

Office politics

London and the rise of home working

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About Centre for Cities

Centre for Cities is a research and policy institute dedicated to improving the economic success of UK cities and large towns.

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.



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Foreword

Productivity challenges lie at the heart of Britain's ability to compete internationally, grow sustainably and create wealth for all parts of the country. As a major contributor to economic output London – and the City of London in particular – is pivotal in helping the UK economy to succeed. The capital accounts for 15 percent of the population but one quarter of UK output. A job in London is around one third more productive than the UK average.

As previous work by Centre for Cities has pointed out, London and the UK have an ongoing productivity challenge. This emerged at the time of the global financial crisis in 2007 – well before a whole series of other supposedly “once in a lifetime” events. Of these, it was the public health emergency of Covid-19 that led to a dramatic acceleration towards hybrid working practices. Three years on, these changes are very much with us and yet remarkably – as this report points out – our collective understanding of their long-term impacts on the economy are poorly understood.

As employers, we know that many of our staff have enjoyed the benefits that much more working from home has generated for them. Countless surveys show that staff value increased flexibility and the reduced cost and time spent commuting. Many note the importance of an enhanced “work-life balance” that has come with not being in the office so often.

But some of these changes have come at a cost. Our city centres are less busy, many high street shops and smaller businesses have closed, and our public transport system is quieter and more dependent on subsidy. Car use may have crept up outside of central London which raises sustainability questions at the time of a climate crisis. There is evidence too that some employees – especially the young – may be missing out in terms of their career development, social engagement and opportunity to learn from their colleagues.

As this report highlights, the evidence built up pre-pandemic was that there were significant benefits associated with people working in the same place at

the same time, especially in knowledge intensive sectors where the City holds a pre-eminent position. Increased density means the economy is able to generate higher levels of innovation and better paid jobs. A big part of the economic case for the Elizabeth line was driven by this factor.

Fast forward to 2023 and we find ourselves living through a real-time experiment in which the longer-term impacts of hybrid working on productivity are at best not yet fully understood. The findings of this report indicate that there needs to be proper research into the longer-term effects of hybrid working. We may also need to adopt a precautionary approach to its long-term implementation. The report notes that a simple step would be to make travelling into work on Mondays and Fridays – when things are quieter – significantly cheaper. This would complement the excellent “Destination City” and “Let’s do London” campaigns that have been rolled out by the City and GLA with much support from the EC BID and others. A campaign to get people back into Central London for work, highlighting the benefits to career development, learning and progression, could be adopted. A productivity partnership between London government, UK Core Cities, major employers, and BIDs would help in the exchange of ideas and emerging evidence of hybrid working on the London economy and how best to manage its impacts. Devolution of more of London’s tax base to its city halls would provide a strong incentive for local and city-wide government to support further economic growth.

Britain is weathering its biggest economic crisis for over seventy years. As businesses battle to play their part in delivering on good growth, government at all levels needs to explore how to support the economy, competitiveness, and sustainability. Understanding the impact of hybrid working and acting to mitigate its unintended effects should be a priority for business and government. This report makes a valuable contribution to doing just that.



Nick Carty

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Executive summary

Covid-19 turned what had been very busy office districts in the heart of our biggest cities, and London in particular, into ghost towns. There were many who claimed that this would be the so-called ‘new normal’, with those who could embracing fully remote working permanently. But fast forward three years and, while current working patterns would have been unimaginable as recently as January 2020, it is also clear that the ‘new normal’ that was widely predicted hasn’t materialised.

This report focuses on how working patterns in London, the place that benefited the most from face-to-face interaction in the UK pre-pandemic and saw the largest shift to remote working during it, have responded since the lifting of Covid-19 restrictions. Through a survey commissioned for this research, it shows that in April 2023:

- On average central London workers came into the office 2.3 days per week, 59 per cent of January 2020 levels.
- The most common working pattern was two days in the office. Of those who go to their workplace, 31 per cent do so two times per week. That said, almost half of workers went into their workplace for three, four or five days.
- Younger workers were more likely to be in the office than older workers, as were workers who lived within Greater London.
- Three quarters of companies have mandated that their workers come into the office at least one day per week, and over a quarter of workers come in more frequently than this baseline requirement.

These working patterns are a result of a strong return to the office since restrictions were lifted. Data from Transport for London on Tube exits in parts of the Capital dominated by offices shows how the recovery has played out from virtually no commuting during lockdowns. In particular, it shows that there was

a large increase in exits in the second half of 2022 (despite storms and strike action), with exits up 40 percent between April and November 2022.

This should come as no surprise. There are no free lunches; unless the pandemic has caused a fundamental change in how people generate and share ideas, the future should be at most a moderated version of the past.

