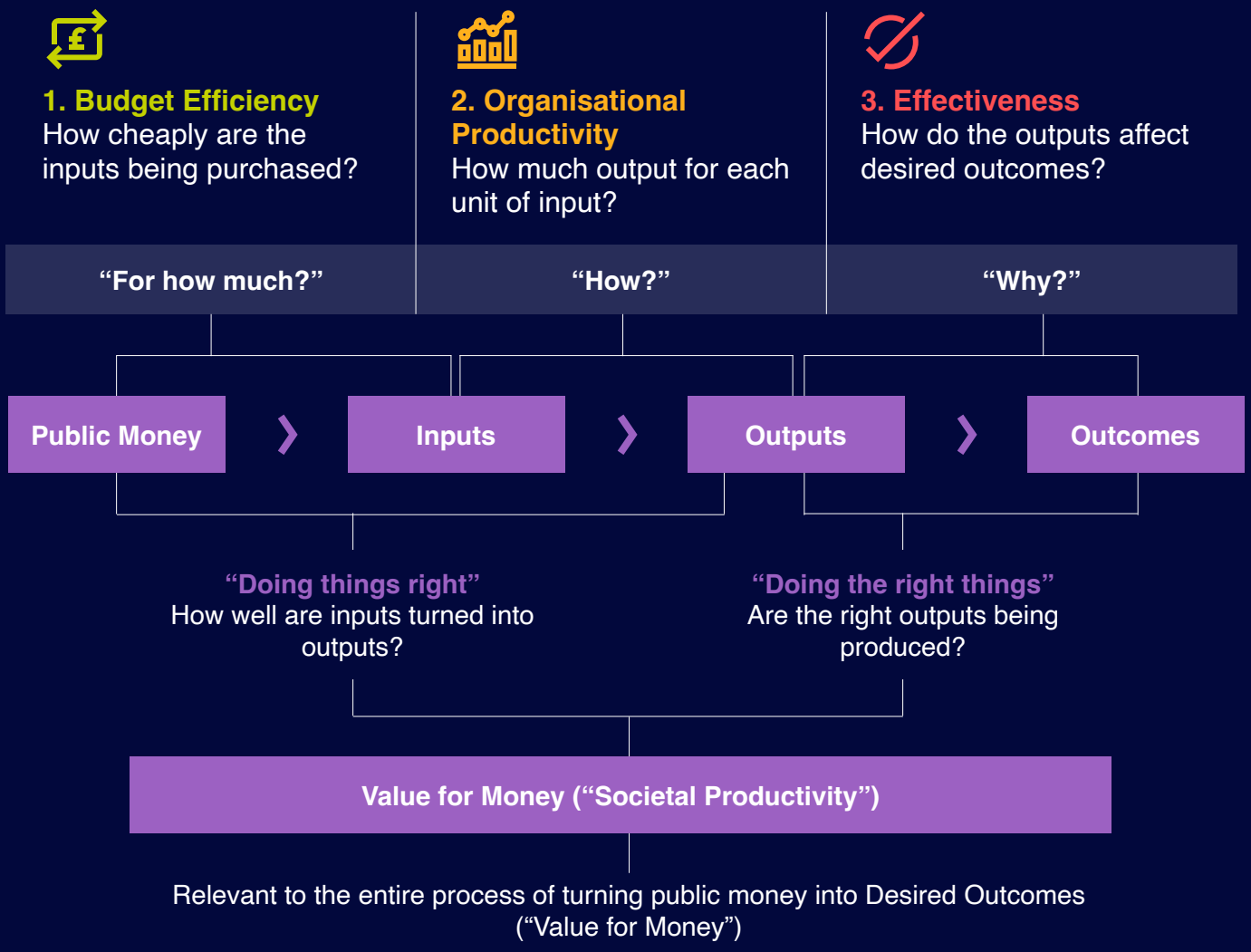


Figure 3

Source: Adapted from Stephen Aldridge, Angus Hawkins and Cody Xuereb, Improving public sector efficiency to deliver a smarter state, 2016.

The delivery chain can be divided into three performance related components:[24]

Effectiveness

The first component (starting at the right of Figure 3) focuses on the relationship between the outputs and the outcomes. This determines the effectiveness of an organisation's activities.[25] Outputs refer to the activities that organisations carry out and the goods and services they produce, whereas outcomes are the effects of these activities on communities and society at large. For example, a surgical procedure in a hospital is an output, and the typical outcome is that the patient will enjoy a healthier and longer life. The Department of Work and Pension (DWP) produces outputs in terms of the number of benefits paid or the amount of employment advice given, while the outcome is a reduction in long-term unemployment.[26]

Indeed a key risk of having an excessive focus on output targets without considering the desired outcome is that one "hits the target but misses the point".[27] For example, reducing the amount of GP (general practitioner) time per patient is a target that is of little help if patients don't get rightly diagnosed or are put on unnecessary medication.[28] In other words, if the output does not achieve an organisation's desired outcomes, its delivery or funding model must be reconsidered.

Organisational productivity

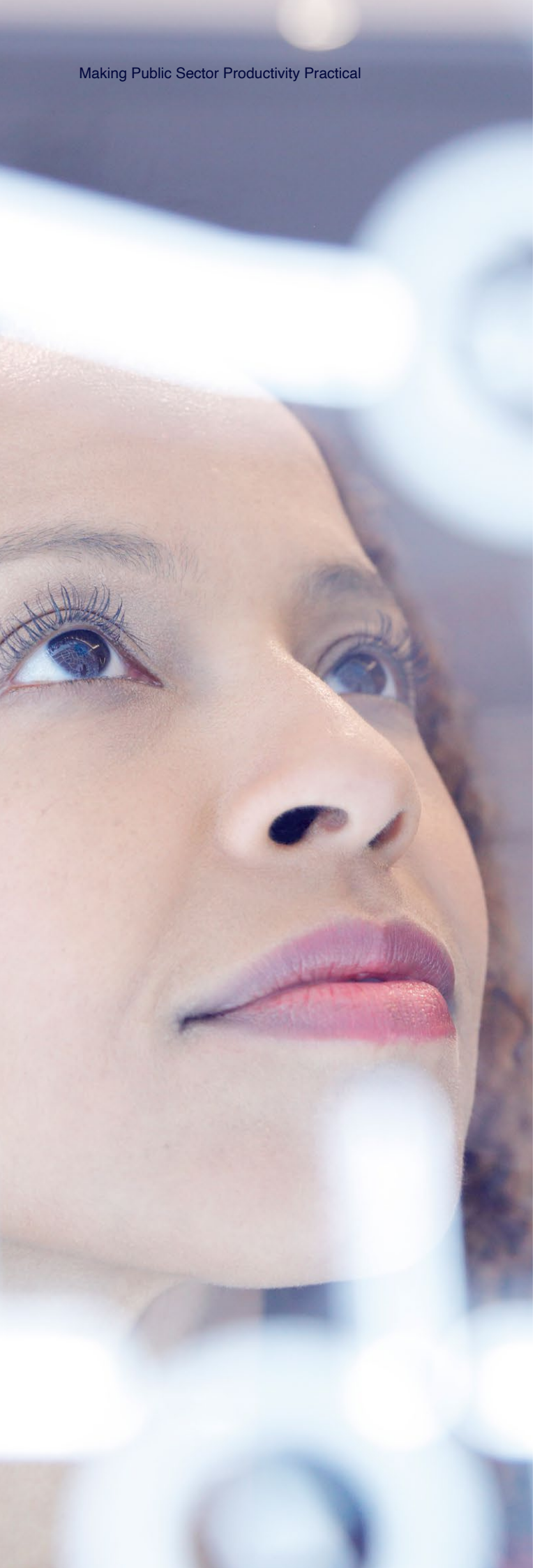
While effectiveness is about "doing the right things", organisational productivity – the second performance component in Figure 3 – is about "doing things right". To stay with the hospital example, if the surgical procedure is the output, the inputs are the required staff resources, the equipment in the surgery theatres, and the technologies used. Therefore, an increase in productivity is the result of more surgical procedures being carried out, an improvement in their quality, or both. In other words, productivity creates more and better surgeries, thereby contributing to a rise in life expectancy and can improve quality of life.

