

Capital losses

The role of London in the UK's productivity puzzle

Guilherme Rodrigues, Stuart Bridgett
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We are a charity that works with local authorities, business and Whitehall to develop and implement policy that supports the performance of urban economies. We do this through impartial research and knowledge exchange.

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About the partner

EC BID is a business improvement district working to promote and enhance a unique part of the City of London known as the Eastern City.

The logo consists of the letters 'EC' in a large, bold, gold-colored serif font.

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Foreword

Throughout its modern history, London has been a centre of growth, innovation and activity. Even at times of population decline, its economy continued to grow, driven by rising worker productivity. This was true in the 1970s and early 1980s – often seen as some of the city’s darkest times in economic terms. But as this thought-provoking report from the Centre for Cities highlights, despite higher overall output (driven by a growing population), productivity per worker in London slumped from a rate of 3.1 per cent per annum between 1998 and 2007 to just 0.2 percent in the period since the global financial crisis of 2008. This loss of growth has literally come at a price; amounting to over £50 billion in 2019 alone – much more than the fiscal surplus the city produced for the rest of the UK in the same year.

The factors that lie behind this decline in value added are not straightforward to isolate. But the report highlights a number of factors that its authors believe are worthy of serious consideration. The first is the fact that our “superstar sectors” – such as finance, professional services and information and communications have simply not grown as quickly as in other competing economies – or indeed when compared with London’s historical growth rates. Of course there are exceptions to this, and I know many businesses in the City are performing well, but as a general trend this is a deeply worrying finding, not least because it threatens our long-term competitiveness. Secondly, the authors note that the increasing cost of commercial real estate and the comparative growth of this sector as a share of the London economy may have “crowded out” other, more productive sectors. Finally, an affordability crisis in housing – not just for key workers – but also those in medium to higher paid jobs may be a factor in our collective loss of productive capacity. A scarcity of housing may well have deterred talent from overseas and led to those wishing to stay in London after studying here being forced to leave.

The report recommends changes to policies covering amongst other things, immigration, fiscal devolution and land use planning. Some of these, such as a shift towards a more zone based approach to development or easing restrictions

on the greenbelt, protected views and conservation areas will be debated. Others, such as extending graduate work visas to five years and providing greater powers and resources for London government should surely be considered mainstream in a mature democracy. But whatever your views, I believe the report is a welcome wake up call to all those concerned with securing growth, competitiveness and employment in London and the country as a whole.

The EC BID area which I chair, takes in the tall tower cluster of the City and is home to the most economically productive area in the UK and probably of the whole of Europe. We were delighted to support this research – the first piece of a series that we are involved with.

Whilst the analysis and recommendations are very much those of Centre for Cities, we welcome the report as a valuable contribution to the debate we believe we need to be having, on how to drive productivity in London and the UK as a whole. EC BID and our sister organisations continue to work in partnership with London government to deliver a high-quality environment, a vibrant city offer, excellent transport links and of course, we are committed to delivering the ESG agenda. But without growth and the prosperity and taxes that flow from it, those efforts will be underfunded and undermined.

On behalf of EC BID, I would like to thank the report's authors, Stuart Bridgett and Guilherme Rodrigues for their hard work in pulling this thought-provoking report together. I do hope you enjoy reading it.



Nick Carty

Chair | EC BID

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Executive summary

While the UK's productivity puzzle – the flat lining of national productivity since 2008 – has been subject to much focus from UK economists and policy makers, little attention has been given to the geography of it. While the slowdown happened across the country, this report shows that it was led by London.

The country's strong productivity growth before the financial crisis was principally the result of the robust performance of the Capital. Productivity in London grew at 3.1 per cent per year (in real terms) between 1998 and 2007, well above the 1.9 per cent growth at the national level (which itself was the second highest growth in the G7). But the Capital has moved from being the leader of UK productivity before the financial crisis to the laggard since – from 2007 it has grown by just 0.2 per cent per year, and accounts for 42 per cent of the overall slowdown seen nationally.

While other developed economies have also seen a productivity slowdown, the performance of London is at odds with the largest cities in these countries. Cities such as Paris and New York have also seen productivity growth slowing down, but their performance since the financial crisis has both been stronger than London and has been above their respective national averages.

London's slowdown means that the national economy is much smaller than it would have been if the Capital had kept pace with its peers. If London's productivity performed in line with Brussels, Paris, New York, and Stockholm, it would have added **£54 billion to the UK economy in 2019 alone (the equivalent of two Edinburghs). This would have generated around £17 billion extra for the exchequer to spend**, which is well above the amount allocated to the Levelling Up Fund (£4.8 billion) and the City Region Sustainable Transport Settlements (£5.7 billion).

A key reason for this slowdown in London appears to be the sharp slowdown of its 'superstar firms' – the most productive firms in the Capital's economy – typically located in the very centre of the Capital. And this goes beyond

superstar firms in finance. While finance has been a part of this slowdown, it is not the sole cause. Other exporting services sectors, such as information and communications and professional services, have also stuttered.

It is difficult to identify definitively with the data available what the causal factors are in explaining this slowdown. Given that the countries whose cities were comparators in this report followed similar macro-economic policy such as ultra-loose monetary policy, it seems unlikely to have been a major cause. And Brexit, although it may have compounded the slowdown, did not trigger it – the flat lining of productivity began in 2008.

There are two London specific trends which should be of concern to both the Capital's and national policymakers.

The first is that investment in tangible assets and real estate appear to have been crowding out other types of investment. Office costs have continued to rise since 2008 despite flatlining productivity. Meanwhile investment in intangibles such as software, databases and R&D, which are likely to be becoming increasingly important for the growth of the UK economy, have performed poorly as a share of GDP. It is plausible that the former has squeezed the latter, with implications for productivity growth.

The second is that increasing housing prices (a London problem caused by national planning policy and its application in London) and a restrictive migration policy (a national policy likely squeezing the most in London) have reduced London's ability to compete for global talent. The eroding of London's wage premium because of poor wage growth coupled with rising housing costs, compounded by the fall in the value of the pound and restriction on immigration, has come at a time when London's share of skills and migrants from more developed countries has also stalled. Again, these trends pre-date Brexit.

To restart growth in London, policy should look to maximise the benefits that a big city offers while minimising as much as possible the costs of doing business in it. In doing so, this would increase the attractiveness of the Capital as a place to do business. To do this the following should happen:

1. Rather than looking to limit foreign student numbers, central government should facilitate high-skilled migration by **extending the graduate visa to five years**. This would deepen and widen the pool of higher skilled workers businesses in London (and other cities) can hire from and make the British university system more competitive by making it more attractive to attend a UK university.
2. Policymakers should address rising housing and commercial space costs by **changing the approach to planning**. Specifically:
 - **Central Government should introduce planning reforms to make redevelopment of both residential and commercial**

space more certain. The current discretionary planning system makes redevelopment in existing urban areas hard at the scale required, hindering London's ability to adjust to economic change and grow. A system that is more rules-based would reduce uncertainty and make it easier to build in places like London where planning constraints have the biggest impact.

- In the meantime, **the Mayor and local authorities should use Mayoral Development Orders and Local Development Orders respectively to allow the redevelopment of land near existing public transport**, building on the work that has been started by Transport for London. These orders differ from the usual process because they are much more rules-based. Currently, Mayoral Development Orders are not in effect for the Mayor of London so it would require secondary legislation from Government.
- **The Mayor, supported by central Government, should also revise the most costly planning policies in the London plan.** While changing the planning system and use development orders may help making development more certain, the London Plan includes further policies which restrict the provision of homes and office space in London. The greenbelt, conservation areas in central London, and protected views are some of them. They should be revised.

3. Central government should devolve further powers to London, particularly fiscal powers. Not only do more fiscal powers provide greater freedom of policy, but they would also strengthen the incentives to tackle the economic challenges highlighted in this paper by allowing London to keep more of the gains from its growth. Options for this include:

- A Parisian-style 'versement transport' tax on payroll to fund transport services;
- Powers to capture revenue from land value uplift, which would allow London to raise revenue from who directly benefit from improvements in the Capital's (i.e. public transport connections). This tool has been used sporadically in London;
- Changes to the council tax system within London, for example through adding extra bands to increase the charges paid by the most expensive property, or revaluation of all properties in the Capital. This would follow similar reforms done in Scotland and Wales;
- Give powers to implement a city sales tax similar to cities like New York or assign the Greater London Authority (GLA) a share of VAT raised in London;
- A tourist tax;

To deal with any negative fall out that Brexit and Covid-19 may have on London's economy, which would come in addition to the analysis in this report, the following should also happen:

- 4. Central government and the Mayor should work together to reform the Transport for London (TfL) funding model.** A competitive London requires a world-class public transport system that links workers to jobs. The pandemic has left TfL in a more vulnerable position than transport systems in Paris, New York and Hong Kong because a much higher share of its revenues comes from ticket revenue than in the other cities. To underpin the sustainability of this key part of the 'plumbing' of London's economy, the Mayor should work with central government to reduce TfL's dependence on the farebox.
- 5. Central government should review and amend the UK's trading arrangements on services with Europe.** While Brexit is not the main cause of London's poor productivity performance between the financial crisis and Covid-19, restricting the ability of its services firms to EU markets could cause further problems through the 2020s. Despite low productivity growth, the financial sector continues to be a key part of London's economy and the EU market was 37 per cent of its exports in 2019. By exiting the single market for financial services, London's position is likely to become weaker.

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Introduction

Over the long term, improving people's earnings and standard of living depends on rising productivity. This is why the UK's so-called 'productivity puzzle' – flatlining productivity after the financial crisis of 2008 – is so concerning.

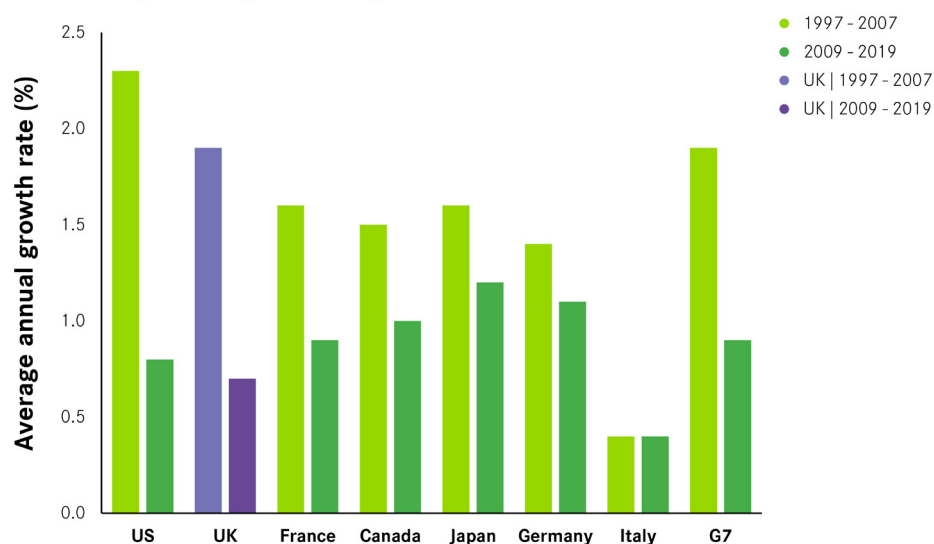
Although the slowdown has been a common feature of developed economies during this period, it has been particularly profound in the UK.¹ The country moved from having the second highest productivity growth rate (1.9 per cent a year) in the G7 before the financial crisis to the second lowest (0.7 per cent a year) between 2009 and 2019 (see Figure 1).²

¹ Low productivity growth since the financial crisis has been a common feature of most developed nations, but has affected the UK more strongly than most. Goldin I, Koutroumpis P, Lafond F and Winkler J (2022), Why is productivity slowing down?, Oxford: The Oxford Martin Working Paper Series on Technological and Economic Change; Bell T, Fry E, Kelly G, Murphy L, Thwaites G and Tomlinson D (2022), Stagnation nation: Navigating a route to a fairer and more prosperous Britain, London: Resolution Foundation and Centre for Economic Performance, LSE; and International comparisons of UK productivity (ICP) 2020, final estimates, statistical bulletins, London: ONS

² ONS, International comparisons of UK productivity (ICP) 2020, final estimates: 2020. For further details see: www.ons.gov.uk/economy/economicoutputandproductivity/productivitymeasures/bulletins/internationalcomparisonsofproductivityfinalestimates/2020

Figure 1: Productivity slowdown has been particularly strong in the UK

Productivity: average annual growth rate



Source: ONS, OECD. Productivity measured by output per hour worked.

Before the pandemic, this issue was a focus of successive governments. In 2015, the Treasury published its productivity plan to address the issue.³ Two years later, the next government announced its Industrial Strategy to ‘drive productivity growth across the country’.⁴ Both of these strategies, and the broader debate, have missed the geography of the observed slowdown in productivity growth, where London plays a disproportionate role.

London’s contribution to the national economy is well understood. It accounts for around a quarter of national output and is one of the most productive cities in Europe. This performance results from its ability to offer knowledge-based businesses access to skilled workers and a network of clients, collaborators and competitors, which makes them more productive. This is known as agglomeration.

However, the Capital’s role in national productivity flatlining is less well known. This paper focuses on changes in its productivity over the past two decades and the London-specific components of this slowdown by comparing it with a selection of European counterparts. It then makes policy recommendations aimed at improving not just the economic performance of London, but the UK economy overall.

3 UK Government (2015), Fixing the foundations: Creating a more prosperous nation, London: The Stationery Office

4 UK Government (2017), UK Industrial Strategy: A leading destination to invest and grow, London: The Stationery Office

Box 1: Methodology

Definition of London

For the purpose of this paper, the research focuses mainly on London. Due to the data availability, and to compare it with other cities, this report uses three different geographic definitions of London: Greater London (ITL definition); Primary Urban Area (PUA) and the OECD's definition of a Metropolitan Area.⁵ Appendix 1 shows the geographical differences between these definitions.

Other cities and regions used

This paper compares London with other cities or regions in the UK or abroad, depending on data availability. In terms of international peers, the cities were selected using OECD metropolitan areas, and based on two criteria – being at least 15 per cent more productive than the national average and having at least 1 million residents.⁶ The group includes Paris, New York, Brussels, Stockholm and Milan.⁷ Due to data constraints, some of the analysis uses the closest NUTS3 regions instead (e.g. Metropolitan Paris and Île-de-France, respectively). For further details, see Appendix 1.

The definition of Greater London is used for all regional and most international comparisons. The PUA definition is used for comparisons with other British cities. Unless otherwise stated, the geographic definition refers to Greater London.

Potential limitations

Using slightly different geographies to analyse a city raises comparability issues. Reassuringly, the core of London's population and economy is captured in the three geographies used in this paper (Figure 24, Appendix 1). More importantly, changes over time in key indicators like population and GDP are similar across different geographical definitions.

