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# The role of government buyers in shaping firm productivity

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# Executive Summary

Public procurement is a major economic force in the UK, accounting for £385 billion annually (National Audit Office, 2024). This research brief examines how government contracts impact firm productivity in the UK, by analysing the effect of procurement income trends and composition and the influence of government customer types (central, local, or NHS) on UK government suppliers' performance.

Using a sample of 26,411 UK companies supplying to central government, local government, or the NHS during 2016-2019, uncovering key trends in supplier distribution, industry participation, and productivity effects. While the full dataset covers 10.5 million transactions, we focus on private firms that supply these government entities, representing over 90% of transactions and 87.5% of total UK public spending during 2016-2019.

## Key Findings:

- UK local government has the most suppliers, but central government's supplier base is growing the fastest.
- UK government suppliers mainly belong to low-R&D intensive industries, with high-tech firms underrepresented.
- The link between public procurement and firm productivity is non-linear, resembling a "U-shaped" curve. This indicates that government suppliers earning either low or high procurement income achieve greater productivity gains compared to those with average income levels. In other words, firms with low or high government contracts tend to be more productive than those with moderate levels of government contracts.
- The type of government customer matters—UK central government and NHS suppliers perform better, while local government-only suppliers experience weaker productivity effects.

For firms, winning contracts is not just about quantity but also the type of government buyer. Diversifying across government entities can help mitigate risks and improve productivity outcomes. For policymakers, procurement strategies should support both traditional and high-tech industries, ensuring that the procurement structures reduce inefficiencies and maximise supplier productivity.

This research brief offers valuable insights for businesses and policymakers navigating public procurement by exploring who supplies the government, how procurement shapes business performance, and which government buyers provide the best opportunities.

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# Introduction

Public procurement—purchasing goods, services, and works by public authorities—has gained global attention as a tool for sustainable development and economic growth. In OECD countries, public procurement accounted for 14.8% of GDP in 2021 (OECD, 2023), and in the UK alone, it amounts to £385 billion annually (National Audit Office, 2024). Given its scale, public procurement is more than just a government expenditure mechanism—it has the potential to shape markets, drive innovation, and influence firm performance.

Public procurement is known for stimulating technological, social, and environmental innovations. However, its impact on firm productivity is uncertain. While much research emphasises positive effects on R&D and product innovation, there is limited evidence on whether public procurement improves business efficiency and performance. Additionally, the importance of the specific government entities that firms supply to, beyond just the contract size, remains an unexplored question. This research explores how income from public procurement influences firm productivity and whether the type of government customer—central, local, NHS, or a mix—affects these productivity returns. Using Tussell's UK procurement data (2016–2019), we analyse not only the funding volume, but also the structure of firms' government buyer portfolios.

By examining these relationships, we provide insights into how public procurement impacts business performance, offering takeaways for both firms engaging in government contracts and policymakers shaping procurement strategies.

## Spend data overview

Tussell, established in 2015, is a leading provider of UK public sector procurement data. Their data platform aggregates detailed information on government tenders, contract awards, frameworks, and spending, offering insights into procurement trends and supplier activity. Tussell's data enables users to analyse procurement histories, benchmark

spending across departments, identify joint procurement opportunities, assess supplier risk, and monitor compliance with transparency regulations. It also provides access to a database of public sector decision-makers, supporting strategic engagement. This data is integral to our work, helping to analyse public procurement dynamics and its impact on firms.

For this study, we downloaded Tussell's spend data from 2016 to 2019, which provides a comprehensive overview of UK public procurement activities. The full dataset covers 10,516,973 transactions involving 148,024 companies and 886 public sector bodies, with total procurement spending amounting to £535,987,421,184. These transactions span various public entities, including central government, local authorities, and the NHS.

Our analysis specifically focuses on UK private companies that supply to at least one of the three main government entities: central government, local government, or the NHS. These suppliers account for over 90% of the transactions in our dataset, representing 87.5% of total UK public spending during this period. To evaluate the impact of public procurement on company performance, we aggregated the transaction data at the firm-year level and supplemented it with key financial and employment information from FAME and The Data City. After merging all datasets and refining the data by removing outliers and missing values, our final sample consists of 26,411 companies that supplied goods and services to UK public sector institutions between 2016 and 2019.