Directly relating productivity to a broader measure of desired outcomes may sometimes be preferable, but it can confuse how to effectively improve the technical efficiency of an activity and its effectiveness. For example, organisational productivity also refers to administrative processes such as budgeting, invoicing and payments, which may not be directly related to the desired outcome but frees up resources to do things better.[29]

Budget efficiency

The third element of the service delivery chain is about turning available budgets into the inputs required (staff cost, real estate, materials, etc.). Budget efficiency is what public sector executives often focus on the most. They manage their budgets intensively as the outputs and inputs are often fixed, at least in the short-term. Focusing on budget efficiency can provide short-term gains, but in the longer term, outputs and outcomes contribute the most to getting value for money.

Effectiveness, organisational productivity and budget efficiency are key components of the delivery chain.



Creating value for money

All three components of the service delivery chain are key to generating value for money. The key test of a strong productivity narrative in a public sector organisation is whether it can explain how budget efficiency, organisational productivity, and effectiveness contribute to the overall objectives. Collectively, these components make up what is called “societal productivity”, which is the transformation of a society’s resources into outcomes.

Quality improvement

An important part of improving public sector productivity is improving service quality, which can occur along the entire delivery chain:[30]

01 For example, by shifting outputs to prevention or early intervention, by better packaging or combining multi-service offerings, or by creating a one-stop window for users of the services, the **effectiveness** of service delivery can be improved. Collaboration at regional and local level between different public service organisations can also raise effectiveness (see Section 5 on “collaboration and communication”).

02 Streamlining service offerings while tailoring them to individual user needs through data-driven decision making can also enhance the quality of **organisational productivity**, for example, by taking a more proactive and less reactive approach to service delivery, improving the speed of delivery, or reducing waiting times (see section 5 on “measuring and managing the service delivery chain”).

03 Quality improvements related to **budget efficiency** include, for example, more effective procurement processes and improvements in budget planning, such as investment plans and a long-term focus on payback periods.

04

The key drivers of public sector productivity

What improves productivity in public sector organisations? Fortunately, there is extensive literature on performance drivers in the public sector and a good understanding of similarities and differences compared to the private sector.[31] Three categories can be drawn from the various drivers:[32]

01 Organisational drivers

02 Technology drivers

03 People drivers

Organisation: Adaptive business design

Organisational design is at the core of any high-productivity organisation. As explained in Section 3, the mapping of the service delivery chain determines how the organisation turns resources into inputs, outputs and outcomes. This, in turn, helps to identify key constraints for improving budget efficiency, productivity and effectiveness. Inevitably, the organisation of the service delivery chain is not static, as internal and external forces continuously challenge its workings. The external forces include policy changes (taxation, regulations or levelling up), the impact of crisis (pandemics, the cost of living crisis or natural disasters) and changed preferences of citizens (a cleaner environment, better housing needs). Internal forces relate to factors such as shortages of staff or skills, technology opportunities, or budgetary changes.

Organisations need to be flexible in responding to such changes and, where necessary, alter the design of their processes to deliver services more productively. An adaptive business design reflects the vitality of an organisation to optimise the service delivery chain in response to internal and external changes. However, some organisations can find change difficult, especially where governance is complicated. It then becomes even more critical to develop an adaptive business design which also aims to get at changing deep-rooted behaviours in an organisation.[33]

By using the service delivery chain concept, public sector organisations can strengthen their adaptivity by:

Striving for a better balance between hard budget constraints and spending flexibility

Prioritising resources within hard budget constraints can help, while spending resources across multiple delivery chains can improve efficiency and productivity. Government often provide budgets shortly before a new budget year, and fails to provide flexibility to use budgets across years which can damage prospects for sustained productivity improvements. Annual budgets should be determined as part of long-term spending and delivery plans. Even a three-year rather than a one-year spending envelope, as recently provided by HM Treasury, is already an important step forward for investment decisions with longer-term implications.

Scaling up the delivery of public services

Many public services, such as healthcare, education and government services, have tended to centralise and scale-up. Working at a larger scale strengthens the specialisation of human and organisational capital and the use of larger and more efficient capital equipment facilities. This creates economies of scale and better quality of services. However, scaling public services can also result in reduced access due to greater geographical distances for the user, increased marginal costs from management processes, and a lack of tailoring to the specific needs of customer segments. This, in turn, leads to a loss in quality or effectiveness. An adaptive organisation should, therefore, continuously look to balance productivity gains against these diseconomies of scale.

The ability to manage spare capacity or the resiliency to relocate resources quickly, may matter more for productivity and effective outcomes than a budget-efficiency approach.

Responding to context specific needs, especially regional or local requirements

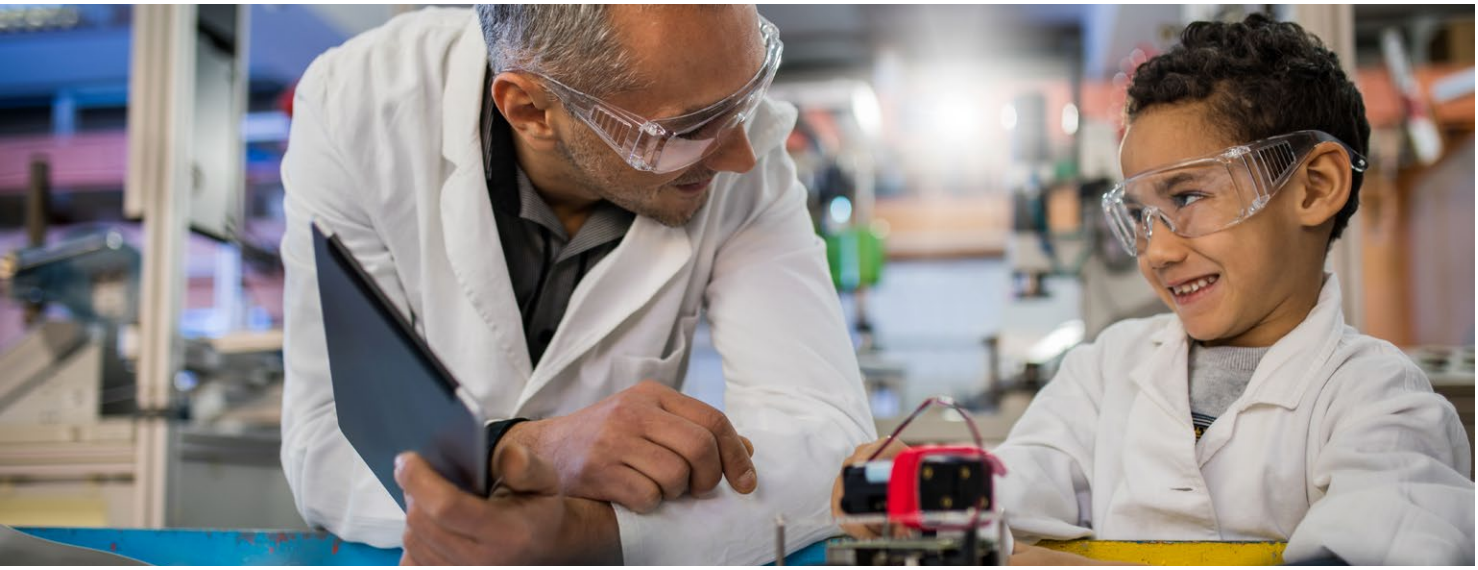
The population's size, density and composition, industrial structure, and dependence on local, regional, national or international markets determine the need for a specific constellation of public services. Many public services have strong complementarities (training and business support, or health services and social care), which can only be realised in local or regional contexts. Adaptive organisations, even when centralised, need to effectively respond to those contextualised needs and requirements.