Data used for this research

This paper uses several publicly available datasets from the ONS, OECD and other sources. These include:

- Productivity data at the regional level from sub-regional productivity in the UK (ONS)
- National accounts by sector at the regional level from sub-regional GVA (ONS and OECD)
- Regional gross fixed capital formation (GFCF) estimates by asset

⁵ For further details on London's Primary Urban Area (PUA) see: www.centreforcities.org/city/london/

⁶ For further details see: www.oecd.org/regional/regional-policy/redefining-urban-9789264174108-en.htm

⁷ Milan is not included in most comparisons as its productivity has been declining

type (ONS)

- R&D and investment (OECD)
- R&D spending by businesses and government (OECD)
- Nominal house prices at the regional level (OECD)
- Population by country of birth at the regional level (ONS)
- Regional equivalised disposable income, after housing costs (GLA Intelligence)
- Human capital estimates per head at the sub-national level (ONS)
- Commercial property data (the Valuation Office Agency)
- National Insurance number (NINo) applications from foreign-born residents at the regional level (the Department of Work and Pensions)
- International commercial property prices (CBRE)

As the paper focuses on the productivity slowdown after the financial crisis until the pandemic, data from 2020 onwards may not be analysed even if it is available.

Data relative to the regional GFCF by asset type are ONS experimental estimates.

Data from the ONS' Secure Research Service

The data based on firm productivity percentile is estimated using the dataset from the ONS' Regional Annual Business Survey, which includes the headquarters and branches of all businesses surveyed. The use of branch data sets this research apart from most other contributions to date, and while we recognise that the ONS apportioning output to branches within an enterprise has data limitations, it gives a better reflection of the business base at the sub-national level. The patterns shown in this report remain the same when looking at enterprise level and single plant firms.

The survey covers the non-financial business economy, excluding financial services and public administration. Publicly funded health and education activities have also been removed to look at the private sector only. The productivity figures from this specific dataset are shown in nominal terms as deflators at the firm level are not available.

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London's lost decade of productivity gains and the costs to the national economy

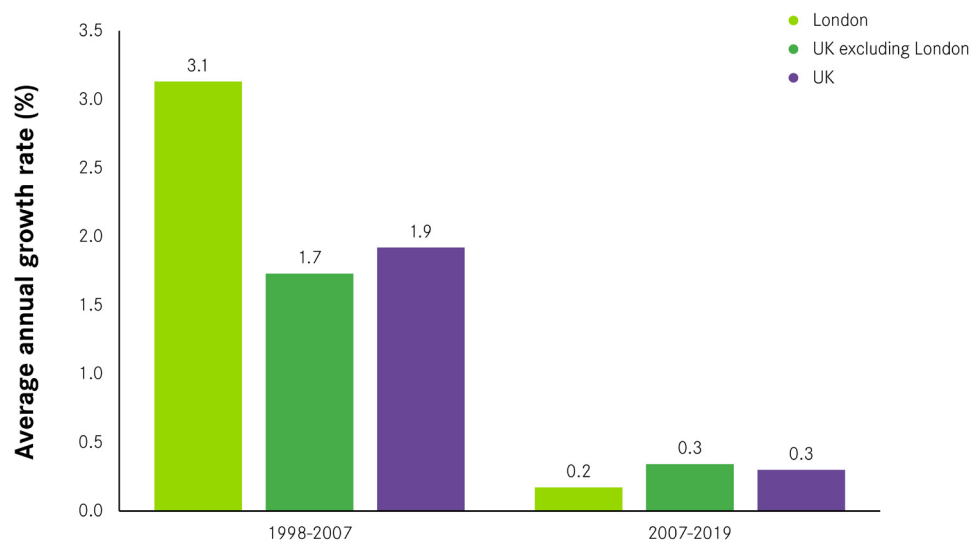
This section highlights London's specific role in UK productivity growth in two different periods – before and after the 2008 financial crisis. Its post-crisis productivity performance is also compared to other global cities. The aim is to show the part the Capital has played in the UK's slowdown and explain its impact on the national economy.

The UK's productivity slowdown was mostly driven by London

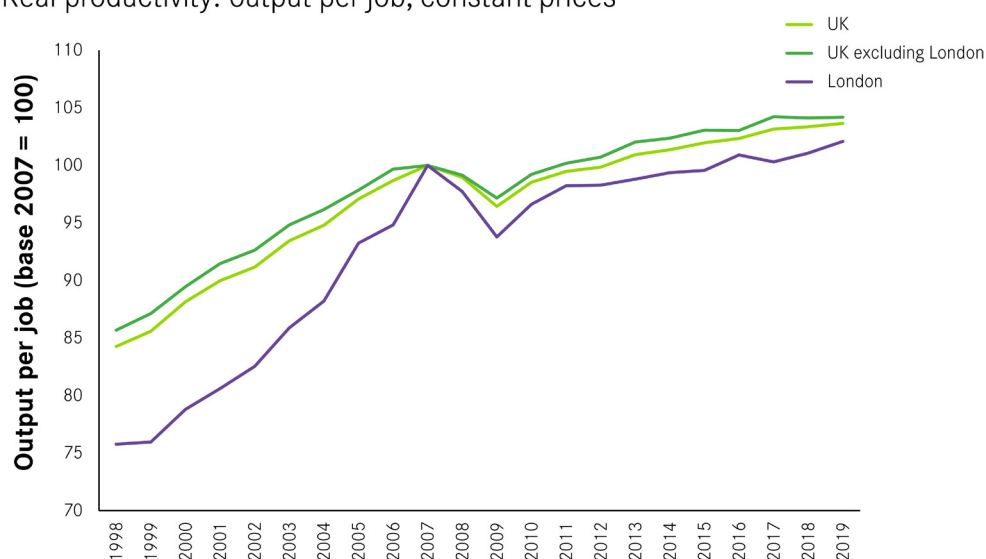
Before the crisis, productivity growth in the Capital was very strong, making a major contribution nationally. As Figure 2 shows, its productivity was growing around 3.1 per cent a year between 1998 and 2007 – almost twice the pace of the rest of the country.

Figure 2: London has gone from leading national productivity growth to lagging behind it

Productivity: average annual growth rate



Real productivity: output per job, constant prices



Source: ONS, output per job at constant price (CVM) by region (ITL). London defined as Greater London.

The UK's productivity slowdown after the financial crisis is well known; what is less known is the role London played. Since 2007, its productivity growth has been close to zero (0.2 per cent a year). And it has gone from leader to laggard – its performance has been marginally weaker than the rest of the country, where productivity grew at 0.3 per cent a year.

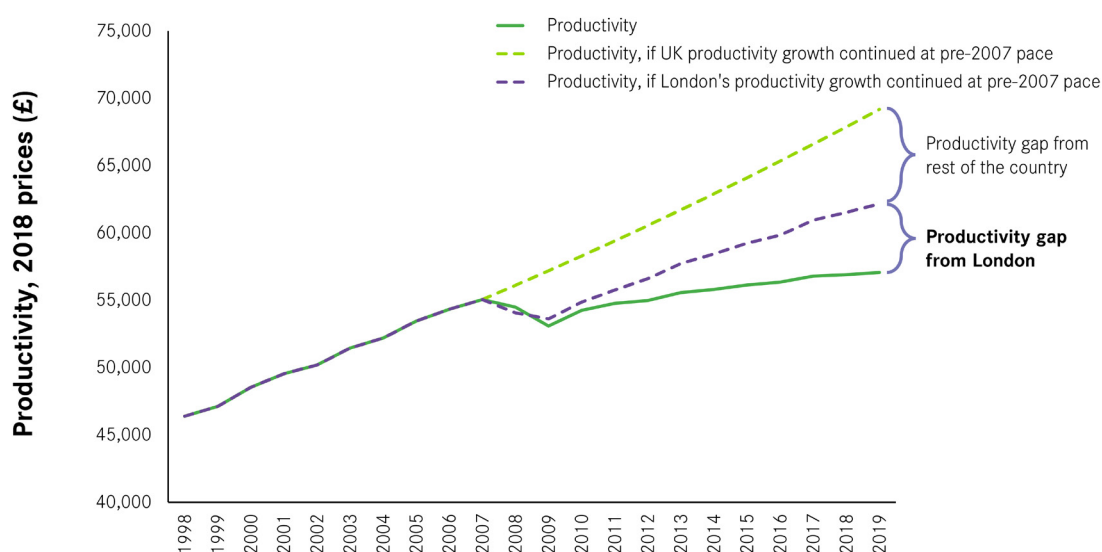
Figure 2 also shows that London's productivity slowdown was not compensated by a boost to productivity elsewhere. It is not the case that there was a reshuffling of growth around the country, so London's loss was not to the benefit

of other parts of the country.

In the same way it had a disproportionate impact on national productivity growth before the crisis, its slowdown was the main drag nationally. The Capital accounts for 15 per cent of the population and 25 per cent of the economy – and 42 per cent of the national productivity gap that has emerged since 2007 (see Figure 3).

Figure 3: London alone is responsible for almost half of the UK's post-2007 productivity gap

Productivity scenarios for the UK



Source: ONS, output per job at constant price (CVM) by region (ITL). London defined as Greater London. Dashed lines: Centre for Cities calculations.

London's stuttering performance happened at a time when its economy continued to grow because of the jobs miracle that occurred in the Capital.⁸ Between 2007 and 2019, 1.2 million extra roles were created and because this outstripped job creation elsewhere, London's share of all British posts rose from 22 per cent to 24 per cent. This shift had positive implications nationally. As London's productivity levels were still higher than average, its greater share of jobs pulled up national productivity, as Box 2 sets out.

Box 2: The role of London's employment growth in the UK's productivity

As London is still significantly more productive than the national average (34 per cent in 2019), employment growth there had a positive contribution

8 Enenkel K and Sells T (2021), Building back better, London: Centre for Cities

to the UK's productivity.⁹ A job in London is, on average, more productive than elsewhere, so a shift in the share of roles in the Capital increases the number of high productivity jobs in the country, even if London's own productivity remains unchanged. If the Capital's share of the UK's jobs remained the same in 2019, as it did in 2007, national productivity would be 0.7 per cent lower.¹⁰

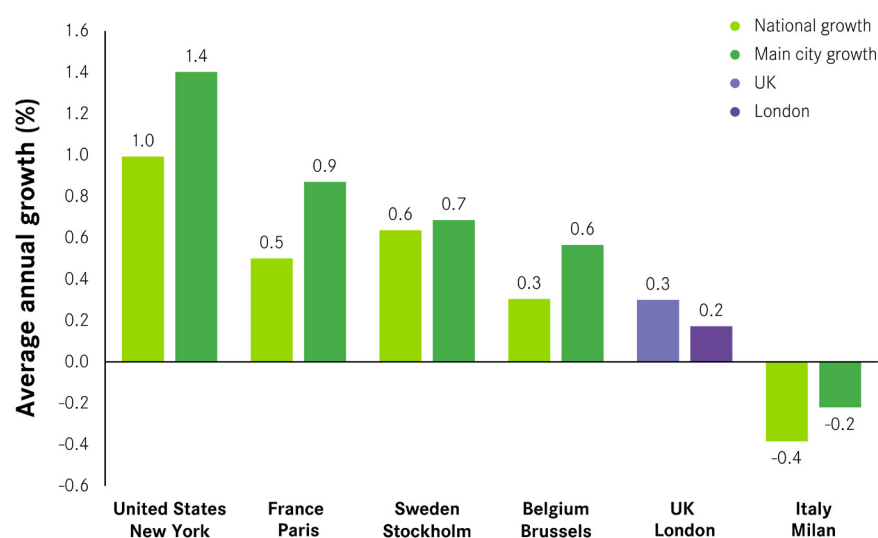
London differs from many international peers

Just like the UK lags behind other countries in terms of productivity growth, London is underperforming similar global cities. Two measures show this.

The first is a direct underperformance. Of the six global cities analysed in Figure 4 (Box 1 sets out the selection criteria based on two metrics), London had the lowest productivity growth except for Milan.¹¹

Figure 4: Unlike other global cities, London performs below the national average

Annual productivity growth: 2007-2019



Source: ONS and OECD. Methodology: Greater London definition for London and the remaining cities is the OECD metropolitan area definition. International peers calculated using GDP per worker in USD, constant prices, constant PPP, base year 2015.

The second is a relative one. London is the only city in the sample where productivity growth was lower than the national average. For example, in Paris it was 0.9 per cent, nearly twice as high as France's average of 0.5 per cent.

⁹ Greater London productivity compared with the national average. Productivity is measured by the current price (smoothed) GVA (B) per hour worked (£) from ONS

¹⁰ Assuming Greater London had the same productivity growth observed during this period but no employment growth

¹¹ Due to this and other reasons (data availability), Milan is not included in the following productivity analysis

London's underperformance costs billions to the national economy

This has at least two implications for the rest of the economy. Firstly, lower productivity growth in London makes national economic growth weaker. Secondly, this reduces the amount of government revenues that the Treasury can redistribute to other areas.

A simple estimate, based on the productivity of other global cities that performed better than London in Figure 4, **shows that the Capital's productivity stagnation cost the economy £54 billion in 2019 alone, the equivalent of two Edinburghs.**¹² In terms of tax revenue, that would be around £17 billion extra to spend, which is almost twice the overall spending allocated through the Levelling Up Fund (£4.8 billion) and the City Region Sustainable Transport Settlements (£5.7 billion).

¹² Assuming productivity growth at 12 per cent for the overall period, which is the average across New York, Paris, Stockholm and Brussels. This is 10 percentage points higher than London's productivity growth during the same period (around Paris and Stockholm levels). Additional tax revenue was estimated at 31 per cent of GDP, London's ratio in 2019. Clayton N and Overman H (2017), Brexit, trade and the economic impacts on UK cities, London: Centre for Cities and Centre for Economic Performance

04

The composition of London's productivity stagnation

Looking at the performance of different parts of London's economy helps to identify the likely sources of the Capital's recent stuttering. This section explores the breakdown of productivity growth in the city by sector, firm and geography.

Productivity is largely determined by a city's 'export' base

Not all sectors and businesses should be expected to contribute equally to productivity as they play different roles in an economy. Those that sell to regional, national and international markets (exporters) have higher productivity and drive productivity growth. In contrast, local services companies (such as restaurants and hairdressers) employ a lot of people but tend to have both low productivity levels and growth.¹³

Given this, the following focuses on the performance of London's export sector and, in particular, the high-skilled, knowledge-intensive parts. Box 3 sets this out in more detail.

Box 3: Classification of exporters, local services and the definition of knowledge-intensive exporting services

In general, there are three types of private sector business. Local services (also known as business to consumer or B2C, or 'non-tradable' businesses), such as hairdressers or newsagents, sell direct to the consumer, so typically serve a very local market. Their locations, therefore, are decided

¹³ Swinney P (2018), The wrong tail? Why Britain's 'long tail' is not the cause of its productivity problems, London: Centre for Cities

predominantly by where their customers live, work, or trade. Exporting businesses (also known as tradable businesses) sell to regional, national or international markets and form the export base of the local economy. The markets these businesses sell to do not tie them to a specific location, as long as they can easily access their target customers. They are broadly divided between goods (e.g. car manufacturers) and services (e.g. computer programming).

Due to the nature of London and other global cities, where manufacturing is not as prevalent as it was decades ago, this paper focuses on service exports that have been classified as **knowledge-intensive exporting services**.