## Who Supplies the UK Government? Sectoral and R&D Characteristics of Public Procurement

From 2016 to 2019, the UK government procurement landscape displayed distinct trends in supplier distribution across various government entities, industries, and levels of R&D intensity. Figure 1 shows that local government consistently maintained the largest supplier base, showing a steady growth over the period and significantly outpacing

## Trends in Government Suppliers by Entity

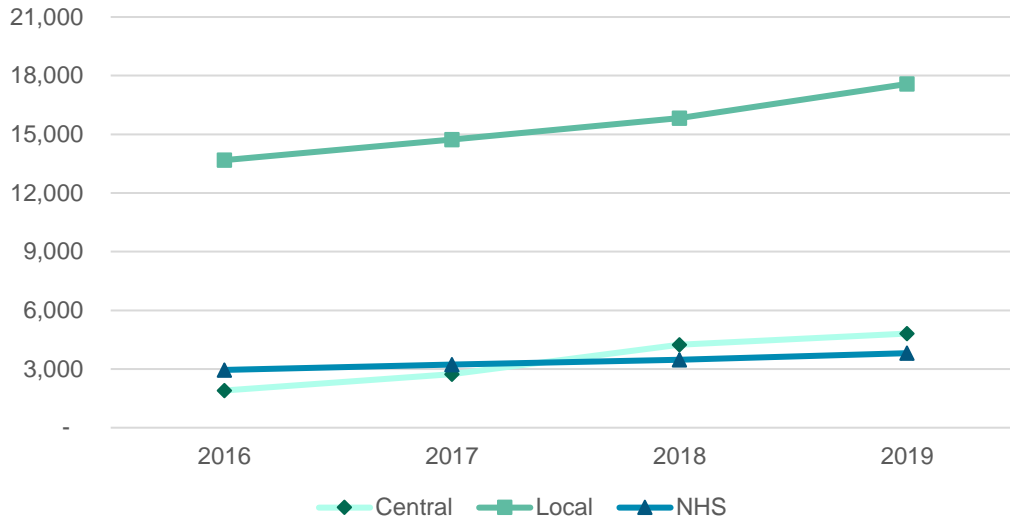


Figure 1 Trends in Government Suppliers by Entity (2016 - 2019)

## Suppliers Across Sectors (1-digit SIC)



Figure 2 Supplier Across Sectors (1-digit Standard Industrial Classification codes)

both the NHS and central government. While all three government entities experienced an upward trend in supplier numbers, central government saw the most dramatic proportional increase, more than doubling its supplier base over four years. These trends reflect the evolving nature of UK public procurement, with local government continuing to engage the widest range of suppliers, while central government expanded its reach at a faster rate.

Examining the sectoral distribution of these government suppliers (Figure 2), human health and social work activities dominate, reflecting the substantial public investment in healthcare and social services. Other key sectors include construction, manufacturing, and professional services, all of which play a crucial role in public procurement. This distribution suggests that government contracts primarily target service-oriented industries and infrastructure