There is a long literature on the importance of agglomeration in shaping the geography of the economy, which this report summarises. Its impact on London specifically meant that not only were the UK's knowledge-intensive activities concentrated in central London in particular on the eve of the pandemic (making it the high productivity, high-wage economy that it was and making the UK economy more productive as a result), but that they had been for at least a century running up to it. It is these benefits that mean that fully remote working has not become the dominant model of working post pandemic.

The debate around the future of work that happened particularly in the first year of the pandemic did not sufficiently take this into account. It focused on the perspectives of the employee only, rather than the employer. There are very clear upsides to greater flexibility for the employee, not least a large reduction in commuting costs. But this has to be balanced against the benefits to innovation and creativity of workers interacting with each other face-to-face and of the on-the-job learning that happens when colleagues are in the same room. (The latter, especially for younger workers, effectively amounts to an unofficial apprenticeship.)

The concern for London – and the wider UK economy as a result – is that the return to work that has been seen in central London since restrictions were lifted appears to have stalled in 2023 to date. Since January exits from the same TfL stations has remained around 70 per cent of February 2020 levels, with around half of all working hours being done remotely.

The key question is, if this is what working patterns will look like from now on, what impact will they have on productivity? And for London in particular, will a capital running on two to three days per week in the office be enough to both reverse the productivity struggles it has faced over the last thirteen years and drive up long-term prosperity?

Because this is an experiment, there is little evidence available to answer this question definitively but there is strong evidence that face-to-face interaction has positive impacts on innovation, creativity and learning, and so long-term productivity as a result. The big risk therefore is that, because the benefits of home working (such as reduced commuting costs) are very visible and instantly realised by the worker, and because the benefits of office working are both longer term and less visible, policy is shaped by these short-term benefits and unintentionally does longer-term harm.

Given this, local and national government should not passively let a public

health emergency turn into a longer-term negative impact on the economy. The reticence from most businesses to go beyond asking employees to come back to the office more than three days a week is understandable given the perspectives of employees and how tight the labour market currently is. This means that there needs to be collective action to continue the recovery, with both the **national government and the Mayor of London working with businesses to create a positive campaign in order to encourage an increase in the minimum number of days expected in the office.**

Policy should also look to minimise the costs of office working to the employee where feasible. This means **maintaining the frequency of public transport services schemes** to limit the time cost of commuting by public transport. And it means reducing monetary costs too. The latter in particular is a challenge given the financial hole Covid-19 has created for transport authorities. However, if a **temporary scrapping of morning peak fares on a Friday** – the least popular day for office work – caused a substantial increase in commuting, it could see an overall increase in revenues.

Policymakers should also be very cautious of policy being overly influenced by the short-term nature of the debate on home working as this could come at the cost of longer-term prosperity by inadvertently undermining agglomeration benefits. As well as maintaining frequency of public transport services and traffic management in London, it will need to continue to:

- **Manage the balance between residential and commercial space in central London** so that the former does not cannibalise the latter. Switching commercial property to residential use is not easily undone. All things being equal, a major shift towards residential would limit the ability of the central London economy to grow in the future.
- **Improve public transport infrastructure.** Delaying long term decisions on further investment today in the belief based on short term evidence that demand will be permanently lower stores up problems for tomorrow.

Finally, the **Government should be more proactive in attempting to measure the impact of hybrid working on productivity.** If this lies at the heart of future decisions about land use and transport investment then it should conduct research on what this impact is to better inform future policy decisions. **The Mayor of London should contribute to this through the establishment of a Productivity Advisory Council** (akin to the Chancellor's Economic Advisory Council) made up of businesses to feed in the impact of hybrid working and other issues on the productivity of the Capital.

02

Introduction

The Covid-19 pandemic and the lockdowns that came with it inadvertently forced many advanced economies into a big experiment, with large shares of workers in their economies shifting to remote working. This triggered a debate about the future of work, with the virtues of remote working for employees being extolled and many predictions made about the death of the office.¹

Much of this debate though was presented from the perspective of the employee. There are very clear upsides to remote working, such as not having to commute (which brings both money and time savings) and being able to better balance family and working commitments. So, it is understandable that this view has got a lot of attention.

But it hasn't usually presented the position of the other key actor in the location of jobs: the employer. The motivations of this actor will influence what the future world of work will look like. And it has also tended to overlook what benefits the workplace brings to the employee, for example through on the job learning from colleagues. In doing so, it has presented remote working as a free lunch – everyone will benefit from this change in working.

Both the academic literature and the revealed outcome of where jobs (particularly the knowledge-based ones that are in principle the ones that can most easily be done at home) are located in developed countries suggest that, prior to the pandemic, there were considerable benefits for workers and firms clustering in cities and city centres in particular. This resulted from the benefits that cities offer to businesses and workers through a process known as agglomeration.