Given data availability, they are defined as follows:

1. When analysing London's productivity over time, knowledge-intensive exporting services include the following sectors: finance and insurance, information and communication, and professional, scientific and technical activities.
2. To compare London's sectoral performance with other global cities (measured by productivity at purchasing power parity from the OECD), administrative and support service activities, which are not considered to be mostly knowledge-intensive, are grouped with professional, scientific and technical activities. Due to data limitations, they are included to make the sectors comparable across different cities.

In the following sections, when measuring knowledge-intensive exporting services as a share of GDP, this is based on the lowest sectoral level available, which is a combination of 1-digit and 2-digit SIC codes.¹⁴ They include the following: information and communication, financial and insurance activities, head offices and management consultancy, architectural and engineering activities, and other professional, scientific and technical activities. This excludes legal and accounting activities from professional, scientific and technical activities, which are considered local services. For London, this is less likely to be the case than elsewhere in the UK due to the international nature of the city's law firms. However, the data does not allow a distinction between local property conveyancers and international law firms.

¹⁴ This part of the analysis focused on the share of each sector within London's GDP. For this purpose, it is not necessary to have the corresponding SIC codes at the job level. Therefore, the lowest SIC code is used

Finance was driving London's productivity, but stagnation goes beyond it

Before 2008, finance was a major driver of London's productivity growth. The finance and insurance sector had the strongest productivity growth at around 6 per cent a year, which was almost twice the Capital's overall rate.

This sector, however, was not the sole contributor as it is sometimes claimed. Before the financial crisis, other knowledge-intensive exporting sectors, for example information and communication and professional, scientific, and technical activities, grew strongly at 3.5 per cent a year or above (Table 1).

Table 1: The productivity slowdown occurred in almost all services

Annualised change in output per job (constant prices)	Type	2000 to 2008	2010 to 2019
All Industries	-	2.7	0.6
Finance and Insurance	Knowledge-intensive service exporter	5.9	-1.1
Information and communication	Knowledge-intensive service exporter	3.7	1.7
Professional, scientific, and technical activities	Knowledge-intensive service exporter	3.5	2.1
Accommodation and service activities	Local services	3.1	0.9
Services (excluding Finance)	-	2.8	0.7
Real estate activities	Local services	2.6	-0.3
Wholesale and retail trade	Local services	2.1	0.4
Human health and social work activities	Local services	1.6	2.0
Transportation and storage	Local services	1.4	-0.8
Administrative and support service activities	Local services	1.1	2.9
Arts, entertainment and recreation	Local services	-1.0	0.9

Source: ONS, Output per job at constant price (CVM) by region (ITL). London defined as Greater London.

The productivity slowdown after the financial crisis is often associated with the decline of the financial sector. However, productivity growth pre-2008 cannot be fully explained by finance and the same can be said about the current slowdown.

The sector moved from having the fastest productivity growth to having the worst, with productivity declining. But as Table 1 above shows, the post-crisis slowdown happened in most sectors, and finance and insurance only accounted for one quarter of the drop. The remaining knowledge-intensive exporting services (i.e. information and communications and professional, scientific and

technical activities) performed better than average between 2010 and 2019, but experienced a significant slowdown compared with their pre-2008 growth rate (from 3.5 to 3.7 per cent a year between 2000 and 2008 to 1.7 to 2.1 per cent between 2010 and 2019).

Knowledge-intensive exporting services are doing better in other global cities

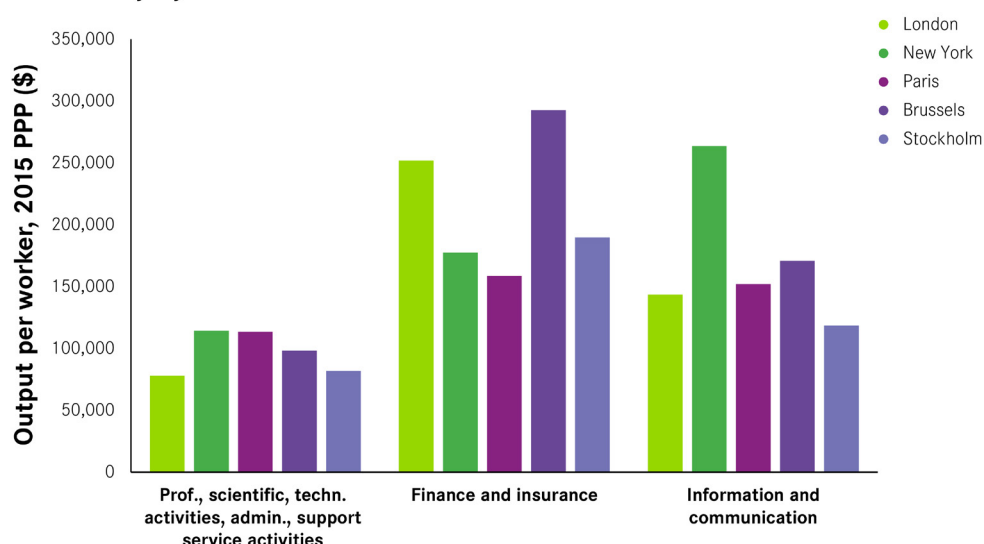
The weak performance of knowledge-intensive exporting services following the financial crisis in London becomes even more evident when compared with its international peers.

Figure 5 shows that, based on 2008 productivity levels, the Capital was highly productive in finance and insurance – second only to Brussels – and relatively productive in information and communication’ services. But between 2008 and 2018, the four cities analysed either converge or surpass London in those two activities.

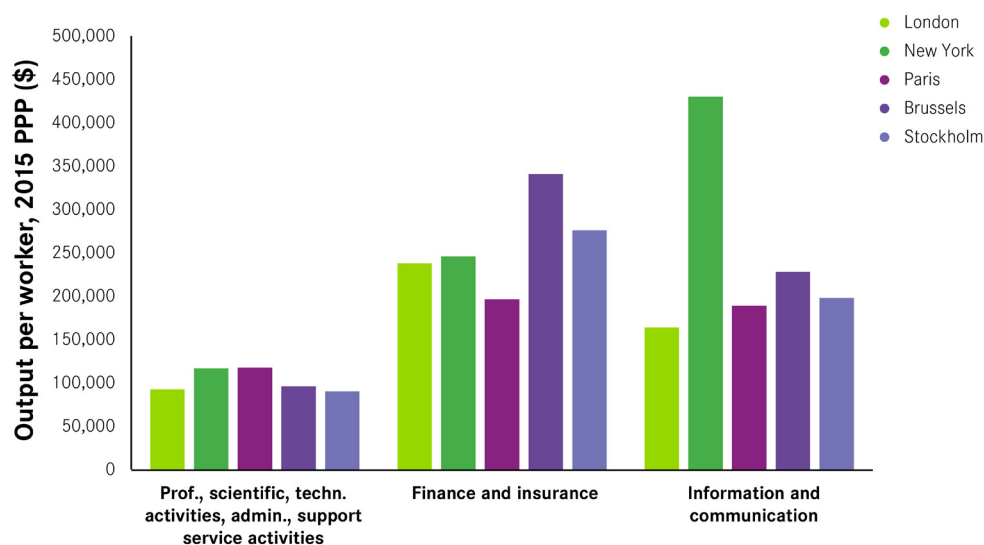
Taking high productivity levels as a proxy for having a competitive advantage, London is becoming globally less competitive in several knowledge-intensive exporting services. Tackling these issues will require developing competitive advantages within these sectors (for example, FinTech within finance) and in new areas of exporting activity as they emerge.

Figure 5: London lost its competitive advantage in finance and insurance

Productivity by sector: 2008



Productivity by sector : 2018



Source: ONS and OECD. Geographies based on ITL regions. Greater London; Brussels Capital Region; Stockholm Region; Île-de-France and New York-Newark-Bridgeport. Dashed lines: London's productivity level.

In London, the only knowledge-intensive exporting service that saw productivity grow faster than its global peers was professional, scientific and administrative services.¹⁵ As the Capital had a comparatively low level of productivity in this sector in 2008, this may be a sign that it is catching-up rather than emerging as an innovative and globally competitive sector that can drive productivity growth in the future.

The slowdown is likely to have been led by 'superstar' firms

The decline in London – especially within its exporting activities that are lagging its international peers – is likely to be driven by a stuttering of superstar firms – the 10 per cent most productive companies in the cohort.

Bank of England research shows that pre-crisis, national productivity growth was led by a set of superstar firms. But afterwards, the cohort saw a drop in their productivity growth, which the Bank identifies as the main cause of the economy's wider slowdown.¹⁶

Although data from before the crisis is not available at the London level, looking at data from 2008 onward shows three things. The first is that superstar firms are disproportionately exporter businesses – 36 per cent are in exporting activities (12 per cent of all firms). The second is that they are disproportionately located in London – the Capital is home to 20 per cent of exporting superstar firms, compared with 14 per cent of all exporting firms.

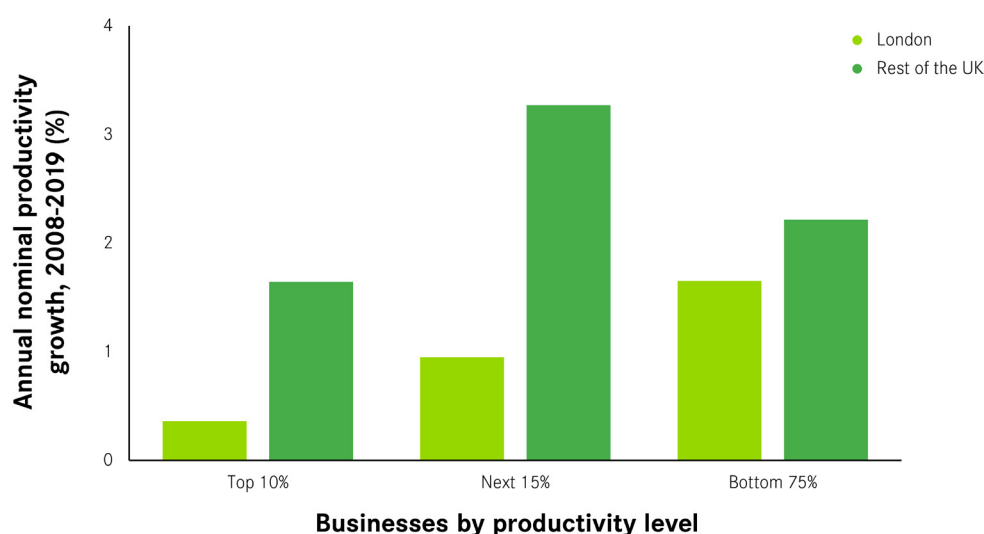
¹⁵ Professional scientific, support and administrative services includes both low-skilled local services, like administrative support, and high-skilled exporting services, like scientific services. For further details see Box 1

¹⁶ See <https://bankunderground.co.uk/2018/03/29/the-uks-productivity-puzzle-is-in-the-top-tail-of-the-distribution/>

The third is that their productivity growth was very sluggish after 2008. It lagged both the growth of less productive exporter businesses, and of superstar firms elsewhere in the country (which underperformed relative to their wider business bases – see Figure 6).

Figure 6: London's weak productivity growth is likely to be driven by its superstar firms

Productivity growth of exporters



Source: ONS, Annual Business Survey.

The low nominal productivity growth for superstar firms in London is likely to be negative in real terms, as the GVA deflator for the same period was 1.5 per cent a year.¹⁷

It is not entirely clear whether this underperformance can be mostly explained by weak productivity growth within existing superstar firms, or the absence of new ones emerging in London. Research at the national level suggests it is the former.¹⁸

Central London has been at the core of the slowdown

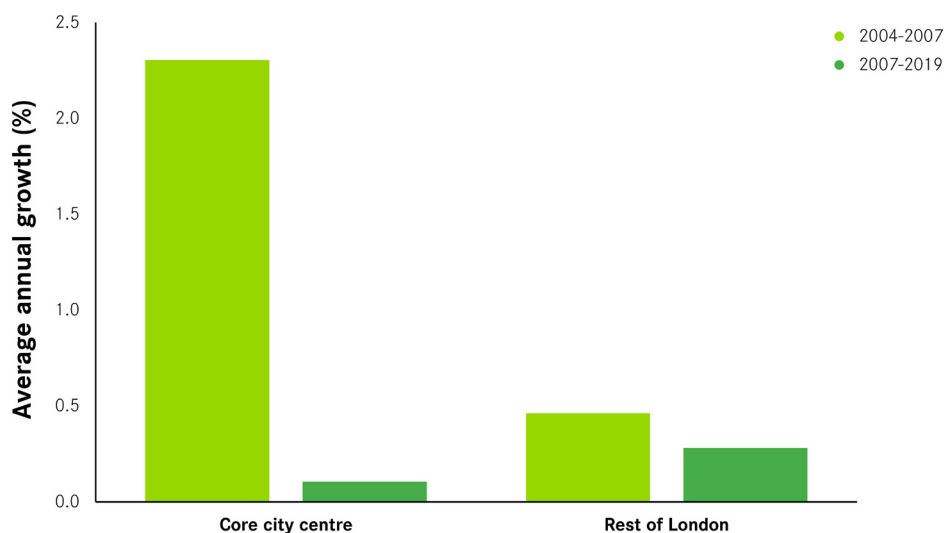
The variation in productivity growth across geographies within the Capital shows a similar pattern. Local authorities in central London (see Box 4 for definitions), where levels are the highest, have had the strongest slowdown since 2007. Box 4 analyses the differences within this geography.

¹⁷ Due to the absence of deflators at the firm level, real productivity growth is not available. As sectoral deflators differ significantly across activities, real productivity estimates were not calculated for each productivity threshold.

¹⁸ Riley R, Bondibene C and Young G (2014), *Productivity Dynamics in the Great Stagnation: Evidence from British businesses*, London: LSE

Figure 7: The productivity slowdown was mostly driven in central London local authorities

Real productivity growth per year



Source: ONS. Methodology: Geographies based on local authorities. City centre: City of London, Tower Hamlets, Westminster, Camden and Islington. See Box 4 for further details.