Classification of Suppliers by R&D Intensity

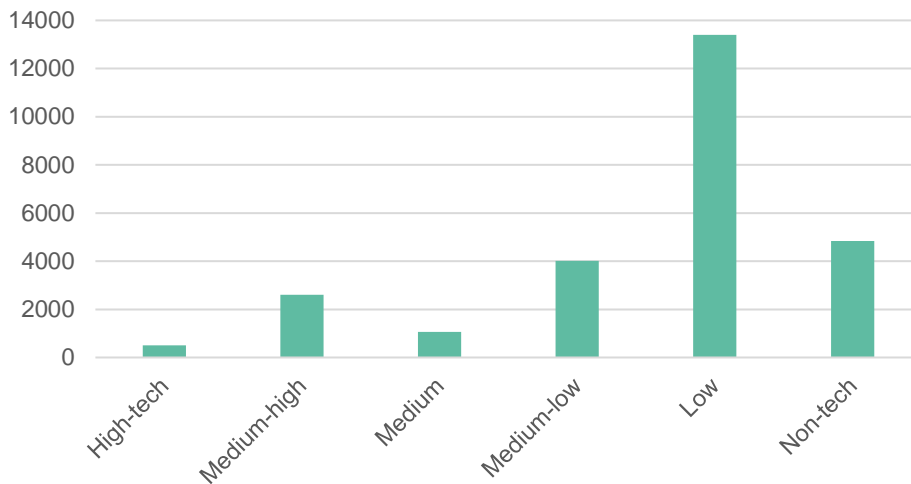


Figure 3 Classification of Suppliers by R&D Intensity

development, while sectors such as agriculture, utilities, and mining have minimal representation in the government supply chain.

A closer look at the R&D intensity (Figure 3) reveals that most government suppliers fall into the low R&D intensity category, with relatively few high-tech firms securing government contracts. This uneven distribution, combined with a focus on services and construction, suggests that UK government procurement during this period largely engaged firms from traditional industries such as health, construction, and administrative services. This pattern likely reflects the nature of public sector demand, where essential services and infrastructure projects require substantial procurement. However, the relatively smaller presence of high-tech and medium-high R&D firms may indicate barriers to entry or limited procurement opportunities for highly innovative businesses within the UK public sector. Understanding these dynamics is essential for policymakers aiming to develop procurement strategies that nurture a diverse and competitive supplier base across different industries and innovation levels.

## Does winning more government contracts always lead to higher productivity?

Government procurement significantly influences business performance, especially when it comes to labour productivity. However,

the relationship between securing more government contracts and firms' productivity is not straightforward. Research reveals mixed results; while some studies (Hoekman & Sanfilippo, 2020; Lee, 2021) highlight the positive impact of public procurement, others (Facchini & Melki, 2013; Jia et al., 2024; Lupu & Asandului, 2017) suggests that government spending can produce varied outcomes on economic growth. Our analysis explores this complex dynamic and identifies a non-linear relationship between procurement income and productivity.

Specifically, we observe a U-shaped pattern: firms with either low or high procurement income tend to experience higher productivity gains two years later, while those in a moderate range see weaker or even negative effects. This pattern suggests that firms with limited government contracts may stay agile and competitive, while those with substantial procurement income benefit from economies of scale and operational stability. In contrast, firms in the moderate range may face inefficiencies, dependency risks, or administrative burdens that limit their productivity improvements.

Figure 4 illustrates this non-linearity by dividing firms into three segments—low, moderate, and high procurement income—and examining the impact between procurement income at time  $t$  on productivity at  $t+2$ . The findings reveal a U-shaped pattern: firms with either low or high procurement income tend to experience higher productivity gains, while