Adapting to crisis by the quick employment and use of additional capacity

Organisations need to be agile and responsive to natural disasters or sudden peak demand for healthcare, for example, during a pandemic. A social infrastructure perspective that can manage spare capacity or create the resiliency to reallocate resources may matter more for productivity and effective outcomes than a "just-in-time" approach. This fundamentally changes the design of the service delivery mechanism and the planning and flexibility of resources.[34]

Creating an adaptive approach to business design requires an organic method from the time given to strategic thinking, a culture focused on continuous improvement to the speed and flexibility in the decision-making process.

Various methods can be used to create adaptive organisations. For example, quasi-market models, (sub) contracting, outsourcing, and intergovernmental competition can increase flexibility and faster resource allocation. However, these tools need to be used with caution to avoid missing the complementarities between resources or between outcomes within the organisation. The potential benefits of competition are often highest in cases of low asset specificity and low information cost, for example, bus services or refuse collection, in contrast to healthcare.[35] Relying too heavily on external resources can jeopardise adaptivity when responding to changing circumstances.



Technology: Innovation and Digital Transformation

The most important element in creating an adaptive approach to business design is the need for an organic ("home grown") approach to change. While one-off innovations can create step changes in productivity, they often fail to generate a stream of incremental innovations that provide sustained productivity improvements. One-off initiatives also create the impression that innovation is treated as an optional extra, separate from the organisation's business-as-usual operations.[36]

Building capabilities to innovate and experiment depend on how much space is given to strategic thinking in the organisation, and whether there is a culture focused on continuous improvement, speed and flexibility in the decision-making process. User and citizen engagement through involvement in co-creation is another important element of continuous innovation.

Digital transformation is critical to driving continuous innovation in public sector organisations, as those technologies can simplify, streamline and enhance the delivery of products and services.

Digital technology can also support and raise productivity at the backend of the service delivery chain through shared service centres and digital platforms. This can help to free up and reallocate scarce human capital to focus on frontline services.

There is a great deal of scepticism about the usefulness of digital technology for public sector delivery. This is fed by the long list of failed IT projects in the public sector that either did not deliver the anticipated value for money (often due to budget overruns and delays) or did not even get off the ground. Digitisation is often seen to primarily serve budget efficiency rather than productivity growth or greater effectiveness. The complexity of outputs and outcomes and the failure to standardise and streamline processes are often blamed for such failures. Poor procurement and cost overruns are also caused by insufficiently detailed or changing project specifications and inadequate project management. Nonetheless, at times, the failure rate of public sector IT projects can be overstated simply because they are often in the public eye more than private sector ones and carry a higher accountability rate.

Digital transformation is a key driver for innovation in the public sector. Technologies can simplify, streamline and enhance the delivery of products and services.

Continually monitoring new digital initiatives for privacy and security concerns is essential, from the experimentation phase to full implementation, especially when making use of algorithms.

A key challenge with digital technology is that its adoption often requires a fundamental transformation of business innovation processes. Digital transformation leverages the new technologies and, importantly, the data they generate to connect organisations, physical assets, processes and people.[37]

This is especially true for the latest vintages of digital technologies, characterised by mobile, cloud and artificial intelligence (AI). These technologies can combine information from different sources, improve communication flows and devise more effective interventions for people. They require tangible capital investments but also major intangible expenditures, such as organisational redesign, changes to the structuring of teams and reporting lines. Since process and accountability are at the core of many public service activities, this is an even bigger challenge than in the private sector.

There is also a need to continually monitor new digital initiatives, especially when making use of algorithms. For example, using digital technology to connect individuals' demographic, income and health data at local or national levels requires careful monitoring for privacy and security of data, as well as regulatory checks on its usage and evaluation of outcomes.[38]

When an organisation adopts a culture of incremental innovation, it may also find itself creating the conditions for more radical innovations that improve efficiency gains, productivity and better outcomes across the service delivery chain. For private sector organisations, the urgency for transformational change often arises from threats such as losing market share or rapidly growing costs. For public sector organisations, transformational change may be born out of a crisis or a disaster that requires immediate intervention.

For example, during the covid-19 crisis, the NHS in the UK responded to the pressures on resources by accelerating digital strategies, such as telemedicine and data sharing across delivery units. Governance processes and patient and workflow procedures in hospitals were simplified to free up capacity for covid treatments.[39] Adaptation to the effects of climate change can be another important trigger of transformational change, for example, for public sector organisations providing utility services, urban planning or emergency services.[40]

These examples show how necessity can indeed become the mother of innovation. But institutions that have invested in digital teams, platforms and new ways of working have responded better to uncertainty and crisis than those that did not.[41]

People: An Agile Workforce

Worker skills and competencies

Any technological or organisational transformation requires a reset of skills and competencies of the workforce. Some of the latest digital technologies have caused challenges in identifying and acquiring new skills and competencies. For example, using big data analytics and artificial intelligence does not just require STEM (science, technology, engineering and mathematics) skills, which apply to a limited number of staff responsible for installing and expanding the technology. The focus on the understanding of customer needs and experiences and on continuous innovation also requires softer skills, such as collaboration, creativity, adaptability, flexibility, mistake handling and conflict management.[42] Collectively, these skills provide the critical competencies needed to enable workers to use new technologies productively.[43] People can be partly trained in some of these core skills, but generally, they are acquired when practised in organisations that are committed to innovation and experimenting.

STEM and softer skills are key to creating an agile workforce – one that gets work done with maximum flexibility and minimum constraints by using the full potential of full-time, part-time and contingent workers who are constantly engaged with the organisation.[44] Shared problem solving and delegated decision-making create shared values and beliefs, which support a more collaborative and motivated workforce.[45] Cross-organisational teams are also crucial in driving innovation.

An agile workforce may generate greater employee satisfaction and higher morale, provided flexibility is not simply translated in terms of flexible working contracts, but also in people's ability to use their own discretion in using their time as efficiently and effectively as possible. New working arrangements need to be preceded by strong consultative processes and ownership by those most involved in the delivery. This requires the shaping and adoption of new ways of working. For example, new work arrangements can lead to concerns about the quality of the services provided. Productivity losses may occur if the time freed up is not reallocated effectively or wasted on complementary processes that take even more time, leading to dissatisfaction.[46] Finally, while performance-pay schemes are not great drivers in improving employee engagement, they can have a positive impact through organisational and managerial changes.[47]

The effective use of big data analytics and artificial intelligence don't just require STEM (science, technology, engineering and mathematics) skills. The resulting focus on continuous improvement and understanding of customer needs and experiences also requires softer skills, such as collaboration, creativity, adaptability, flexibility, and conflict management.

An increase in managerial quality can also significantly improve public sector productivity. Modern management techniques, such as the use of targets, incentives and monitoring, can be successfully applied in, for example, hospitals and education. These techniques work particulary well for senior managers and leaders in relatively small organisations, such as schools or public service organisations with relatively routine tasks. Whereas, in larger public sector organisations, for example an NHS hospital, the managerial effect becomes interacts with other factors affectiing productivity, including organisational complexity.

While an agile workforce tends to generate greater employee satisfaction and higher morale, it also needs to be preceded by strong consultative processes and ownership of new working arrangements by those most involved in the delivery. This needs to include an ability to shape the new ways of working in practice and make adjustments accordingly.