Figure 7 shows that core city centre productivity growth fell from 2.3 per cent a year (2004 to 2007) to 0.8 per cent (2007 to 2019). One potential explanation may be the location of superstar firms. These businesses disproportionately locate in central London due to the inherent benefits it offers (e.g. access to large numbers of skilled workers and a network of similar companies with which to share information and knowledge).¹⁹ Central London local authorities account for 10 per cent of the Capital's land and 47 per cent of its GVA. This is even more prevalent for the superstar firms – around 52 per cent of their GVA is generated in central London local authorities.²⁰

Box 4: London's areas and the role of emerging areas on the fringes of central London

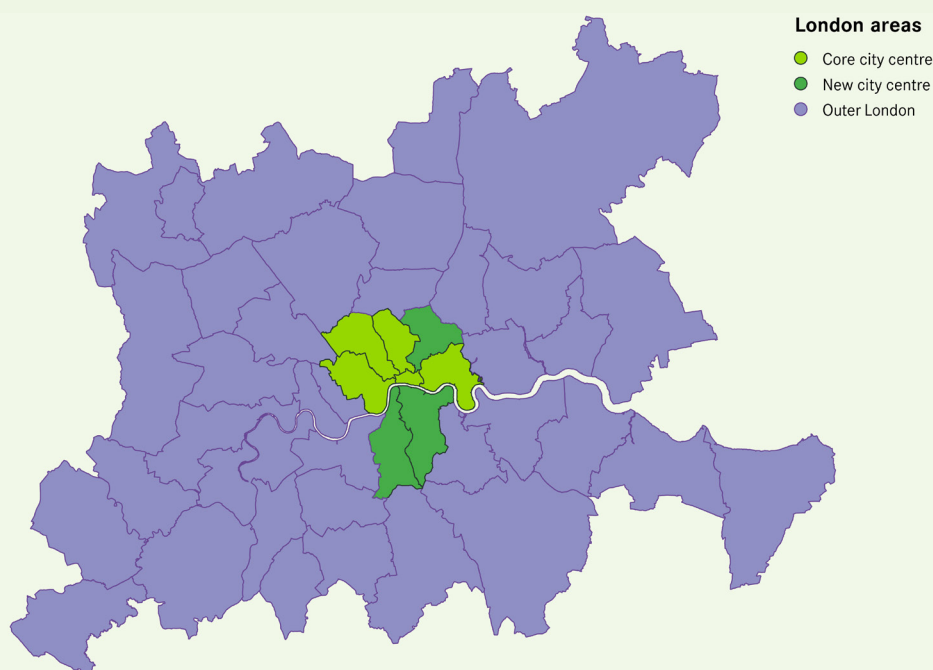
As previously discussed, different parts of a city play different roles. The centres typically provide jobs in high concentrations, while suburban areas offer housing and some local services for residents. To better understand how different areas in London performed over time, this box divides its PUA into three categories: city centre, new city centre and outer London. They are defined using local authorities due to productivity data availability.

¹⁹ Swinney P and Serwicka I (2016), *Trading Places: Why firms locate where they do*, London: Centre for Cities

²⁰ The Annual Business Survey does not include finance and insurance, which is typically located in central areas like the City of London and Canary Wharf, so this figure is likely to be an underestimate. For this paper, the city centre definition includes Camden, City of London, Islington, Tower Hamlets and Westminster. For further details, see Figure 8

- **Core city centre:** Includes two of the most productive local authorities, the City of London and Tower Hamlets (Canary Wharf), and surrounding local authorities such as Camden, Westminster and Islington.
- **New city centre:** Includes local authorities adjacent to the city centre, where productivity has been historically low. This includes Hackney, Lambeth and Southwark. In recent years these authorities emerged as new business hubs with premises like the Shard (Southwark) or the Silicon Roundabout (Hackney).
- **Outer London:** Remaining local authorities included in the PUA definition of London.²¹

Figure 8: London's geographical definitions



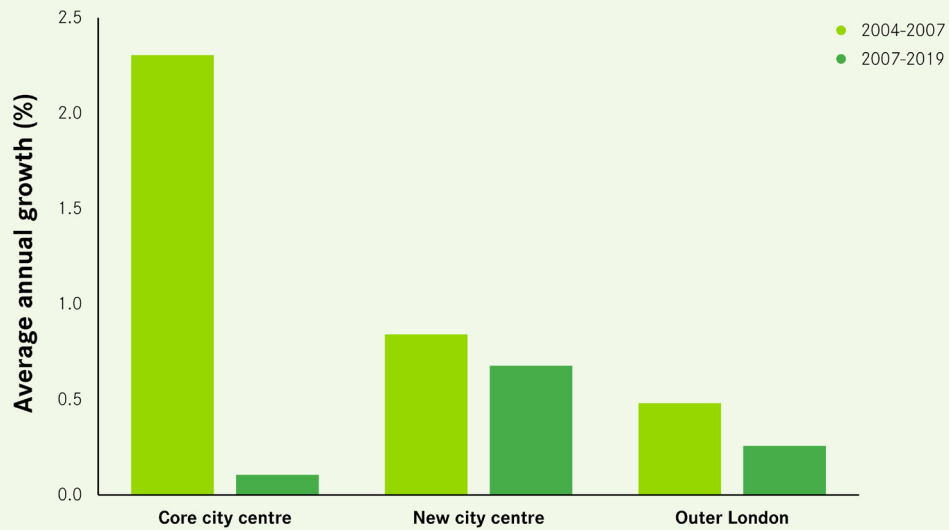
Source: ONS. Centre for cities.

The areas included in 'new city centre' – which include London Bridge and Old Street that have emerged as new business hubs in recent years – had the highest productivity growth since the financial crisis and, unlike other areas, it remained mostly unchanged. While less productive than London's average, these local authorities have been converging. Their productivity moved from 83 per cent of London's total in 2004 to 85 per cent in 2019.

²¹ Remaining local authorities included in London's PUA definition. For further details of the Capital's PUAs see: www.centreforcities.org/city/london/

Figure 9: Areas on the fringes of the core city centre had the strongest performance since the financial crisis

Real productivity growth per year



Source: ONS. Methodology: Geographies based on local authorities.

05

Potential urban drivers behind London's productivity slowdown

The previous sections suggest London is becoming less competitive in the global economy as its productivity growth has stagnated. There are two main categories of reasons that likely explain this underperformance in the past decade.

The first is macroeconomic factors, such as monetary policy and Brexit. On the former, all developed countries had loose monetary policy over the period, so it seems unlikely that this is a major source of divergence.²² On the latter, this may well have had an impact, but it is difficult to quantify. But as shown above, weak productivity growth in London emerged prior to the Brexit vote, which suggests that it cannot fully explain the underperformance of the Capital.²³

The other category is London-specific factors. These drivers are very challenging to disentangle given the data available, but the following section puts forward two that are likely to have impacted the productivity slowdown:

- A shift in investment towards real estate, in an environment of rising commercial property costs.
- A relative decline in attracting and retaining talent, both domestically and internationally, due to housing and other policy constraints, such as migration.

²² In addition, there has been a debate about whether the productivity slowdown in the developed world is a failure of productivity statistics to capture technological gains from new and better-quality ICT products and services. But as with other factors, it is hard to see why this would affect the UK and London in particular, in relation to other developed economies. For further details see: Mokyr J (2014), *Secular Stagnation? Not in Your Life*, London: CEPR Press; Brynjolfsson, Rock D and Syverson C (2020), *The productivity J-curve: How intangibles complement general purpose technologies*, Cambridge, MA: National Bureau of economic research; Ahmad N, Ribarsky J and Reinsdorf M (2017), *Can potential mismeasurement of the digital economy explain the post-crisis slowdown in GDP and productivity growth?*, Paris: OECD. The paper above mentions that if the mismeasuring productivity issue exists, it cannot be the sole cause of the observed productivity slowdown.

²³ Previous Centre for Cities research estimated a negative GDP contribution of 2.6 per cent for London in a scenario of a hard Brexit. This paper estimates that its underperformance, which started before the Brexit vote, is around 10 per cent of GDP. This supports the idea that the overall costs of the productivity slowdown are greater than Brexit itself. Clayton N and Overman H (2017), *Brexit, trade and the economic impacts on UK cities*, London: Centre for Cities and Centre for Economic Performance.

These hypotheses were developed based on existing research into factors behind the UK productivity slowdown and local factors that can hinder innovation around the world. They are supported by trends observed in London over the past two decades.

Potential factor 1: Constraints push real estate costs upwards, which act as a barrier for businesses and crowd out productivity-enhancing investment

Property costs appear to have been taking an ever larger share of output in London at a time when investment in productivity-driving ‘intangible’ investment, as a share of GDP, has stagnated. The former may be increasingly crowding out the latter, with implications for the Capital’s productivity growth. Research in this section supports this hypothesis by showing that higher real estate prices could impact innovation negatively and the lack of intangible investment is one of the drivers of the UK’s low productivity growth.

London remains more expensive than its peers, despite poor productivity growth

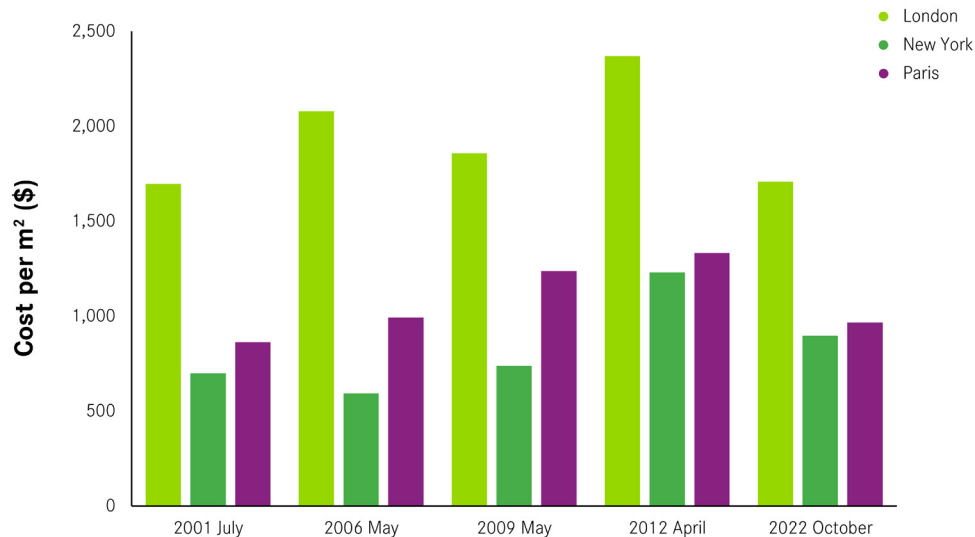
The Capital is an expensive place to do business and remains so despite its recent productivity challenges. Figure 10 shows that the cost of prime office space in London – which includes rents and taxes – has been significantly higher than New York and Paris since 2001 (ranging from twice to three times over the period). Pre-crisis, this could in principle have been because of London’s strong performance making it a more attractive place to locate. But the analysis above shows that this cannot explain this gap persisting after the financial crisis.^{24 25}

²⁴ This could be partially explained by office quality or different geographic boundaries, but London’s prices were relatively stable when compared with these cities over the period analysed. The Bank for International Settlements has recognised the limitations of comparing real estate prices across geographies and has started compiling data. However, the cities analysed are not yet available. For further details see: www.bis.org/statistics/pp_commercial.htm?m=2646

²⁵ Business rates have increased in the last decade. In 2010, the business rate multiplier was between 41.6 pence and 42.2 pence; in 2023 it increased to 51.1 pence.

Figure 10: Prime office real estate in London has remained much more expensive than in Paris and New York, despite lower productivity growth

Prime office real estate: rents and occupancy cost



Source: CBRE, Centre for Cities calculations. London includes the West End, while New York includes Midtown Manhattan. Data is unavailable on an annual basis. Data for London and New York includes taxes, but this data is not available for Paris.

Office real estate prices also grew much faster than in the rest of England and Wales between the financial crisis and the pandemic. Between 2010 and 2017, rateable values – a proxy for real estate prices – rose by 27 per cent in London, which is significantly more than for England and Wales as a whole (3 per cent).²⁶

Given that productivity in London hasn't grown, increased real estate costs are more likely to reflect an historical shortage of office space rather than an absolute increase in the value of these locations to incumbent firms.

Previous research has pointed to the planning system playing a central part in existing supply issues. Regulatory constraints contribute to higher commercial property costs in London than in its international peers and other UK cities.²⁷ And the case-by-case nature of the planning system distorts incentives. Developers appear to choose 'trophy architects' to design tall buildings in an attempt to get more favourable planning permissions. These projects are, on average, 15 per cent more costly because of their design, but an architect's reputation can mean an extra 14 floors are allowed on a given site. As a consequence, London – unlike other global cities – has a high proportion of skyscrapers designed by trophy architects.²⁸

²⁶ According to the Valuation Office Agency

²⁷ Cheshire P & Hilber C (2008), *Office Space Supply Restrictions in Britain: The Political Economy of Market Revenge*, London: LSE

²⁸ Cheshire P and Dericks G (2020), 'Trophy Architects' and design as rent-seeking: Quantifying deadweight losses in a tightly regulated office market, London: Economica, LSE
<https://radar.brookes.ac.uk/radar/file/92a90bbb-1cc9-4cee-b488-00a79c387850/1/Trophy%20architects%20-%202019%20-%20Cheshire%20Dericks.pdf>

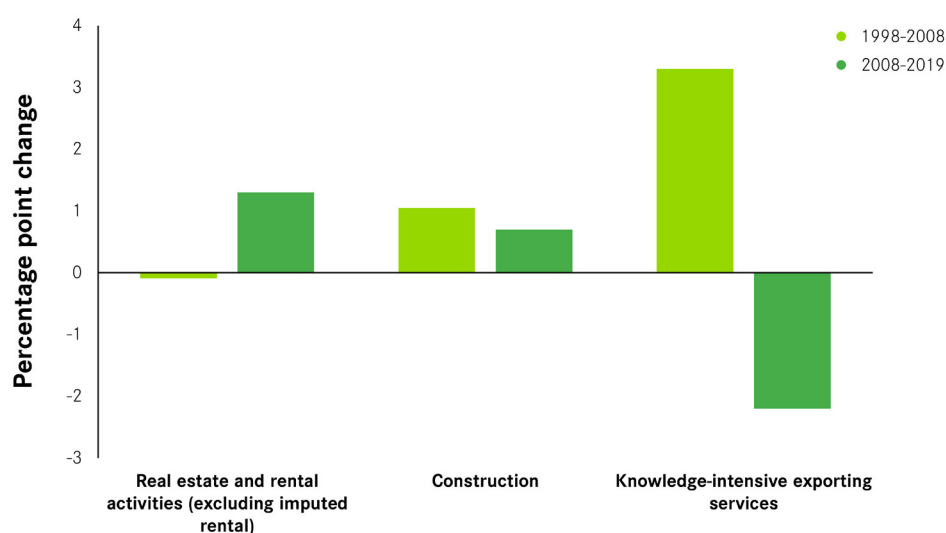
A second factor could be the Capital's increasing role as a safe haven for real estate investment in the context of post-financial crisis regulations and low interest rates. In a context of low interest rates (negative in real terms) and political uncertainty, real estate assets in global cities like London are likely to have been perceived as safe and liquid assets, increasing their respective demand.²⁹

These constraints are likely to have driven the relative growth of real estate in the Capital

As London faced a combination of low productivity growth and increasing commercial property prices, real estate became a larger part of its total economy. Real estate (excluding imputed rentals) and rental activities rose from 4.9 per cent of GDP in 2008 to 6.5 per cent in 2019. During the same period, the construction sector remained relatively stable at around 5 per cent, which points to supply (construction) not being able to fully respond to higher property prices. This suggests that rising rents and other costs – in an environment where demand continued rising because of the expansion of London's economy even as productivity flatlined – fuelled the growth of real estate.