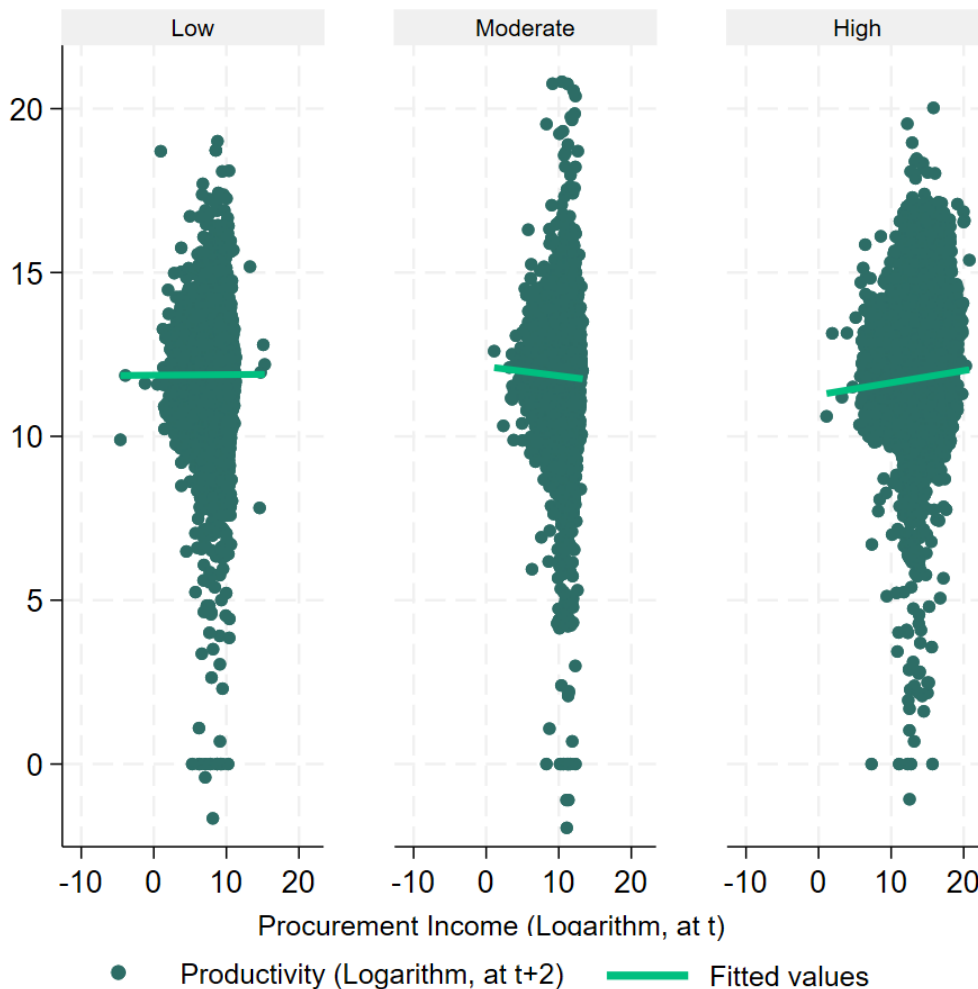


Figure 4 Procurement Income and Productivity Across Supplier Groups

those in the moderate range see weaker or even negative effects.

## Does Who You Sell to Matter? How Government Customers Shape Supplier Performance

In supply chain research, there is ongoing debate about the impact of a firm's customer base has on its performance. Some experts argue that focusing on fewer, large-scale buyers enhances productivity through better coordination, reduced costs, and improved efficiency (Irvine et al., 2016; Kaplan & Narayanan, 2001; Kwak & Kim, 2020). However, others warn that relying heavily on a few customers can increase dependency and financial risk, potentially weakening a firm's bargaining power (Kwak & Kim, 2020).

While these dynamics are well-studied in

private markets, less is known about how they apply to public procurement. Government buyers—such as central government, local authorities, and the NHS—have distinct procurement processes and objectives. This raises an important question: Does it matter which part of the government a supplier works with?

To explore this, we looked at which government entities suppliers engage with—specifically, whether they supply to just one type (e.g., only central government or only the NHS) or serve multiple public sector clients. Figure 5 shows that most suppliers tend to specialise in serving a single type of government customer, particularly local government, while fewer engage with multiple entities. This suggests that specialisation is more common than diversification in public procurement.