Manager skills and competencies

Skills and competencies of managers are the other key component of an agile workforce. An increase in managerial quality can significantly improve public sector productivity. Systematic cross-country research has shown that modern management techniques, such as using targets, incentives and monitoring, can be successfully applied in, for example, hospitals and schools.[48] These techniques work particularly well for senior managers and leaders in relatively small organisations, such as schools or public service organisations with a relatively narrow range of responsibilities. In larger public sector organisations, for example, in an NHS hospital trust, the managerial effect interacts with other factors affecting productivity, including organisational complexity, as discussed above.[49]

A recent study for public administration offices in Italy shows that a unit increase (one standard deviation) in managerial talent (proxied by measuring the effects of rotating managers between departments) raises office productivity by 10 percent.

Strikingly this result is primarily driven by the exit of older workers who retire.[50] The latter observation may suggest that new technologies and innovations may be more easily adopted by better skilled younger workers.[51]

Modern management practices can also enhance the ability to effectively use contracting, quasi-markets and intergovernmental competition to improve performance.[52] Competition and other market-type reforms can bring about internal organisational reforms, such as autonomous governance and management discretion in applying resources. A detailed study of the hospital sector in the NHS has shown that hospital competition leads to a higher quality of management practices, which in turn improves quality, productivity, and staff satisfaction. The results support policies that aim to increase healthcare productivity by promoting competition. However, the study also claims that the competition effect primarily works through the non-price dimensions of quality rather than cost reductions.[53]

05

Putting productivity into practice

To what extent can our understanding of the main drivers of productivity improvement in the public sector lead to a practical roadmap for managers? In this section, three practical actions are proposed that can help improve productivity in public sector organisations:[54]

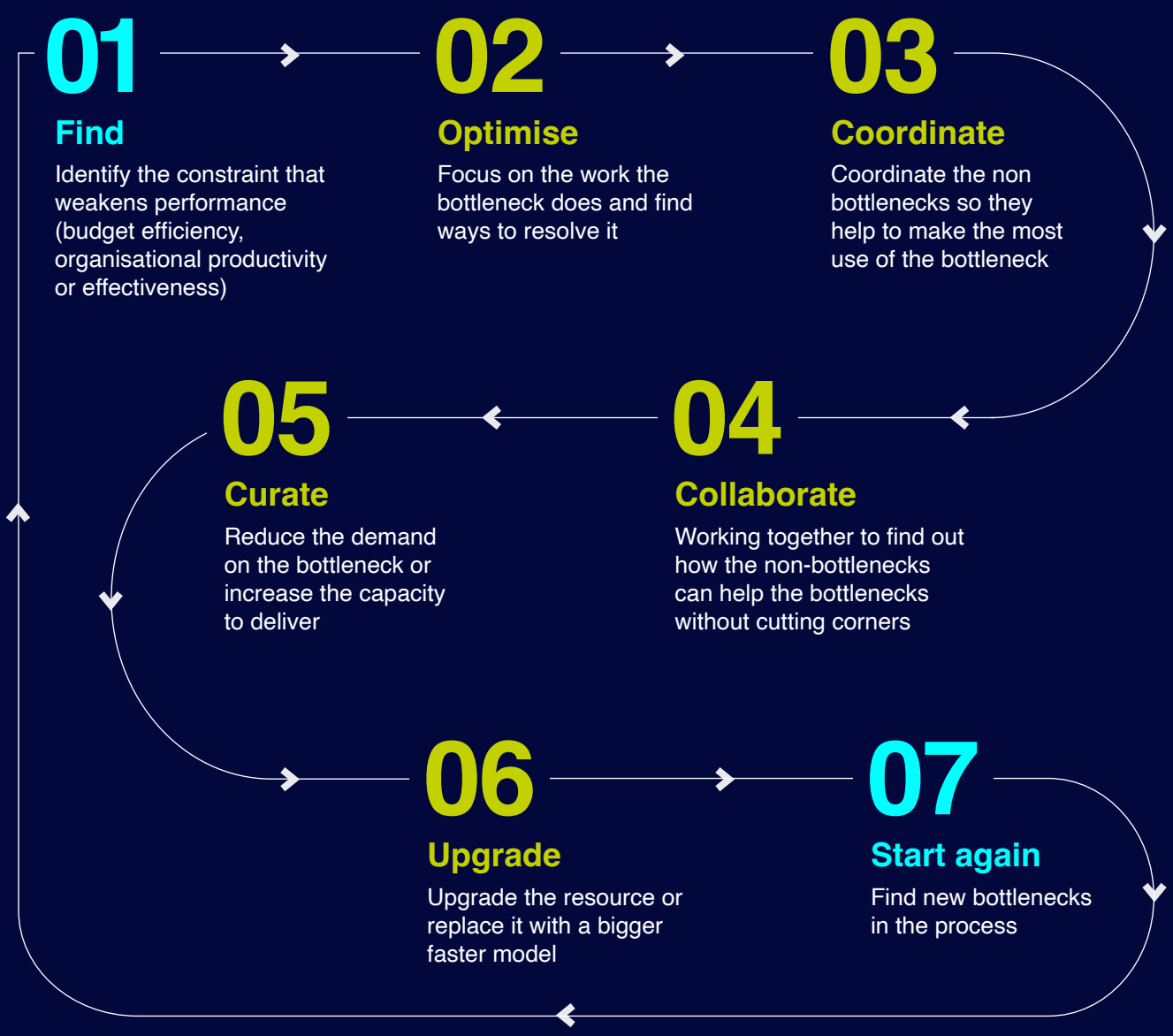
01 Identify and solve constraints

02 Measure and manage performance

03 Collaborate and communicate

Identify and solve constraints

One practical step which emerges from mapping the service delivery chain is to apply principles from the Theory of Constraints. In this approach, it is important to focus systematically on the greatest bottleneck in the flow of resources from inputs to outputs and outcomes. Using the analogy of a pipeline, search for the part where the diameter of the pipe is the smallest. Hence, this approach avoids trying to improve everything at once by not prioritising.[55]



FOCCCUS is an acronym for the steps you can take to address the constraints and improve the system.

(F)ind the bottleneck
(O)ptimise the bottleneck
(C)ollaborate to focus on bottleneck
(C)oordinate between bottlenecks and non-bottlenecks
(C)urate to prioritise work
(U)pgrade by allocating resources (for example, staff, equipment or training)
(S)tart again to stress the importance of the continuous process.

Figure 4: FOCCCUS formula to the Theory of Constraints
Source: Clarke Ching, The Bottleneck Rules, 2018

One practical step which emerges from mapping the service delivery chain is to apply principles from the theory of constraints. In this approach, one focuses in a systematic way on a part of the delivery process that creates the greatest bottleneck in the flow of resources from inputs to outputs and outcomes.

The Theory of Constraints involves an iterative process of prioritising actions for change (see Figure 4):[56]

1. What to change?

The first thing is to identify the system's most important weaknesses that need to be tackled to improve performance. This step is especially challenging for complex public sector organisations where everything seems important and connected. It is important to distinguish between the areas which can be improved versus the ones that must be improved in order to achieve an overall better performance. It also needs an assessment of how the resolution of the critical bottleneck impacts other parts of the service delivery chain.

Most of the time, the key bottleneck is not the one that takes the most time and effort to process but the one that creates the "longest queue" in terms of delivery. For example, the ultimate solution for a long waiting list for hospital services might be to invest in new capacity (building and nurses), but it may take years to realise, even if the funding is allocated now. However, tackling an inefficient triage system to prioritise the most urgent treatments might be the key bottleneck by which to achieve better and faster results. Rather than constructing a new building and hiring more staff, a better solution may be to employ advanced digital systems that require fewer administrative duties for data entry.

Often, the key bottleneck is not the one that takes the most time and effort to process, but the one that creates the "longest queue" in terms of delivery.

2. What to change to?

This action requires decisions on how to exploit the system's constraints and subordinate everything else to that action. It requires a clear definition of what needs to be achieved by removing the bottleneck, what work needs to be done, and what resources - funding, people's time and expertise - are required.