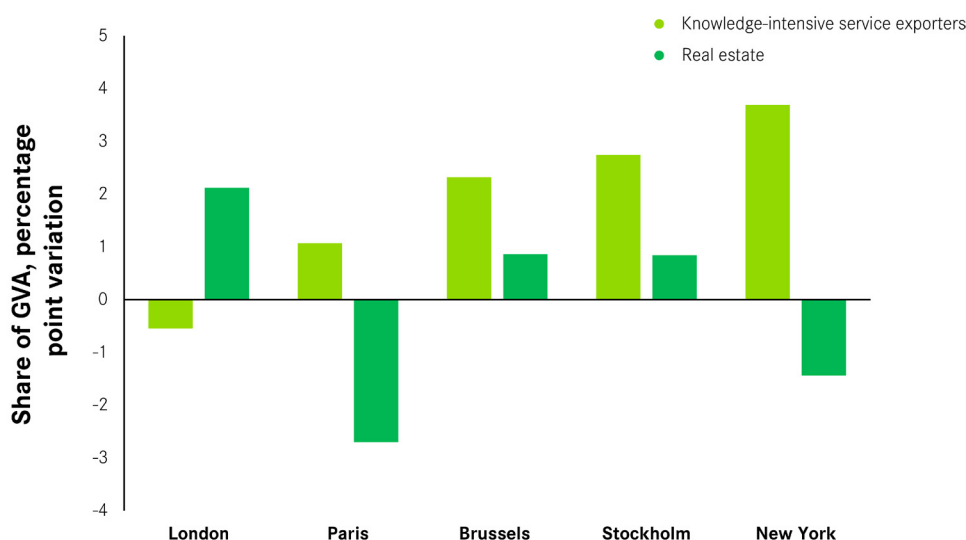
Figure 11: In the past decade, unlike some of its peers, London's economy moved towards real estate and its high skilled exporting base became relatively smaller

Change in a sector's share of London's GDP



²⁹ Badarinz C and Ramadorai T (2018) Home away from home? Foreign demand and London house prices, *Journal of Financial Economics*, Page 532-555

GVA composition changes, 2010-2019



Source: ONS. Knowledge-intensive exporting services include information and communication, financial and insurance activities, legal and accounting activities, head offices and management consultancy, architectural and engineering activities, and other professional, scientific and technical activities. Combined, they accounted for 33.5 per cent of London's GDP in 2019. Real estate activities include rental and leasing activities and real estate excluding imputed rental, which accounted for 6.5 per cent of GDP in 2019. The construction sector accounted for 5.5 per cent of London's GDP. Second figure. Source: ONS and OECD. Geographies based on ITL regions. Greater London, Brussels Capital Region, Stockholm Region, Île-de-France and New York-Newark-Bridgeport. Note: The real estate sector includes imputed rent due to data availability at the international level.

While the real estate sector became larger, London's knowledge-intensive exporting base – the part of the economy that mostly determines productivity – became comparatively smaller. These services (except for finance) grew, but at a significantly slower pace than the real estate sector. As the figure above shows, this combination is not seen in other global cities where productivity growth was stronger than in the Capital. Since 2014, London has become the city where real estate activities take the largest share of its economy, surpassing New York (Figure 24, Appendix 2).

High real estate costs can hinder innovation and productivity

This pattern of high and increasing real estate costs has at least two implications. Firstly, without increasing profits, it diverts business spending away from other areas. This includes productivity-enhancing investments, which has implications for innovation and productivity growth. The second is that high real estate costs will likely discourage new businesses from locating in London.

Research from other regions supports this. A study of 288 Chinese cities found that when real estate prices (housing) rose above a certain level, it reduced innovation, as measured by patents, due to R&D spending being crowded out

and the loss of skilled workers.³⁰ Similar evidence was uncovered in Florida.³¹ In addition, findings in the US and Spain point to property-owning firms being able to borrow and invest more, as they have collateral.³² This can benefit property-owning incumbent firms – even if they are less productive – and can have a negative long-term impact by blocking the entry of more productive challenger businesses.

Investment in London moved from intangibles towards buildings and structures

There is a strong positive relationship between intangible investment and productivity across the UK (see Box 5), and intangible assets are becoming increasingly important in developed economies.³³ This includes software and databases, and R&D.³⁴

For the UK, the recent problem has been that its productivity slowdown has been most notable in more intangible-intensive activities.³⁵ At the same time, growth of London's intangible investment as a share of GDP has been relatively weak when it should be playing an ever-larger role in the economy as it becomes ever more knowledge-based.³⁶ In the decade after the financial crisis, the Capital's investment moved towards tangible assets, especially buildings and structures, while intangible investment remained relatively stagnant. Figure 12 shows that investment in London (as a share of GDP) increased slightly but was fully driven by buildings and structures. Two decades ago, £0.65 was spent on intangibles for every £1 invested in buildings and structures. In 2019, it fell to £0.37. This means that while overall investment rose, it declined in other areas (including intangibles), as a share of GDP.

30 Yu L and Cai Y (2021), Do rising housing prices restrict urban innovation vitality? Evidence from 288 cities in China, Queensland: Economic Analysis and Policy

31 White R (2022), Innovation and Housing Costs, Arizona State University

32 Basco S, Rodriguez D and Moral-Benito E (2021), House prices and misallocation: The impact of the collateral channel on productivity, Madrid: Bank of Spain

Doerr S (2020), Housing booms, reallocation and productivity, Basel: Bank for International Settlements

33 Source: www.imperial.ac.uk/be-inspired/magazine/issue-44/capitalism-without-capital/

34 At the national level, software and investment was the largest capitalised intangible asset in 2019. Intangibles also include: branding, design, financial product innovation, organisational capital, and firm-specific training; intellectual property products; mineral exploration and evaluation; entertainment, literary and artistic originals. For further details, see: <https://www.ons.gov.uk/economy/economicoutputandproductivity/output/bulletins/investmentinintangibleassetsintheukbyindustry/2019#investment-in-intangible-assets>

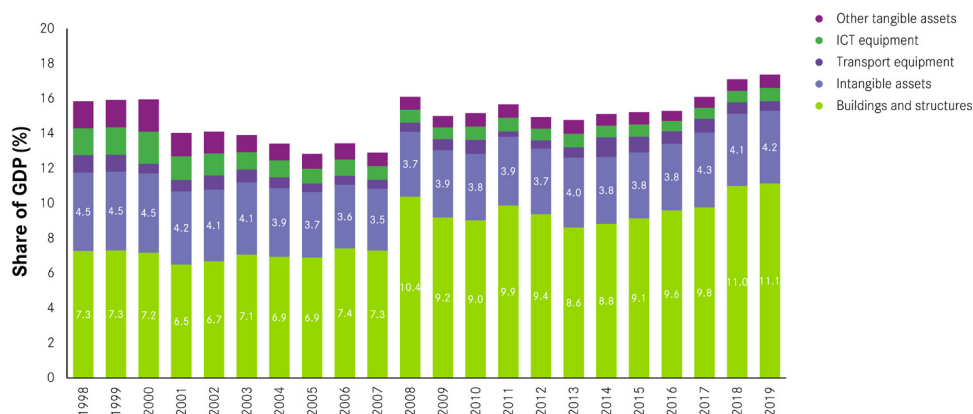
35 Goodridge P and Haskel (2022), Accounting for the slowdown in UK innovation and productivity, Manchester: Productivity Institute

Goodridge P, Haskel J and Wallis G (2013), Can Intangible Investment Explain the UK Productivity Puzzle?, Cambridge: National Institute Economic Review

36 Haskel J and Westlake S (2018), Capitalism without capital: The rise of the intangible economy, Princeton: Princeton University Press

Figure 12: London's investment growth was entirely driven by buildings and structures

Components of investment in London



Source: ONS. Regional GFCF estimates by asset type: Experimental data. Note: Intangible assets are also known as intellectual property products; computer software and databases are allocated to the region where they are used and are estimated using employee location; R&D is allocated according to where the investment takes place using survey data.

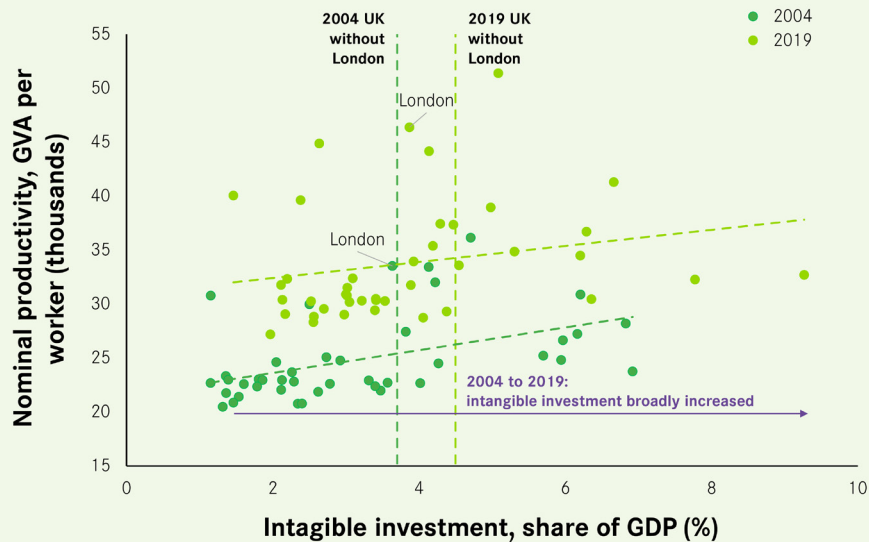
Between 2004 and 2019, while intangible investment remained mostly unchanged in London (as a share of GDP), the rest of the country saw an increase of 0.8 percentage point. Box 5 shows how London declined in relative terms during this period.

Box 5: Geography of intangible investment in the UK at the sub-national level

Intangible investment tends to be greatest in areas with higher productivity levels. Figure 13 shows two findings – a relationship between investment in intangible assets and productivity, and an overall increase in investment in intangibles between 2004 and 2019 (with most regions moving towards the right of Figure 13). However, London's position remained broadly unchanged, which given the increasing role that intangibles should be playing in an ever more knowledge-based economy is concerning. London had the 11th highest share of intangible investment as a share of its GDP in 2004 but dropped to 17th by 2019.

Figure 13: From 2004 to 2019, several regions started investing more in intangible assets than London, as a share of their respective GDP

Productivity and intangible investment



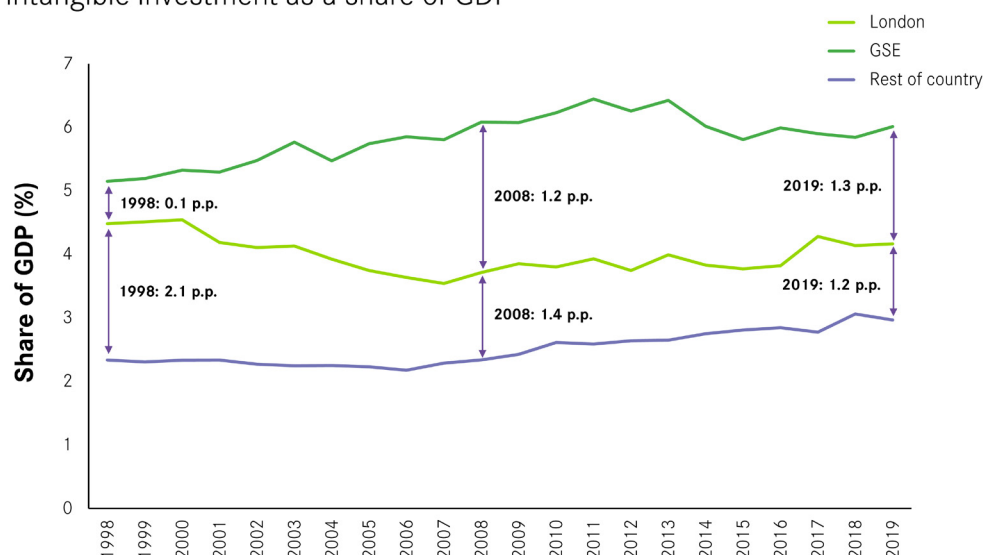
Source: ONS. Regional (ITL2) GFCF estimates by asset type: Experimental data. Note: Intangible assets are also known as intellectual property products; computer software and databases are allocated to the region where they are used and are estimated using employee location; R&D is allocated according to where the investment takes place using survey data.

This poor performance preceded the financial crisis (although the nature of investment means the decline may not have been felt immediately).³⁷ From 2004 until the crisis, the Capital's investment in intangibles (as a share of GDP) fell and has remained stable since (see Figure 14). This has seen the gap between London and the Greater South East widen, while the gap between London and areas outside of the Greater South East has narrowed.

³⁷ Heuvelen G, Bettendorf L, Meijerink G and Freeman D (2021), Intangible Investment, Labour Composition and Productivity. Work in progress. London: IARIW-ESCoE Conference. The paper finds that intangible investment has little to no impact on productivity three years after the investment is made

Figure 14: London's investment in intangibles has diverged from the Greater South East, while the rest of the country has converged with the Capital

Intangible investment as a share of GDP



Source: ONS. Regional (ITL1) GFCF estimates by asset type: Experimental data. Note: Intangible assets are also known as intellectual property products; computer software and databases are allocated to the region where they are used and are estimated using employee location; R&D is allocated according to where the investment takes place using survey data. Greater South East (GSE) includes the Southeast and East of England.

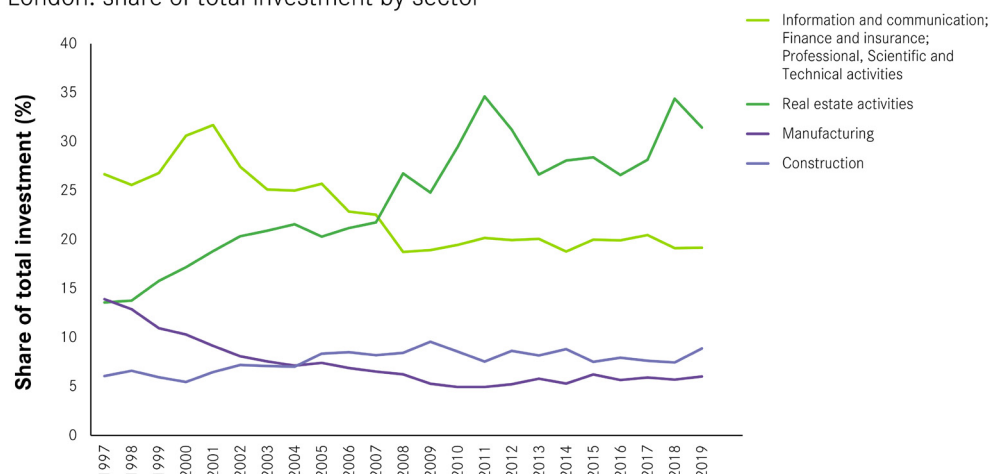
Investment at the sector level supports the crowding out hypothesis

Another factor behind the comparatively low investment in intangibles in London could be that its industrial structure distorts the figures. For example, sectors like finance may be less reliant on this than others. However, investment by sector, instead of asset type as shown above, suggests this is not the case. Real estate investment increased its share from 22 per cent of the total (3.1 per cent of GDP) in 2007 to 31 per cent in 2019 (5.9 per cent). It surpassed the investment in knowledge-intensive exporting services around 2008, which fell significantly in the past two decades.