## Governmental Customer Portfolio of Supplier Firms

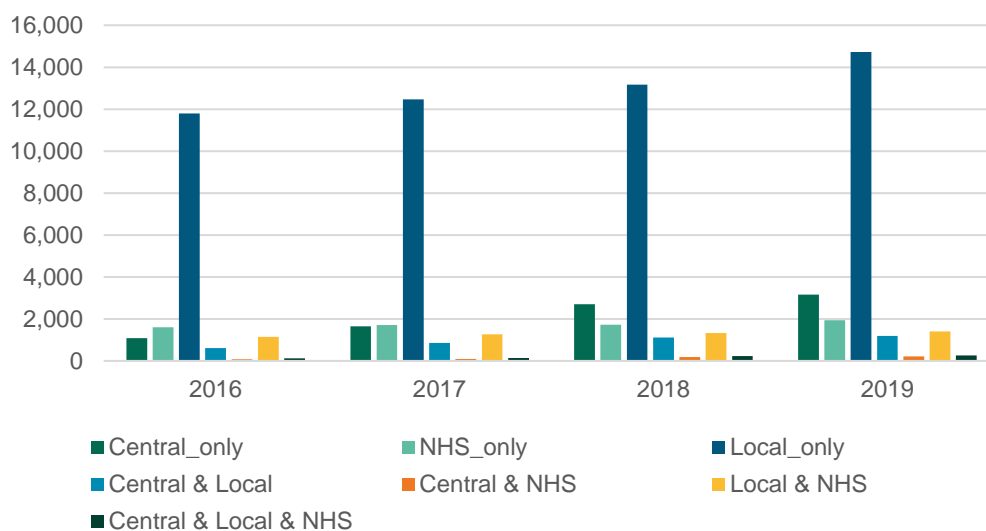


Figure 5 Governmental Customer Portfolio

The relationship between engaging with multiple government buyers and business performance is examined in Figure 6. This figure illustrates the correlation between procurement income and productivity across different supplier groups. The results reveal significant disparities—suppliers serving central government and the NHS tend to see higher productivity gains over time, suggesting benefits like stability and economies of scale. Meanwhile, firms supplying exclusively to local government show weaker or even negative effects, meaning that relying on local contracts alone may not always lead to higher efficiency.

However, not all government contracts are the same. While some government buyers may help firms scale and improve efficiency, others could introduce administrative hurdles or pricing pressures that limit productivity growth. Understanding these dynamics is key for policymakers and businesses alike, to ensure procurement strategies support suppliers while minimising risks.

## Conclusion

Our analysis highlights key insights on the evolving landscape of UK public procurement from 2016 to 2019, revealing critical trends and insights. During this period, local government had the largest supplier base, while central government saw the fastest

growth, indicating a potential dynamic shift in procurement patterns in the future.

Public contracts exhibiting a high concentration in service-oriented sectors characterised by low-R&D intensive industries, with resulted in high-tech firms being underrepresented. This reality suggests the existence of potential barriers that inhibit innovation-driven businesses from successfully entering the UK procurement arena.

Interestingly, our findings challenge the assumption that winning more government contracts does not always lead to higher productivity. Instead, we observed a U-shaped relationship: firms at both ends of the procurement income spectrum – those with either low or high procurement income – tend to perform better, while those in the middle face inefficiencies and dependency risks that can reduce their growth.

The nature of clients also plays an important role in determining productivity performance. Suppliers engage with the central government and NHS often tend to see higher productivity gains, thanks to the larger scale and stability of these contracts. On the other hand, firms relying only on local government contracts often experience weaker or, in some cases, negative effects on their performance.

For firms, these findings reveal the importance of developing procurement strategies that consider not just the number of contracts and their volume, but also the quality and type of customers served. For policymakers, too, fostering a well-balanced procurement ecosystem that supports supplier diversity, reduces inefficiencies, and encourages innovation is key to maximizing the economic impact of public spending.