It is also important to determine which resources need to be freed up from the activities that are not yet causing the greatest concern, as this will ultimately help to speed up the removal of the key obstacle.

3. How to promote change?

The next step focuses on determining the action needed to reduce the pressure on the bottleneck or increase its capacity. It may lead to actions to upgrade the resource or replace it with a new method to improve the flow, for example, by achieving faster delivery or improving quality. In this step, the difficult part is leveraging the organisation's scarce resources (staff and management time) to tackle the weakest link.

It is also important to determine which resources need to be freed up from causing the greatest concern, as this will ultimately help to speed up the removal of the key obstacle.

The Theory of Constraints is widely applied in the private sector, but there are also practical applications in public sector organisations.[57] In order for the constraints approach to work for public sector organisations, there are several factors to consider:

Create the analytical space to identify and sequence key constraints

Public sector organisations may have a low tolerance for the application of private sector management methods. Identifying key bottlenecks is hard, especially when the delivery chain is complex. Public sector organisations are strongly determined by contextual parameters - political or policy constrained and regional or local specific. This causes complex governance and accountability processes, requirements to tailor services to highly differentiated needs, the need for multiple rather than just one simple success measure, and heavy public scrutiny. Often there are also many constraints and stakeholders with conflicting objectives causing risk aversion or confusion about accountability. By applying the constraints methods, managers in public sector organisations create the analytical space to understand the root of the problems across the organisation and not get overwhelmed by the symptoms.

Allocating the right resources

The constraints approach requires prioritisation and de-prioritisation in equal measures. In order to balance resources, it's important to free up resources from the less important bottlenecks and allocate them to the key area of improvement. De-prioritisation is especially hard in public sector organisations. The competition between supporting regular processes and improving the weakest links is often difficult, especially if the improvement process slows day-to-day delivery. A hospital or prison service cannot stop delivering its daily core services. Political pressure may also be a barrier. Ultimately, this does carry the potential risk of disengagement of teams and negative responses from staff and users. Bringing staff and users on board through early engagement and continuous communication can help to remove bottlenecks more easily. The effective engagement with users and citizens can also provide guidance in prioritisation. Throughout the process, it's critical to consider the 'what' (doing things right) and the 'how' (doing the right things) together.

Bringing staff and users on board through early engagement and continuous communication can enable bottlenecks to be removed more easily, which is relative to the loss of not addressing the bottleneck that is of a lesser constraint or by committing to repeat the same errors continuously. Throughout the process, it's critical to consider the 'what' (doing things right) and the 'how' (doing the right things) together.

Focusing on outcomes

Keeping a focus on public sector outcomes helps to avoid linear thinking, often determined by hard budget constraints. By starting from the outcomes (the end product) and then identifying the outputs (the activities) and the inputs to deliver those, an organisation can then align the needs with the budget constraint. This helps to identify the real budget needs for improvement, look for the flexibility in the current budget to spend less on non-critical bottlenecks, and make the case for resources to address the largest bottleneck.

No management approach works without having the people on board, which is why the two concepts of an adaptive organisation and an agile workforce go hand in hand. To apply the constraints approach, organisations need to create core delivery teams from across the delivery chain to focus on bottleneck solutions, create space to experiment and provide sponsorship and involvement by senior leadership.

For the constraints approach to be applied effectively in the public sector, change management, measurement of results, collaboration, and communication are key components.

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Measure and manage performance

High quality management is an important driver of productivity improvement in the public sector.[58] It may even be more important than in the private sector, as there is less scope for applying a wide range of private sector human resource practices, such as flexible hiring, dismissals, relocation practices, task identification and reallocation, extensive monitoring capabilities, and targeted training resources.

Measurement to support management

A key factor in improving productivity is the use of measurement to support managers and staff in evaluating processes and allocating resources. There is a lot of untapped potential for improved measurement in the public sector. Public sector organisations are often rich in data as they are legally required to make information available to the public. Big data analytics and AI techniques facilitate the possibility to filter relevant knowledge from massive databases and to share insights more widely. A dynamic dashboard approach can also help to see how budgets, inputs, outputs, and outcomes are related. The pandemic has seen some step changes in the use of government administrative data – especially in healthcare.[59] To sustain these opportunities for improved measurement requires data strategies at organisational level and investment in key resources such as data analysts, cloud-based technologies, software tools, etc.[60]

Despite the opportunities to utilise public sector data, there are also major challenges in obtaining the appropriate data to adequately measure the performance of public sector organisations. The challenges are in part similar to the issues on official sectoral productivity measures discussed in section 2. These include questions on how to turn cost and price data into volumes of inputs and outputs, how to adjust outputs for quality, and attribute changes in outcomes to changes in outputs.

There is a lot of untapped potential for improved measurement in the public sector:

- Public sector organisations are often rich in data as they will be legally required to make information available to the public.
- Big data analytics and AI techniques facilitate the possibility to filter relevant knowledge from massive databases and to share insights more widely.
- A dynamic dashboard approach can help to see how data relates to inputs, outputs, outcomes, cost management, etc.
- The pandemic has seen some step change improvements in the use of government administrative data – especially in healthcare.

To sustain these opportunities for improved measurement requires data strategies at organisational level, and investment in key resources such as data analysts, cloud-based technologies, software tools, etc.

The purpose of measurement

It is important to clearly determine the purpose of measurement for good management. Not everything that matters can be measured, and not everything we can measure matters.[61] For example, data can be useful to assess if the output and productivity improvements are realised. However, these output measures may be irrelevant for improving outcomes, especially when insufficiently adjusted for quality; acting on the wrong data can even have unintended consequences. For example, the number of hospital surgeries, a rise in the number of police forces on the streets, or a reduction in the number of applicants for social care – are all interesting performance measures but may not be of much help in delivering the desired outcomes. While the tight coupling of performance measures to accountability creates a strong enforcement effect, it risks being undermined by gaming and causing a disconnect between outputs and outcomes.[62]

The more important usage of metrics, therefore, may be to improve organisational performance. As an example, metrics can be used in team meetings to track performance and discuss how to eliminate critical bottlenecks.[63] While this kind of loose coupling of performance measures to planning and strategy seems more beneficial than tight coupling to accountability, the risk is that the impact of the measures can get diluted. Any organisational data strategy, therefore, requires an assessment of what the available data means and what other data is needed. This assessment should include those staff members who interact most closely with the customer. Frontline workers often have the most relevant knowledge about their service delivery process and are therefore best placed to help managers understand what data needs to be captured, what is not required and what could be improved. Many interactions with customers, bottlenecks in the organisation, special circumstances or motivational matters often cannot be captured by data. While such observations are not easily included in performance measures, they should be documented; these types of qualitative observations matter when interpreting productivity numbers.

New avenues for measurement

Every organisation has its own characteristics and specificities, and therefore, benchmarking measures often suffer from limited comparability. Measures for the aggregate sector to which an organisation belongs are often not useful for management purposes in an individual case. It should also be kept in mind that data collection should not only serve the purpose of constructing productivity and efficiency indicators for public sector organisations, but also address policy and programme evaluation. The latter is especially important for a broader assessment of outcomes and value for money. For example, the What Works Network in the UK has done important work to synthesise, research and disseminate evidence on what works. The establishment of a new Evaluation Taskforce at the centre of the UK government will not only create a greater capability to evaluate policies but also verify the validity of the measures and triangulate them on the basis of which management decisions can be taken in a more confident way.[64]

Not everything that matters can be measured, and not everything we can measure matters. For example, data can be useful to assess if the output and productivity improvements meet the outcomes and objectives of the organisation. However, many data outputs are irrelevant for improving outcomes; acting on the wrong data can even have unintended perverse consequences, especially when simple output measures are not adapted for quality. While tight coupling of performance measures to accountability creates a strong enforcement effect, it risks being undermined by gaming and creates a disconnect between outputs and outcomes.