This did not happen in the rest of the country, where real estate investment did not increase as a share of total investment (see Figure 26 in Appendix 2).

Figure 15: A higher share of London's investment has been allocated to the real estate sector, while the share allocated to the knowledge-intensive export sector has fallen

London: share of total investment by sector



Source: ONS. Regional GFCF estimates by conducting sector: Experimental data.

R&D spending by businesses suggests that London is also lagging other global cities

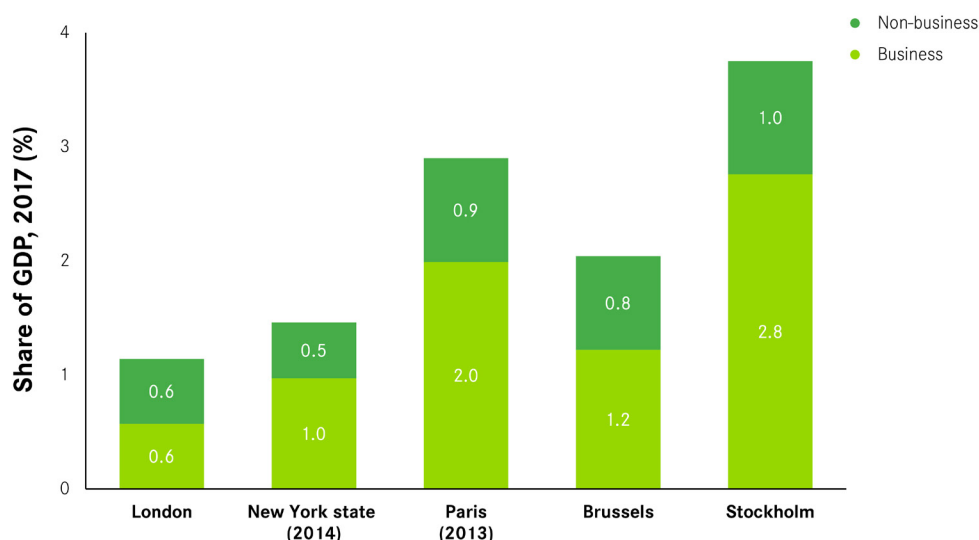
Data on investment in knowledge-creating activities is more difficult to come by at the international level. Looking at R&D spending across comparator cities suggests that recent investment patterns in London may have compounded its poor performance in this area relative to its peers.³⁸

The Capital's overall level of R&D is relatively low (see Figure 16). This is particularly concerning when analysing how much private businesses invest in R&D relative to non-business spending (government, universities and third sector) – it accounts for around 50 per cent of all R&D spending in London. This is below Brussels (60 per cent), Paris (68 per cent) and Stockholm (74 per cent).

38 Mohnen P and Hall B (2013), Innovation and Productivity: An Update, Eurasian Business Review
 Ulku H (2004), R&D, Innovation, and Economic Growth: An Empirical Analysis, IMF working paper

Figure 16: London's R&D spending is comparatively low, especially business investment

R&D spending composition in London and comparator cities



Source: ONS and OECD. Geographies based on ITL regions – Greater London, Brussels Capital Region, Stockholm Region, Île-de-France and New York state. The ONS recently revised R&D at the national level so the London figure may be revised in the future. Non-business includes government, universities and the third sector.

Once again, London's underperformance could be partially explained by its sectoral composition. Data on the 2,500 largest R&D companies globally shows the R&D intensity in finance (a sector where the Capital is historically strong) is relatively low, while sectors such as pharma and software and computer services are the highest spenders.³⁹ But this could also point to London's relative struggle in developing new sectors associated with higher R&D intensity since the financial crisis.

The ONS recently revised R&D figures at the national level, which moves the UK's spending upwards, although it is still behind several developed nations. Estimates at the local level are not available yet. However, London's business R&D spending (likely to be revised) is relatively low even within the UK (see Figure 29, Appendix 1).⁴⁰

³⁹ According to the 2020 EU Industrial R&D Investment Scoreboard that analysed R&D spending from the 2,500 largest spenders globally in 2019. Pharmaceuticals and biotechnology accounted for 18.4 per cent of the R&D spending; software and computer services for 15.8 per cent; technology hardware and equipment for 15.4 per cent. Banks only accounted for 1.3 per cent, while insurance accounted for 0.1 per cent. British firms account for 3.5 per cent

⁴⁰ The ONS has very recently revised the R&D figures on which these government targets were based, which has aligned them more closely with the figures HMRC collects from R&D tax credit data. This brings UK spending much closer to the OECD average (2.6 per cent target), but it still trails the likes of Germany, South Korea and the US in both R&D spending and broader productivity performance

Potential factor 2: Rising housing costs and migration policy restricts London's ability to attract talent

Skilled workers are a key component of the Capital's knowledge economy. Rising house prices at a time of stagnant wages, and restrictions on the flow of international workers, are two constraints on its ability to attract talent, especially from abroad.

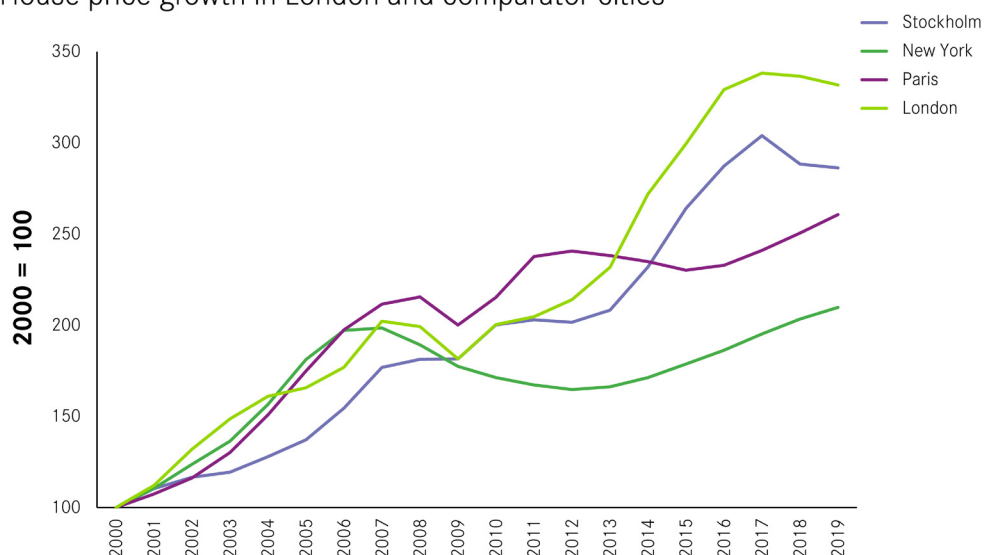
House prices in London grew significantly faster than the national average and international peers

Despite low productivity growth and wage stagnation, London's house prices have risen sharply since the financial crisis. In 2007, it was already the most expensive housing market in the UK – nominal mean house prices were around £348,000 – and since then it has had the highest price increase of UK cities (82.9 per cent, to £637,000).

The Capital also looks like an outlier when compared with other global cities. According to the OECD, nominal house prices rose 3.3-fold since 2000, significantly more than the regions including New York and Paris. Stockholm has come closest, especially in the past decade, but it is important to note that this has been accompanied by greater productivity growth.⁴¹

Figure 17: Despite low productivity growth, London house prices grew much faster than in other global cities

House price growth in London and comparator cities



Source: OECD. Geographies based on ITL regions – Greater London, Stockholm Region, Île-de-France and New York-Newark-Bridgeport. Note: Brussels Capital Region is not included due to lack of data.

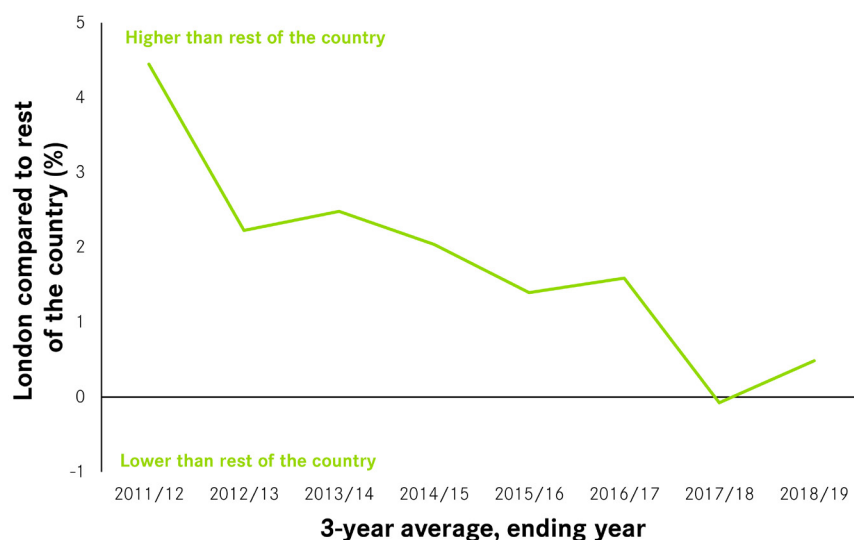
⁴¹ According to the OECD, GDP growth (constant PPP) in Stockholm was 32 per cent (2007-2019), compared with 27 per cent in London for the same period. For productivity performance, see Figure 4

London's wage premium is being consumed by housing

These increases have eaten into wages. Figure 18 shows that London's median household income after housing costs has been converging with the national average in recent years. Following the financial crisis, its wage premium (after housing costs) was around 5 per cent but on the eve of the pandemic it was close to zero.⁴² The Capital does not have a premium compared to the national median, despite having much higher productivity.⁴³

Figure 18: The London wage premium has disappeared as house prices have continued to increase

London's median equivalised income after housing costs



Source: GLA Intelligence. Data from FRS, 3-year average median equivalised income AHC indexed to 2019/20 prices.

Having other areas converging towards London would not be negative if it was the result of strong growth elsewhere in the country. Though this was not the case. The fall in the Capital's wage premium, shown in Figure 18, is almost entirely driven by higher housing inflation in London, instead of strong income growth in other areas.⁴⁴

These changes do not take account of the pound weakening since 2007. It is now worth 20 per cent less against the Euro and 44 per cent less against the dollar.⁴⁵ This has further eroded the pay available in London for potential international migrants.

Previous studies have shown that high house prices can hamper the ability of

⁴² London wage premium after housings costs have been falling at least since 2004. Further details see: www.ft.com/content/44455301-6ef2-4528-bd3c-6bfa6376ef36

⁴³ This is likely to affect London's newcomers more deeply as they are typically more exposed to housing costs (e.g not having a mortgage, longer-term lease or own a property)

⁴⁴ The UK's real earning have been relatively stable since the financial crisis

⁴⁵ Centre for Cities calculations based on World Bank figures (period average for 2007) and 31 December 2022 exchange rates

a city to attract workers. Research in Taiwan, for example, revealed that when prices rise above a certain point, it can cause outflows from richer urban areas.⁴⁶ Similar results have been found in Chinese cities and German regions.⁴⁷ The data below suggests the same has happened in London.

A restrictive migration policy is likely to affect London disproportionately

The Capital's ability to attract global talent depends on national migration policy, which has become more restrictive in the past decade. In 2012, the UK government set an annual cap for Tier 2 visas (skilled workers' visas), and the 'graduate' visa scheme was ended (it was subsequently reintroduced in 2021). Brexit created further friction in attracting talent from the EU.

These tighter restrictions are likely to have had a disproportionate impact on London. In 2020, the Migration Observatory estimated that 40 per cent of workers born outside the UK, who work in the highest-skilled jobs, were based in London. This is despite the Capital accounting for just 15 per cent of all jobs.⁴⁸

It is concerning because immigration, especially among higher skilled workers, has a positive impact on the UK's productivity; London-specific research found companies with more diverse boards were more likely to introduce new innovations.^{49 50}

Stagnating wages and tighter migration policy have coincided with a flatlining stock of human capital

ONS human capital estimates – a metric that gauges lifetime earnings – show London's human capital per worker growing significantly (and faster than all other regions) between 2004 and 2011. But it stagnates after the financial crisis, around the time London's wage premium disappears. As the slowdown was not as abrupt elsewhere in the UK, there has been convergence between the two (Figure 30, Appendix 2).

46 Tsai I (2018), Housing price convergence, transportation infrastructure and dynamic regional population relocation, *Habitat International*

47 Ding Y and Chin L (2022), Do high housing prices crowd out young professionals? Micro-evidence from China, *Economic Research-Ekonomska Istraživanja*

Stawarz N, Sander N and Sulak H (2021), Internal migration and housing costs – A panel analysis for Germany, *Population, Space and Place*

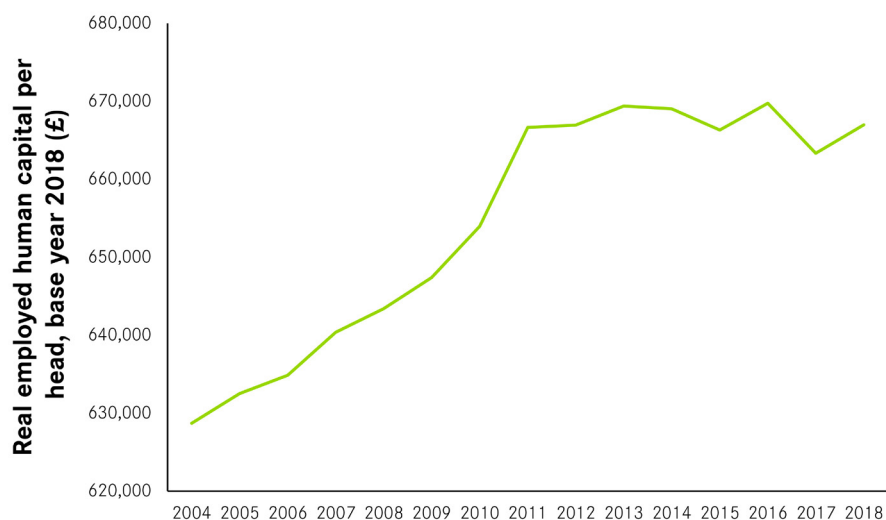
48 For further details, see: <https://migrationobservatory.ox.ac.uk/resources/reports/which-parts-of-the-uk-are-attracting-the-most-skilled-workers-from-overseas/>

49 Campo F, Forte G and Portes J (2018), *The Impact of Migration on Productivity and Native-born Workers' Training*, Bonn: IZA

50 Nathan M and Lee N (2013), Cultural Diversity, Innovation, and Entrepreneurship: Firm-level Evidence from London, *Economic Geography*, Pages 367-394, Volume 89, Issue 4, October 2013

Figure 19: London's human capital stock has stagnated

London's human capital stock



Source: ONS. Human capital estimates are based on 'age-gender-highest qualification obtained combination, the discounted earnings labour income the rest of their working life will generate.' Assumptions behind these estimates: the labour productivity rate growth rate (2 per cent), discount rate (3.5 per cent) and age of retirement (65 years).