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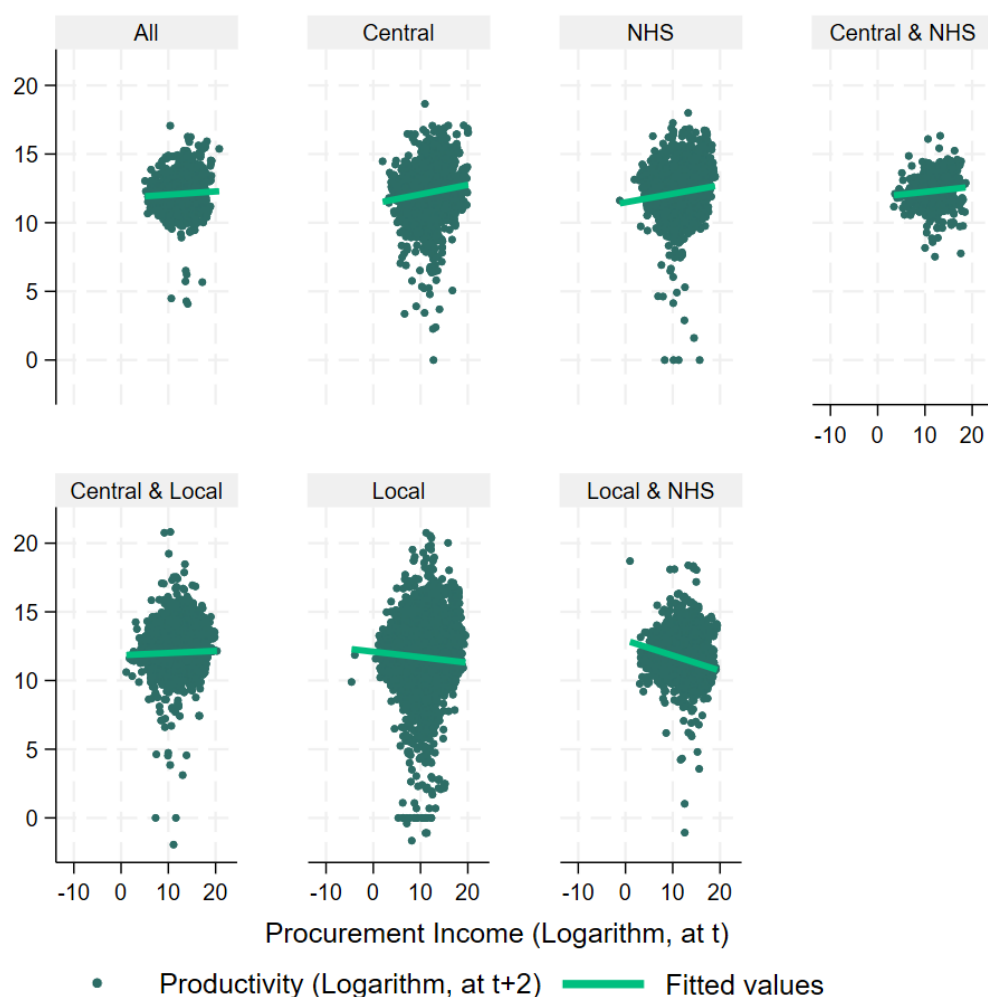


Figure 6 Procurement Income and Productivity Across Governmental Customer Portfolios



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## References

- Facchini, F., & Melki, M. (2013). Efficient government size: France in the 20th century. *European Journal of Political Economy*, 31, 1–14. <https://doi.org/10.1016/j.ejpoleco.2013.03.002>
- Hoekman, B., & Sanfilippo, M. (2020). Foreign participation in public procurement and firm performance: Evidence from sub-Saharan Africa. *Review of World Economics*, 156(1), 41–73.
- Irvine, P. J., Park, S. S., & Yıldızhan, Ç. (2016). Customer-Base Concentration, Profitability, and the Relationship Life Cycle. *The Accounting Review*, 91(3), 883–906. <https://doi.org/10.2308/accr-51246>
- Jia, X., Wang, J., & Liu, T. (2024). The impact of business-to-government relationship emphasis on green innovation: An empirical analysis. *Technovation*, 129, 102919. <https://doi.org/10.1016/j.technovation.2023.102919>
- Kaplan, R. S., & Narayanan, V. G. (2001). MEASURING AND MANAGING CUSTOMER PROFITABILITY. *Journal of Cost Management*, 15(5).
- Kwak, K., & Kim, N. (2020). Concentrate or disperse? The relationship between major customer concentration and supplier profitability and the moderating role of insider ownership. *Journal of Business Research*, 109, 648–658. <https://doi.org/10.1016/j.jbusres.2019.09.033>
- Lee, M. (2021). Government Purchases and Firm Growth. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3823255>
- Lupu, D., & Asandului, M. (2017). The Nexus between Economic Growth and Public Spending in Eastern European Countries. *Engineering Economics*, 28(2), 155–161. <https://doi.org/10.5755/j01.ee.28.2.7734>
- National Audit Office. (2024). Efficiency in government procurement of common goods and services. UK Government. <https://www.nao.org.uk/wp-content/uploads/2024/07/efficiency-in-government-procurement-of-common-goods-and-services-report.pdf>
- OECD. (2023). Government at a Glance 2023. OECD. <https://doi.org/10.1787/3d5c5d31-en>



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