Frontline workers often have the most relevant knowledge about their service delivery process and are therefore best placed to help managers understand what data needs to be captured, what is not required and what could be improved.

The optimal level of decentralisation of decision making is a balancing act. It may lead to less bureaucracy and greater opportunities for innovation and experimentation. Competition between places can incentivise local governments to be more responsive and flexible to demands from businesses and citizens. However, there are also dis-economies of scale, causing lower quality and rising costs, especially for small local governments and rural communities. Local public services may also lack skilled staff and sufficient financial resources. These factors may exacerbate regional inequalities in service sector productivity.

Collaborate and communicate

The importance of collaboration and communication has been frequently referred to in this report as a prerequisite for productivity growth. Public sector organisations are often constrained in quickly obtaining new resources to drive change. As a result, change is often more organic and lack of absorptive capacity can easily become a critical bottleneck for continuous innovation. Hence, it is essential for public sector organisation to create an engaged workforce that can take ownership of their new working ways and shape them in practice through frequent communication with management.[65]

External collaboration can help in creating a community in which public and private sector executives can learn from each other about productivity barriers and improvements. Exposure of public sector organisations to other public and private sector agencies, often in local and regional settings, can also lead to more effective procurement, the creation of platforms for joint innovation or training, and interventions to de-risk new technologies by collectively setting standards. More formally, randomised controlled trials (RCTs) and behavioural studies can be developed for public sector organisations with similar objectives to provide comparisons of best practices.

Decentralisation of decision making is often assumed to be positive for productivity as it leads to less bureaucracy and greater opportunities for innovation and experimentation. Some elements of competition between places can incentivise local governments to be more responsive and flexible to demands from businesses and citizens. However, there are also negative sides to decentralisation. For example, diseconomies of scale may cause lower quality and rising costs, especially for small local governments and rural communities. Local public services may also lack skilled staff and sufficient financial resources. These factors may exacerbate regional inequalities in productivity.[66] As part of the UK levelling up agenda, it is critical that decentralised accountability goes together with the devolution of fiscal powers and local institutional capacity-building, as well as clearer shaping of central-regional sharing of political powers.[67]

There is broad-based literature about the role of the public sector in innovation ecosystems, especially those that are regional and otherwise place dependent.[68] Local government, the private business community and educational organisations can be critical drivers in developing innovative solutions, disseminating tools or resources to make innovation

easier, creating incentives for innovation, bringing key private and public agents together, and sustaining the ecosystem as a whole. Such ecosystems, in turn, help to support the sharing of productivity-enhancing methods across public sector organisations.

Recently, there have been suggestions to view public sector organisations as part of a social infrastructure - producing collective services to safeguard and improve the health and wellbeing of communities. Such an approach would make organisations more resilient against shocks and crises impacting the system.[69] The social infrastructure concept requires a strong collaborative environment in which organisations look for complementarities and the creation of joint benefits ("spillovers") between them.

Communication is a critical part of practical productivity. Public sector organisations should honestly, transparently and consistently communicate performance measures internally, and where needed externally. Continuous communications around productivity metrics help to identify bottlenecks and constraints, track and monitor improvement plans, and establish how such metrics relate to the organisation's objectives. Productivity measures should be part of leadership discussions, but not turn into a checklist of targets to be ticked off.[70]

Public sector organisations should honestly, transparently and consistently communicate measures of productivity data internally, and where needed externally. Continuous communications around the productivity metrics help to identify bottlenecks and constraints, track and monitor improvement plans, and establish how such metrics relate to the organisation's objectives. Productivity measures should be part of leadership discussions, but not turn into a checklist of targets to be ticked off.

06

Conclusions and Next Steps

Productivity in public services is a complex multidimensional topic. While the sector's productivity is important to the economy - both because of its role in raising private sector productivity and because it contributes to economy-wide productivity - we have only limited evidence and understanding of how to improve it practically. Over the past half century, private sector approaches to public management have generated some success, but also created resistance and in some instances backfired by hitting targets but missing goals.

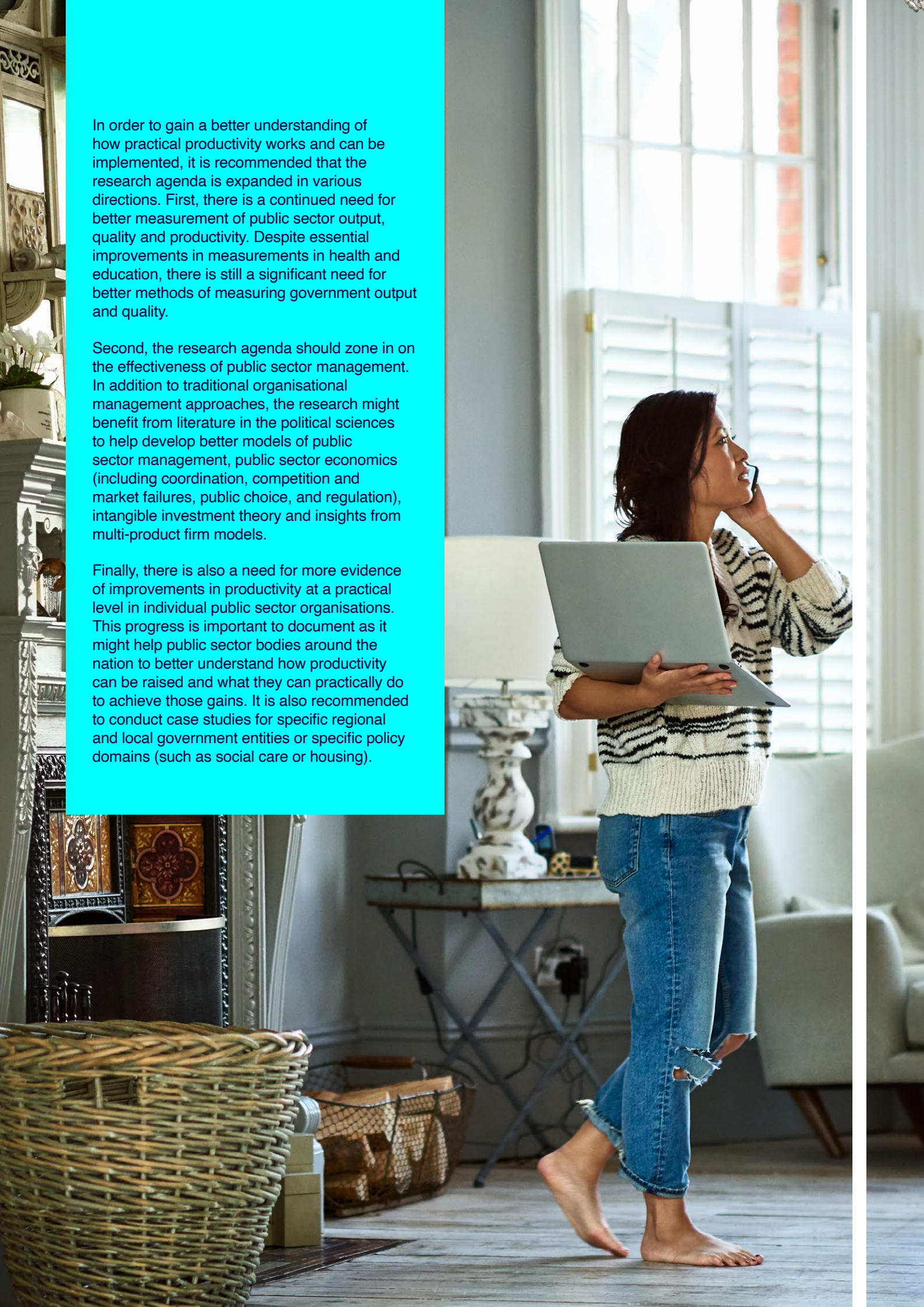
There are no silver bullet solutions to raise public sector productivity, and the battle for more resources is an eternal one. However, a systematic approach can help organisations to make productivity more practical. Practical productivity is based on mapping an organisation's service delivery chain on a real-time basis, building an adaptive organisation with a culture of continuous innovation, and creating an agile workforce which can identify and resolve key constraints systematically. Digital technology is a critical part of new solutions both in terms of improving processes and providing better and more relevant data for monitoring, evaluation and performance improvement.