Foreign population data suggests that London became relatively less attractive compared with the period before the financial crisis

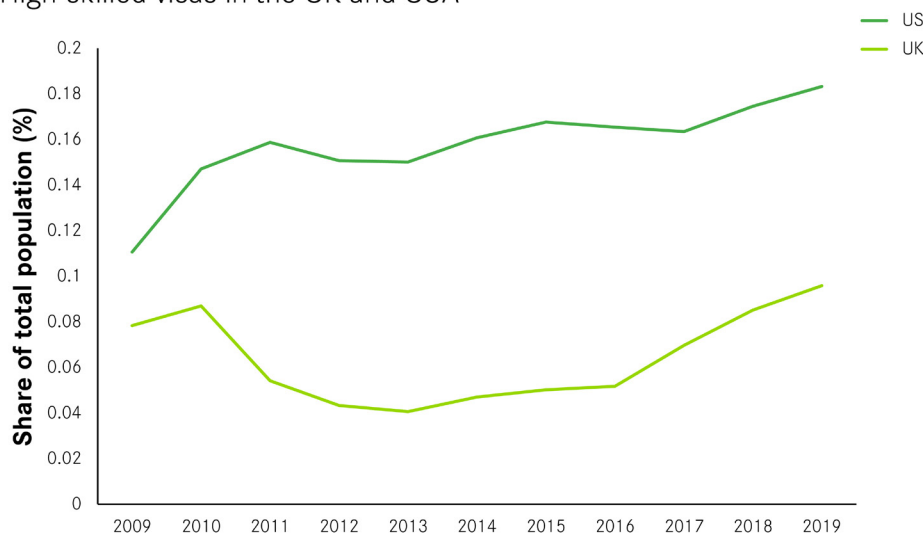
Analysis of the foreign-born population living in London and inflows from foreign labour shows some concerning trends, especially post-crisis.

When comparing the UK's visas for skilled workers and the US's H1B visas – which while not the same are comparable – the UK has been diverging from the US for much of the past decade.⁵¹ The US was gradually increasing its number of visas per capita until the pandemic, but the same cannot be said about the UK, which remained below 2009 levels until 2019 (Figure 20).

⁵¹ UK data includes Tier 1 and Tier 2 visas

Figure 20: The US has been issuing more visas for high-skilled labour than the UK

High-skilled visas in the UK and USA



Source: Entry clearance visa applications and outcomes: Vis_D02 for UK data; U.S. Department of Homeland Security. Centre for Cities Calculations. Methodology: H-1B visas refer to 'workers in speciality occupations' and UK visas refer to Tier 1 and Tier 2 visas.

The relative attractiveness of the Capital, when compared with the rest of the country, seems to be lower than it once was for nationalities associated with higher levels of skills.

Figure 21 analyses London residents born in countries with particularly high income levels (e.g. Germany, the US and Norway) and suggests it became relatively less attractive in the past decade.⁵² From 2000 to 2007, the share of the Capital's population from these countries increased rapidly, but stabilised after the financial crisis. This trend contrasts with the rest of the UK, where the share of residents from these countries has continued to rise over the entire period.

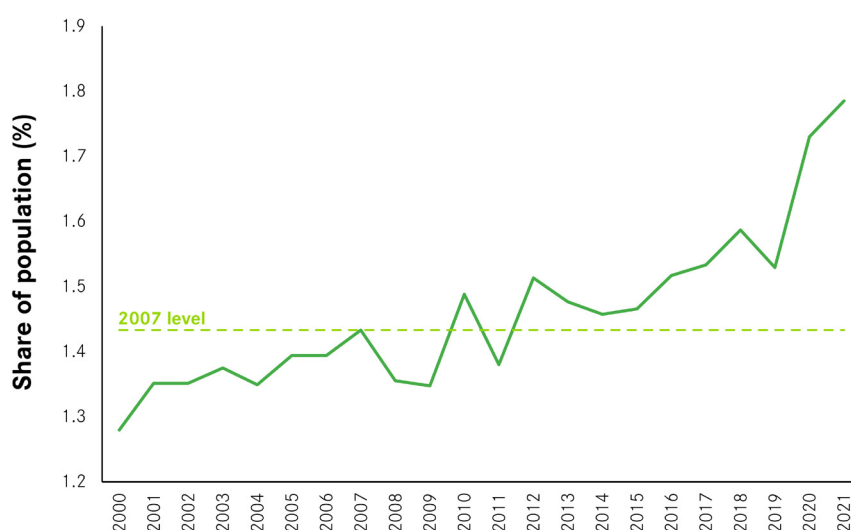
⁵² In general, residents who migrate from countries with greater GDP per capita are more likely to be highly productive. This does not mean that these countries are the major sources of global talent.

Figure 21: London is no longer increasing its share of residents from highly productive countries

London: Residents from high income countries*



UK excluding London: Residents from high income countries*



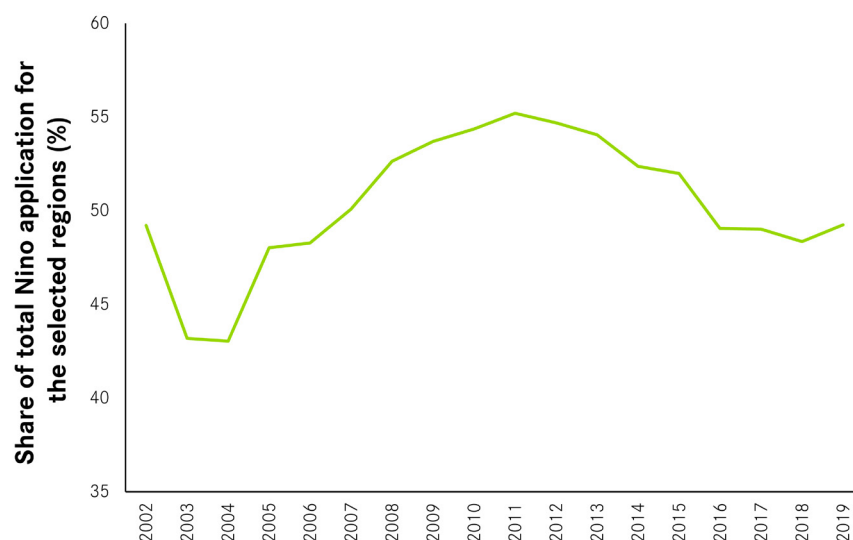
Source: ONS. *Countries included Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Iceland, Israel, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Singapore, Sweden, Switzerland and the US.

National Insurance registrations (Nino) – a proxy for inflows of international labour – support the findings above. Those from regions where applicants tend to have skills above the average (see the methodology for Figure 22) show London's share of new applicants has been declining in recent years.⁵³

⁵³ The regions where incomers have the highest level of skills are Australia, New Zealand, Canada, the US, India and EU-14. Previous Centre for Cities research shows the cities they locate in the most tend to have a higher number of innovative companies. A similar relation is found between these groups in a city and productivity levels

Figure 22: London has become relatively less attractive for applicants with higher than average skill levels

Nino applications in London



Source: Department for Work and Pensions. Data unavailable at the country level, only by regions. Selected regions, methodology: The regions where incomers have the highest level of skills are Australia, New Zealand, Canada, the US, India and EU-14. Previous Centre for Cities research shows the cities they locate in the most (in relative terms) tend to have a higher number of innovative companies. A similar relation is found between these groups in a city and productivity levels.

London accounted for more than half of the registrations and its share was growing until 2011. However, over the past decade, it has been gradually falling and is currently below 50 per cent – levels not seen since the mid-2000s.⁵⁴

The UK has been affected by several shocks that reduce its ability to compete for global talent (e.g. currency fluctuations and migration policy). Recently, the Innovation Strategy recognised the importance of attracting foreign talent by including the ‘high potential individual’ and ‘scale-up’ visa routes.⁵⁵ These are welcome to promote innovation and productivity growth in the UK and London specifically. However, the findings above highlight that other factors are affecting the Capital’s relative attractiveness. These are likely to be associated with housing as London’s wage premium has been consumed by accommodation costs in recent years.

Summary

Four concerning patterns have emerged in London over the past 10 to 15 years. The first is that commercial property costs have continued to rise despite flatlining productivity. The second is the rise of investment in real estate over

⁵⁴ London’s share fell sharply after 2019. In 2021, the Capital accounted for 39 per cent of all applications from the selected regions. This was the lowest number registered in the sample. As this paper mostly analyses the period between the financial crisis and the pandemic, those numbers are not included in Figure

⁵⁵ Further details on the scale-up visa are available at: www.gov.uk/government/news/scale-up-visa-will-propel-high-growth-businesses

intangible investment, which suggests the former has squeezed spending on the latter with implications for productivity growth. The third is that house prices have continued to rise despite poor wage growth, eating into earnings after housing costs. And the fourth is that the flow of skilled workers into the Capital seems to have slowed.

Being able to make causal links between these factors is difficult, as is determining the effect they have had on London's economy. That said, it is possible that trend one has had an impact on trend two, and that trend three has had an impact on trend four. And, in turn, given research elsewhere, it is plausible that these factors combined have limited the Capital's productivity growth.

06

What needs to change

London plays an important role in explaining the national productivity slowdown. The stuttering of its ‘superstar’ businesses within its centre appears to be the main driver of this, which has meant that both the Capital and the national economy are considerably smaller than they would have otherwise been if productivity had continued to grow at its pre 2008 trend.

That these trends occurred even before the Capital has been hit by the further headwinds of Covid-19 and Brexit (noting that while the referendum result will have influenced behaviour from 2016, the UK did not officially leave the EU until 2020 and so it is reasonable to assume that its full impact will not have been captured in the data in this report) is further cause for concern. The performance of London has a large impact on the performance of the national economy, and another decade of poor performance in the Capital would be bad for both the national economy and the exchequer.

Recent policy attention has turned away from looking at weak productivity growth to looking at sub-national disparities in productivity levels through the levelling up agenda. Both are big policy challenges and require attention. The levelling up agenda rightly requires focus and investment from politicians. This research shows though that this must not come at the cost of also tackling the recent growth challenges that have developed in the Capital.

To encourage growth in London, policy should look to maximise the benefits that a big city offers while minimising as much as possible the costs of doing business in it. In doing so, this would increase the attractiveness of the Capital as a place to do business. To do this it should do the following:

1. Rather than looking to limit foreign student numbers, central government should facilitate high-skilled migration by **extending the graduate visa to five years**. This would deepen and widen the pool of higher skilled workers businesses in London (and other cities) can hire from and make the British university system more competitive by making it relatively

more attractive to attend a UK university.

2. Policymakers should address rising housing and commercial space costs by **changing the approach to planning**. Specifically:

- **Central Government should introduce planning reforms to make redevelopment of both residential and commercial space more certain.** The current discretionary planning system makes redevelopment in existing urban areas hard at the scale required, hindering London's ability to adjust to economic change. A system that is more rules-based would reduce uncertainty, lower costs and make it easier to build in places like London where planning constraints have the biggest impact.
- In the meantime, **The Mayor and local authorities should use Mayoral Development Orders and Local Development Orders respectively to allow the redevelopment of land near existing public transport** building on the work that has been started by Transport for London. These orders differ from the usual process because they are much more rules-based. Currently, Mayoral Development Orders are not in effect for the Mayor of London so it would require secondary legislation from Government.
- **The Mayor, supported by central Government, should also revise the most costly planning policies in the London plan.** While changing the planning system and using development orders may help making development more certain, the London Plan includes further policies which restrict the provision of homes and office space in London. The greenbelt, conservation areas in central London, and protected views are some of them. They should be revised.

3. **Central government should devolve further powers to London, particularly fiscal powers.** Not only do more fiscal powers provide greater freedom of policy but would also strengthen the incentives to tackle the economic challenges highlighted in this paper by allowing London to keep more of the gains from its growth.⁵⁶ Options for this include:

- A Parisian-style 'versement transport' tax on payroll to fund transport services
- Powers to capture revenue from land value uplift, which would allow London to raise revenue from who directly benefit from improvements in the Capital's (i.e. public transport connections). This tool has been

56 Breach A and Bridgett S (2022) Centralisation Nation, London: Centre for Cities

used sporadically in London;⁵⁷

- Changes to the council tax system within London, for example through adding extra bands to increase the charges paid by the most expensive property, or revaluation of all properties in the Capital. This would follow similar reforms done in Scotland and Wales;
- Give powers to implement a city sales tax similar to cities like New York or assign the GLA a share of VAT raised in London;
- A tourist tax;

To deal with any negative fall out that Brexit and Covid-19 may have on London's economy, which would come in addition to the analysis in this report, the following should also happen:

4. Central government and the Mayor should work together to reform the Transport for London (TfL) funding model.

A competitive London requires a world-class public transport system that links workers to jobs. The pandemic has left TfL in a more vulnerable position than transport systems in Paris, New York and Hong Kong because a much higher share of its revenues comes from ticket revenue than in the other cities. To underpin the sustainability of this key part of the 'plumbing' of London's economy, the Mayor should work with central government to reduce TfL's dependence on the farebox.

5. Central government should review and amend the UK's trading arrangements on services with Europe. While Brexit may not be the main cause of London's poor productivity performance between the financial crisis and Covid-19, restricting the ability of its services firms to EU markets could cause further problems through the 2020s. Despite low productivity growth, the financial sector continues to be a key part of London's economy and the EU market was 37 per cent of its exports in 2019.⁵⁸ By exiting the single market for financial services, London's position is likely to be weaker.

57 Further details, see: https://www.london.gov.uk/sites/default/files/land_value_capture_report_annexes_transport_for_london.pdf

58 For further details, see: <https://committees.parliament.uk/committee/516/european-affairs-committee/news/171621/government-reluctant-to-engage-with-the-eu-on-financial-services-says-lords-committee/>

07

Appendix I

Geographies used in this paper

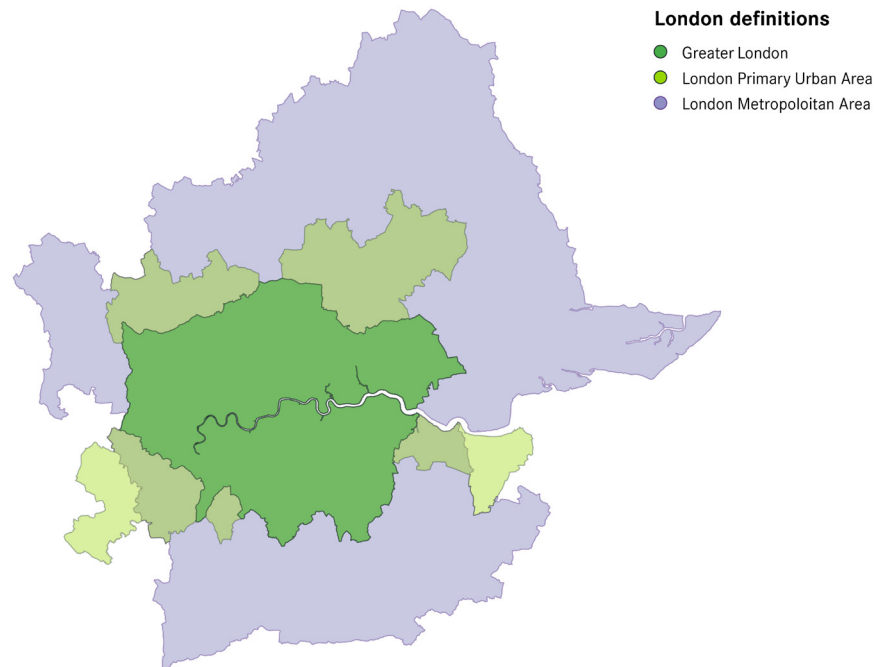
London's geographic definition

Table 2: The three geographies considered performed similarly in the period analysed

Variable	Metro London (OECD definition)	London (PUA)	Greater London
Population (2019)	12,396,541	10,212,300	8,961,600
Population as share of PUA (%)	121.4	100.0	88.0
Population growth 2007-2019 (%)	14.7	15.7	16.5
GDP (2019)	£628,342	£556,360	£503,655
GDP as a share of PUA (%)	113.0	100.0	91.0
GDP nominal growth 2007-2019	52.3	55.3	55.5
Employment (2019)	6,786,264	5,958,835	4,664,800
Employment as a share of PUA (%)	113.9	100.0	78.3
Employment growth 2007-2019 (%)	23.9	-	27.6

Source: ONS, OECD (Metropolitan areas). Employment variation not included due to methodological changes at the local authority level.