A systematic approach can help organisations to make productivity more practical. Practical productivity is based on mapping an organisation's service delivery chain on a real time basis, building an adaptive organisation with a culture of continuous innovation, and creating an agile workforce which can identify and resolve key constraints in a systematic way. Digital technology is a critical part of new solutions both in terms of improving processes itself, as well in terms of providing better and more relevant data for monitoring, evaluation and performance improvement.

In order to gain a better understanding of how practical productivity works and can be implemented, it is recommended that the research agenda is expanded in various directions. First, there is a continued need for better measurement of public sector output, quality and productivity. Despite essential improvements in measurements in health and education, there is still a significant need for better methods of measuring government output and quality.

Second, the research agenda should zone in on the effectiveness of public sector management. In addition to traditional organisational management approaches, the research might benefit from literature in the political sciences to help develop better models of public sector management, public sector economics (including coordination, competition and market failures, public choice, and regulation), intangible investment theory and insights from multi-product firm models.

Finally, there is also a need for more evidence of improvements in productivity at a practical level in individual public sector organisations. This progress is important to document as it might help public sector bodies around the nation to better understand how productivity can be raised and what they can practically do to achieve those gains. It is also recommended to conduct case studies for specific regional and local government entities or specific policy domains (such as social care or housing).



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Research community

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Interview: Central government

- Stephen Aldridge, Chief Analyst/ Chief Economist and Director of Analysis and Data Directorate, Department for Levelling Up, Housing and Communities.

Interviews: Regional/local government

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- Scott Logan, Chief Executive, Basildon Borough Council
- Jim Sims, Economic Development Directorate, Basildon Borough Council
- Anna Smart, Systems Thinking / Organisational Design Lead, London Borough of Camden
- Rachel Stopard, Chief Executive Greater Cambridge Partnership

Notes

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12 This report is part of The Productivity Institute's programme on practical productivity, which focuses on how to organisations can practically improve productivity.

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14 ONS, Public Service Productivity: total, UK, 2019 (22/2/2022) and Public service productivity, quarterly (7-4-2022). Productivity is measured as output per unit of input, with inputs reflecting a combination of labour, capital – such as building, machinery, computers – and intermediate inputs of goods and services used.

15 The COVID-19 crisis has been extraordinary challenging for public sector productivity. It declined by more than 13 percent in 2020, which was driven by some of the strongest productivity decline across the economy in in health-related activities and in education. (For a review of healthcare productivity during the pandemic, see Diane Coyle, Kaya Dreesbeimdieck and Annabel Manley, How is productivity in UK healthcare really performing?, The Productivity Institute, Working Paper No. 2, 2021). In 2021 productivity in those two sectors largely recovered. Productivity in public administration, defence and social security did not decline as rapidly in 2020 but fell well below the 2019-level during the course of 2021 as labour input growth outpaced output growth in the sector. For a recent review of measurement challenges of public sector output during the COVID-19 pandemic, see John Mitchell, James Lewis, Jorrit Zwijnenburg, Rachida Dkhissi, and Thomas Prendergast, International comparisons of the measurement of non-market output during the COVID-19 pandemic, OECD Statistics Working Papers 2022/03.

16 ONS, A guide to quality adjustment in public service productivity measures (7-8-2019). Strikingly, from 2000 to 2009, measured quality improvements in services were even bigger (0.6 percent per year on average) than from 2010-2019, even though these quality gains were then offset by negative productivity growth due to a drop in quantity of output, leaving the average productivity growth in that decade relatively flat.

17 See Tim Horton, Anita Mehay, Will Warburto, Agility: the missing ingredient for NHS productivity, The Health Foundation, 2021.

18 The Chartered Institute of Public Finance & Accounting (CIPFA) and the Institute for Government (IoG), Performance Tracker 2019. A data-driven analysis of the performance of public services, 2019.

19 Robert E. Quinn, Productivity and the Process of Organisational Improvement: Why We Cannot Talk to Each Other, Public Administration Review, 1978.

20 There are many different types of public sector organisations ranging from production of services directly provided by government entities (national, regional or local) to various types of public services provided by separate institutions (for example, in the areas of health, education, etc.). It also important to distinguish between public entities which are directly customer facing (e.g. the local council or the tax office) versus back-office functions or delivery-focused outsourced activities (e.g. private contractors, semi-public organisations, NGOs and not-for-profit). This report looks at the entire public sector unless otherwise indicated. For a detailed study of performance concepts and metrics by individual sectors (education, health, social safety, housing, social security, and public administration) across 36 countries, see Netherlands Institute for Social Research, Public sector achievement in 36 countries, The Hague, 2015.

21 Tamara Krawchenko, Public sector and productivity. Governance at the right scale, OECD-EC high-level expert workshop Productivity Policy for Places, 2021

22 Van Dooren et al., op cit., 2007, p. 4.

23 Aldridge et al, op cit., 2016. The service delivery model in Figure 3 is also quite aligned with the Public Value Framework as outlined by Michael Barber, op cit., 2019. He connects funding and outcomes through four key pillars, two of which are represented in Figure 3: “pursuing goals” which equals “effectiveness” and “managing inputs” which equals “budget efficiency” and “organisational productivity”. Barber’s third and fourth pillars are “engaging users and citizens”, which we discuss as a key management capability under “collaboration and communication” in section 4, and “developing system capacity” which we are equate with “adaptive business design” the fourth section on key drivers of productivity

24 W. Van Dooren, G. Bouckaert and J. Halligan, Performance management in the public sector. Routledge, 2010; Asian Productivity Organization, Measuring Public-Sector Productivity - A Practical Guide, 2019; P. Dunleavy and L. Carrera, Growing the Productivity of the Government Sector, Edward Elgar, 2013; D. Tavich, Social sector productivity: a task perspective, New Zealand Productivity Commission, 2017. Stephen Aldridge, Angus Hawkins and Cody Xuereb, Improving public sector efficiency to deliver a smarter state, 2016

25 We prefer to use the term “effectiveness” rather than ‘allocative efficiency’ as per Aldridge et al., op cit., 2016. From an economic perspective, allocative efficiency refers to allocation of resources based on the price of input and output. We do not want to suggest that the government can copy shadow prices for public service, even though an element of market competition can induce such processes.

26 Leandro Carrera and Patrick Dunleavy, Understanding public sector productivity – the LSE's simple guide, LSE Blog (26-5-2010)

27 Gwyn Bevan and Christopher Hood, What's measured is what matters: targets and gaming in the English public healthcare system, Public Administration, Vol. 84, No. 3, 2006.

28 Nick Davies, Targets alone will not solve the NHS backlog, Institute for Government, 7-2-2022.

29 The term 'technical efficiency' as we will see in Section 4 on the productivity drivers, is not just about technology, but also about how we shape the organisation and utilise human capital.

30 For a useful overview of different methods of quality adjustment, see Atkinson, op cit., 2005, p. 42. For current practices on quality adjustment in the national statistics, see ONS, op cit., 7-8-2019.

31 Van Dooren et al., op cit., 2007; Dunleavy and Carrera, op cit., 2013; Aldridge et al, op cit., 2016; Barber, op cit., 2019; CIPFA and IoG, op cit., 2019.

32 In 2016, the Public Sector Efficiency Group (PSEG) – see Aldridge et al, op cit., 2016 – identified five drivers of public sector efficiency, including (1) hard budget constraints and spending flexibility, (2) markets and competition, (3) service redesign and alternative delivery mechanism, (4) organisation and workforce, (5) technology and targeting. The first three elements are explicitly included under organisation (adaptive business design), the fourth element under people (agile workforce) and the fifth under technology (digital transformation).

33 An organisation with an adaptive business design is also sometimes referred to as an agile and resilient organisation. For example, McCann et al. shows that adaptive capacity has two critical dimensions: agilityand resiliency. Agility is the capacity for moving quickly, flexibly and decisively in anticipating, initiating, and taking advantage of opportunities and avoiding the negative consequences of change. Resiliency is the capacity for resisting, absorbing and responding, even reinventing if required, in response to disruptions that are not or cannot be avoided. See McCann, J., Selsky, J., & Lee, J., Building agility, resiliency and performance in turbulent environments, People & Strategy, 32(3): 44-51, 2009. Recently some significant work on agile organisations has also been undertaken by the Health Foundation, arguing that such an organisation relies heavily on investment in improvement capability and digital infrastructure, providing implementation assistance within national change programmes, supporting effective management and leadership, and ensuring that regulation and payment systems support innovation. See Horton et al., op cit., 2021. Below, we apply the "agility" term to people and teams, because of the need to generate critical skills and competencies of the workforce and management in response to, for example, the emergence of new technologies or unexpected events.

34 Diane Coyle, Healthcare as social infrastructure: productivity and the UK NHS during and after Covid-19, Bennett Institute for Public Policy, University of Cambridge.

35 Van Dooren et al., op cit., (2007, p. 15-16) on the conditional nature of the potential benefits of competition.

36 Barber, op cit., 2019, p. 8.

37 Young, Mary (2016), Digital Transformation: What Is It and What Does It Mean for Human Capital?, The Conference Board, 2016.

38 Andrew Greenway, Ben Terrett, Mike Bracken and Tom Loosemore, Digital Transformation at Scale: Why the Strategy Is Delivery, 2021. OECD, The Path to Becoming a Data-Driven Public Sector, 2019.

39 Diane Coyle, Kaya Dreesbeimdieck and Annabel Manley.

40 Frank Geels, Jonatan Pinkse and Dimitri Zenghelis, Productivity opportunities and risks in a transformative, low-carbon and digital age, The Productivity Institute, Working Paper No. 9, 2021.

41 Greenway et al, op cit..

42 Janet Hao, Ataman Ozyildirim and Carol Corrado, Rethinking the Innovation Potential of Occupations: Introducing a Cross-functional Dashboard, The Conference Board, 2018.

43 Chiara Criscuolo, Peter Gal, Timo Leidecker and Giuseppe Nicoletti, The human side of productivity Uncovering the role of skills and diversity for firm productivity, OECD Productivity Working Papers, 2021.

44 McKinsey defines an agile organisation as including "a network of teams within a people-centered culture that operates in rapid learning and fast decision cycles which are enabled by technology, and a common purpose that co-creates value for all stakeholders." See Wouter Aghina, Karin Ahlback, Aaron De Smet, Gerald Lackey, Michael Lurie, Monica Murarka, and Christopher Handscomb, The five trademarks of agile organizations, McKinsey, 18-1-22.

45 Joseph McCann and John W. Selsky, Being purposeful in turbulent environments, People and Strategy, 35(4), pp. 28-32, 2012.

46 Horton et al, op cit., 2021, p. 18.

47 Van Dooren et al., op cit., 2007, p. 13-14.

48 Nicholas Bloom, Raffaella Sadun and John Van Reenen, Does management really work?, Harvard Business Review, 2012; Nicholas Bloom, Renate Lemos, Rafaella Sadun, and John Van Reenen, John, Does management matter in schools?, The Economic Journal, 125, 2015. Nick Davies, Graham Atkins, Sukhvinder Sodhi, Using targets to improve public services, 2021

49 Katharina Janke, Carol Propper and Raffaella Sadun, The impact of CEOs in the public sector: Evidence from the English NHS, VOXEU/CEPR, 17-1-2020 17 January 2020

50 Alessandra Fenizia (2022), Managers and Productivity in the Public Sector, Econometrica, Vol. 90, No. 3, pp. 1063-1084.

51 This result also implies that governments should design policies aimed at hiring, retaining and properly allocating managerial talent.

52 Dunleavy and Carrera, 2013 and Dunleavy, 2021.

53 Nicholas Bloom, Carol Propper, Stephan Seiler and John Van Reenen, The Impact of Competition on Management Quality: Evidence from Public Hospitals, The Review of Economic Studies, 2015.

54 There are multiple tools to manage productivity and effectiveness in complex organisations, such as in the public sector. For example, smart budgeting techniques and the use of a balanced scorecard are well-developed techniques, and the results have differed between public sector organisations depending on many factors. See Mark H. Moore, Creating Public Value: Strategic Management in Government, Harvard University Press, 1997. Barber, op cit., 2021, pp. 23-24.

55 Eliyahy M. Goldratt, Theory of Constraints, North River Press, 1990. For a review of the wide body of literature of the theory of constraints, see Zeynep Tuğçe Şimşit, Noyan Sebla Günay and Özalp Vayvay, Theory of Constraints: A Literature Review, Procedia - Social and Behavioral Sciences, 2014, pp. 930 – 936.

56 The following leans heavily on insights produced for The Productivity Institute's Scotland Productivity Forum by prof. Mark Logan, University of Glasgow. See lecture on Practical Productivity: Simple Ways to Transform Your Business Performance, Sept. 2nd 2021 and Productivity Puzzles podcast, Practical Productivity – How to transform performance? with Mark Logan, Mark Hart (University of Aston) and Paul Abraham (Capita).

57 For a continuous updating of resources and cases applying the Theory of Change, see www.tocico.org. There is also a specific portfolio of theory of constraint applications for government organisations. See also Horton et al, op cit., 2021 (chapter 5: Actions to strengthen provider and system agility) who provide practical examples of effective implementation support in central NHS programmes joining up the parts of the service delivery chain to generate faster progress in reducing variation and driving up quality.

58 See discussion on p. 25 in previous section. Alexander Stevenson, The Public Sector. Managing the Unmanageable, 2013.

59 Coyle et al., op cit, 2021.

60 See, for example, Highways England's ambitious Digital, Data and Technology Strategy wins CIO plaudits, 20-5-21.

61 Simon Caulkin, The rule is simple: be careful what you measure. The Guardian, 10 February 2008.

62 Van Dooren et al., op cit., 2007, p. 8.

63 Sally Al-Zaidy, Aoife Molloy, Catherine Turton and Ruth Thorlby, The measurement maze, The Health Foundation, 2019.

64 Atkinson, op cit., 2005, p. 51. For an international comparison of data governance practices in the public sector across OECD countries, see OECD, op. cit., 2019.

65 Horton et al, op cit., 2021, p. 18.

66 Krawchenko, op. cit., 2021, p. 9. A lot of public sector employment happens at the regional level, especially as governments are devolving powers from a national to a sub-national level. The place specific context of public sector productivity objectives is therefore also important to consider. See, P. Dunleavy, Regional and local productivity in the public sector. Where do we stand?, OECD-EC high-level expert workshop series Productivity Policy for Places, 2021

67 Philip McCann (2021), The Fiscal Implications of 'Levelling Up' and UK Governance Devolution, Productivity Insights Paper, No. 008, The Productivity Institute.

68 Alan Holden, Sonora Braun, Lilian Lee, Abigail Phelps and Rachel Samuelson, Catalyzing public sector innovation. Defining your role in the innovation ecosystem, Deloitte, 2017

69 Colin Turner, Social Infrastructure, in The Infrastructured State, Territoriality and the National Infrastructure System, Elgar, 2020, pp. 155-175.

70 Nick Davies et al., op cit., 2021. OECD, op. cit., 2019

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