Figure 23: Due to data constraints, this paper uses three definitions of London



Source: ONS, OECD.

International peers' geography

Table 3: Due to data availability, international cities also used more than one geographic definition

City	OECD Metropolitan area	ITL definition
Paris	Metropolitan France (12.9m)	Île-de-France (12.2m)
Brussels	Metropolitan Brussels (3.2m)	Brussels Capital Region (1.2m)
Stockholm	Metropolitan Stockholm (2.3m)	Stockholm (2.3m)
New York	Greater New York (19.9m)	New York-Newark-Bridgeport (23.1m)

Source: OECD, national statistics institutes. 2019 population for most areas; 2018 population for Metropolitan Paris and 2021 for New York-Newark-Bridgeport area.

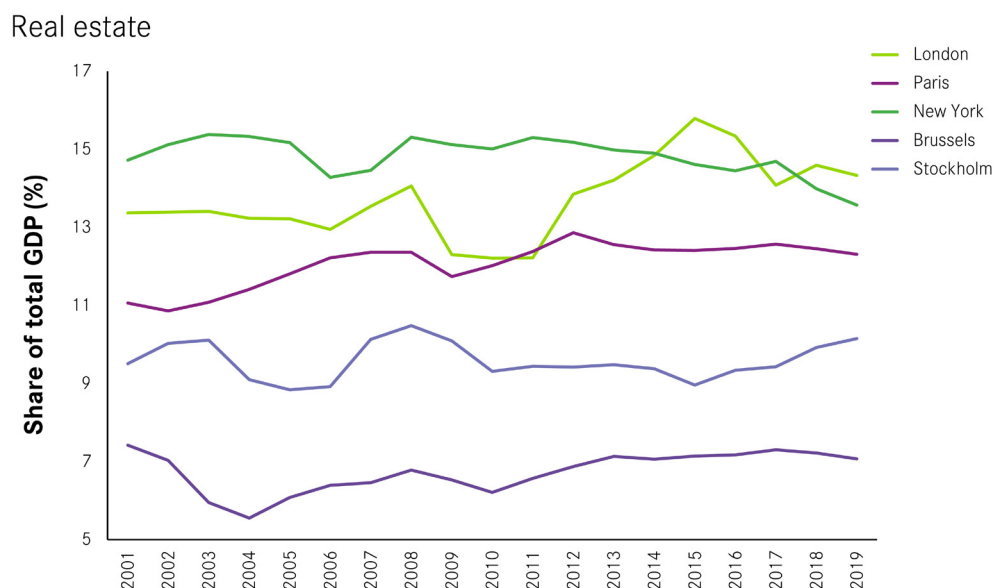
08

Appendix II

Economic structure, investment, and human capital

Economic structure of London and peer cities

Figure 24: Unlike other global cities, real estate activities have been gaining relative weight in London's economy

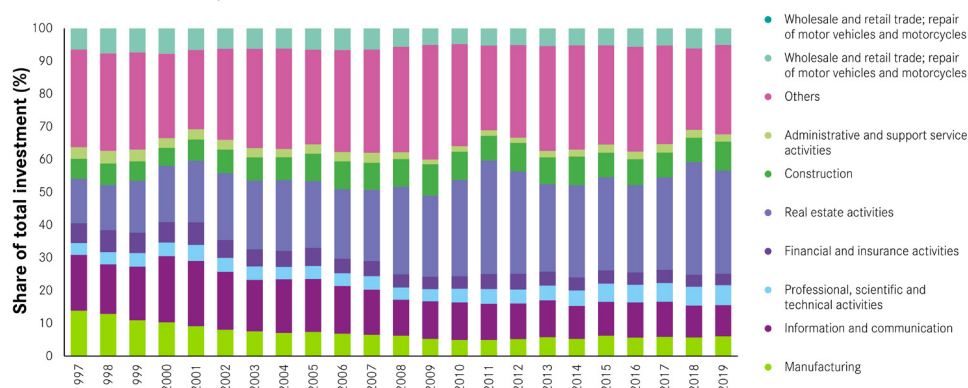


Source: ONS and OECD. Geographies based on ITL regions – Greater London, Brussels Capital Region, Stockholm Region, Île-de-France and New York-Newark-Bridgeport. Note: The real estate sector includes imputed rent due to data availability at the international level.

Investment composition by sector

Figure 25: Investment composition by sector in London

London: investment composition

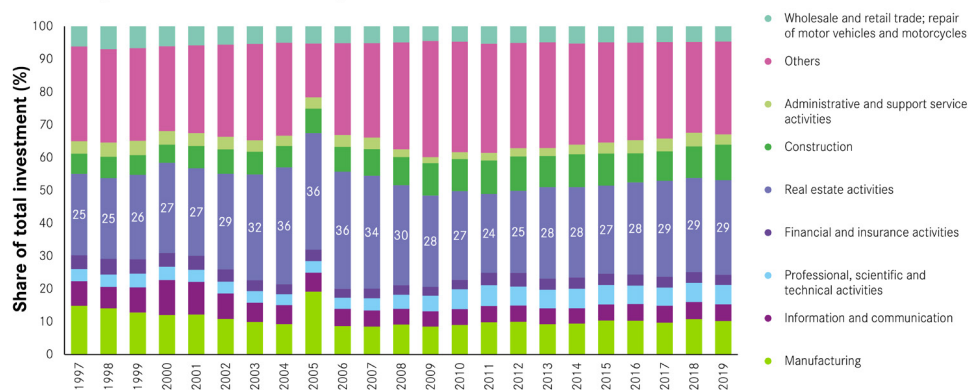


Source: ONS. Regional GFCF estimates by asset type: Experimental data.

Note: Intangible assets are also known as intellectual property products; computer software and databases are allocated to the region where they are used and are estimated using employee location; R&D is allocated according to where the investment takes place using survey data.

Figure 26: Investment composition by sector in the UK excluding London

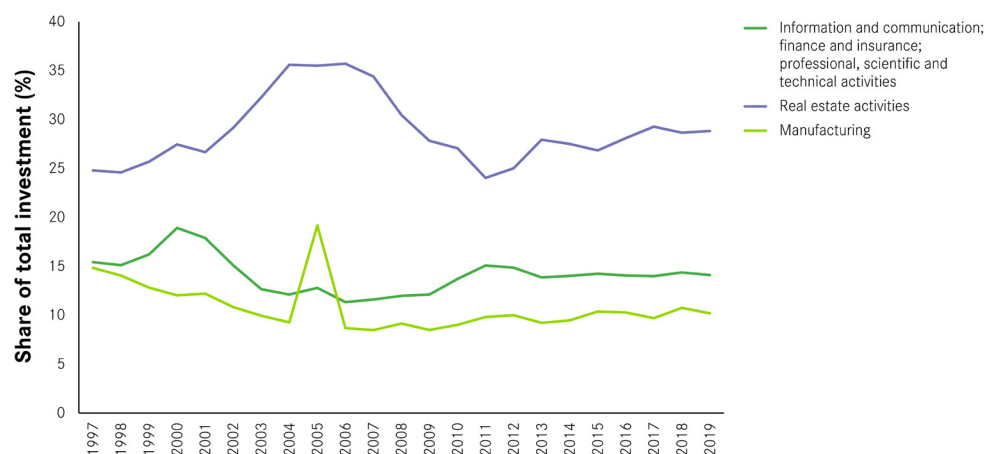
UK excluding London: investment composition



Source: ONS. Regional GFCF estimates by asset type: Experimental data. Note: Intangible assets are also known as intellectual property products; computer software and databases are allocated to the region where they are used and are estimated using employee location; R&D is allocated according to where the investment takes place using survey data.

Figure 27: Real estate investment is significantly below its pre-financial crisis peak

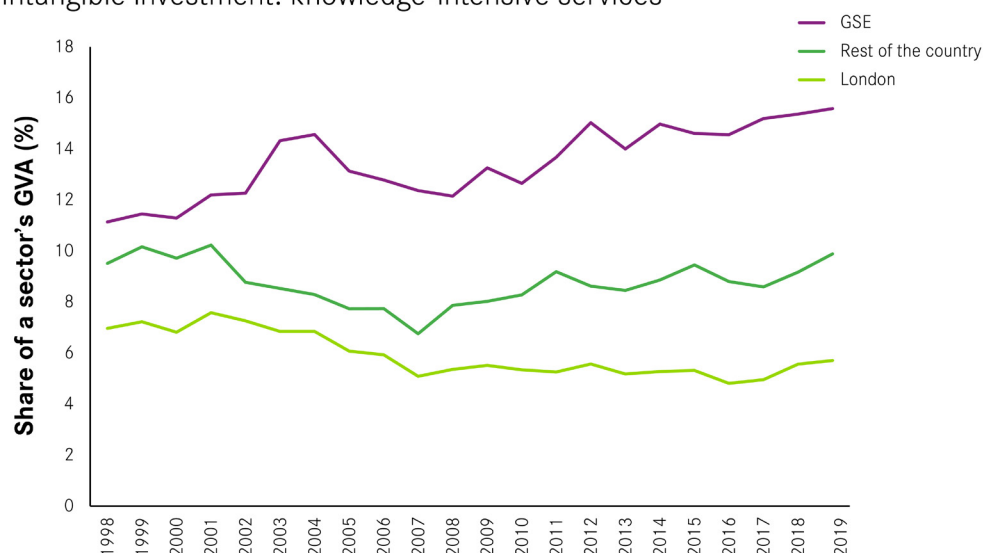
UK excluding London: investment composition



Source: ONS. Regional GFCF estimates by asset type: Experimental data. Note: Intangible assets are also known as intellectual property products; computer software and databases are allocated to the region where they are used and are estimated using employee location; R&D is allocated according to where the investment takes place using survey data.

Figure 28: Investment in intangibles is relatively low in London, even when looking at knowledge-intensive services specifically

Intangible investment: knowledge-intensive services

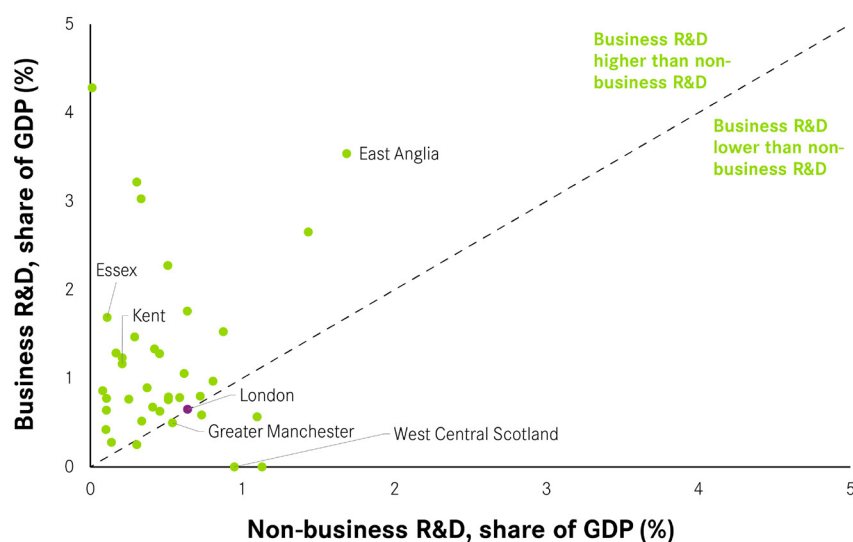


Source: ONS. Regional GFCF estimates by asset type. *Information and communication, finance and insurance, and professional, scientific and technical activities. For information and communication, London's intangible investment was historically higher than the other two geographies but converging overtime. By 2019, it was no longer the area with the highest share, surpassed by the areas outside the GSE.

Experimental data. Note: Intangible assets are also known as intellectual property products; computer software and databases are allocated to the region where they are used and are estimated using employee location; R&D is allocated according to where the investment takes place using survey data.

Figure 29: London's R&D spending is relatively low and highly reliant on non-business spending

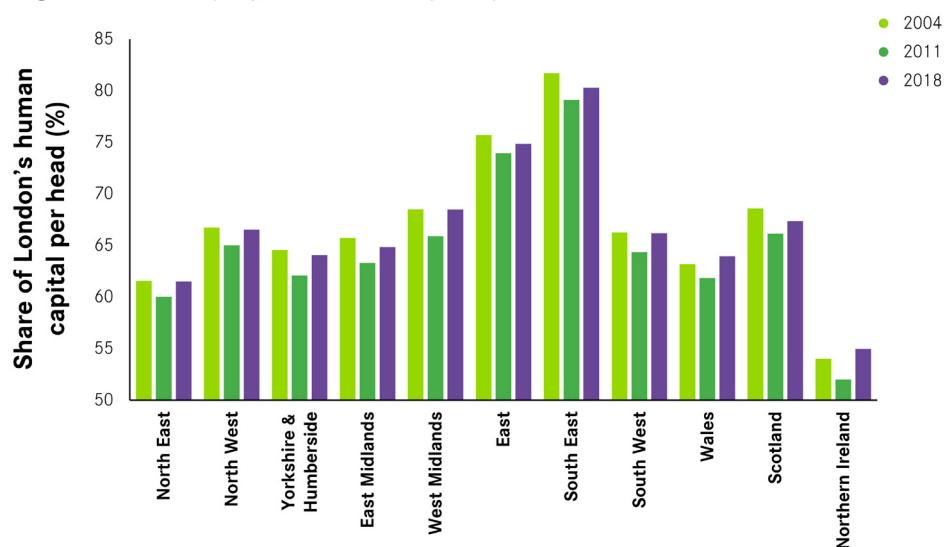
R&D by ITL2 (2017)



Source: ONS. Geography: ITL2 regions for areas outside London, where the Greater London definition is used. The ONS recently revised R&D at the national level, sub-national figures may be revised in the future. Non-business includes government, universities and the third sector.

Figure 30: Between 2004 and 2011, London was growing faster than all other regions. After 2011, human capital estimates show a stagnation, while other regions marginally converged

Regional real employed human capital per head



Source: ONS. Regional real employed human capital per head, ONS estimates. Data available between 2004 and 2018.



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