The purpose of this research is to review what agglomeration is, why it is important, and what this may mean for London and the national economy

¹ See for example: Covid-19 could cause permanent shift towards home working, The Guardian, 13 March 2020; Barclays boss: Big offices 'may be a thing of the past', BBC, 29 April 2020; The Remote Office Is The New Normal: 3 Reasons Leaders Are Shifting Strategy, Forbes, 25 June 2020

depending on where people ultimately do their jobs in the future. It is structured as follows. Section 3 reviews what the literature says about agglomeration and how this has shaped London's economy. Section 4 looks at the return to the office in central London since lockdowns have been lifted, in part by using the results of a survey commissioned for this report. Section 5 presents scenarios that could emerge in the future. And Section 6 concludes and offers guidance to policy makers.

Box 1: Defining London

Unless otherwise stated, London is defined in this report as the primary urban area (PUA). This captures the built-up footprint of the Capital and is the Greater London Area plus the authorities of Broxbourne, Dartford, Elmbridge, Epping Forest, Epsom and Ewell, Gravesham, Hertsmere, Runnymede, Spelthorne, Three Rivers, Watford and Woking.

03

The impact of agglomeration on the economy

Agglomeration is the geographic concentration of economic activity. It is perhaps the most widely observed feature in the organisation of the spatial economy, and can be observed across the world, and throughout history, at a variety of different geographical levels. This phenomenon is evident in the existence and growth of cities, in the formation of industrial regions and districts, and in the clustering of related activities within the same neighbourhood of a town or city. It is why national economies aren't evenly spread across their territories but are clustered in specific places.

This section sets out what the benefits of agglomeration are, how it affects different parts of the economy differently and what impact it has on productivity.

Agglomeration means that the world is not flat

Agglomeration occurs because of the benefits that firms and workers derive from being close to one another. There is now a great deal of empirical evidence consistent with the theory of agglomeration, which indicates superior economic performance for firms and workers in larger cities and industrial concentrations.

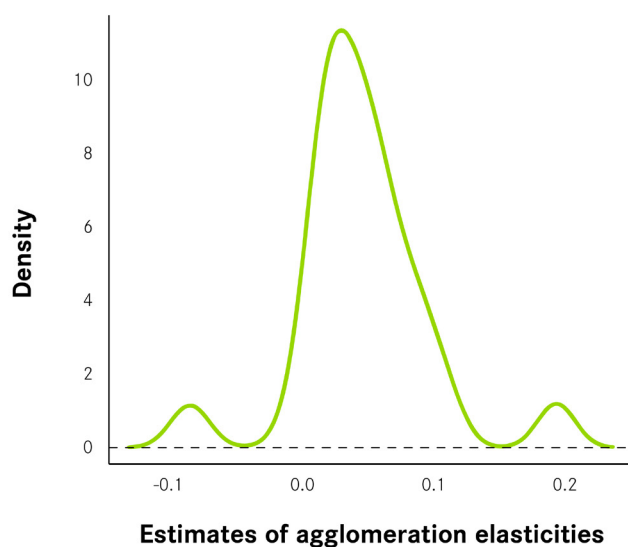
The consensus from the literature is that agglomeration economies exist and that they induce higher productivity for firms and workers. Figure 1 provides a histogram of estimates of the change in productivity that is brought about by change in agglomeration ('agglomeration elasticities') from the international empirical literature, comprising 47 empirical studies reporting over 1,000 estimates.² The unweighted mean value of the distribution shown in Figure 1 is equal to 0.046. An elasticity of 0.046 implies that a doubling of city size creates a 4.6 per cent uplift in productivity levels.

² Melo P, Graham DJ and Noland RB (2009), A meta-analysis of estimates of urban agglomeration economies, *Regional Science and Urban Economics* 39, 332–342

In other words, the benefits of agglomeration increase with scale because, as the size of markets increases, opportunities to achieve better economic outcomes also increase. It is for this reason that cities become more productive as they get larger. In other words, the agglomeration benefits multiply. And it is part of the reason why London and Paris, Europe's two mega cities, are the most productive large cities on the continent.³

Figure 1: On average, studies suggest that larger places are more productive

The results of 47 studies of the impact of agglomeration on productivity (the agglomeration 'elasticity')



Source: Graham DJ and Gibbons S (2019), Quantifying Wider Economic Impacts of agglomeration for transport appraisal: Existing evidence and future directions. *Economics of Transportation*, 19, 100121

While this may appear to be a relatively small effect, productivity really matters for economic efficiency, so small increases in productivity can lead to substantial benefits across the economy in monetary terms. For example, the Elizabeth Line adds a net value of nearly £3.1 billion to the UK economy through agglomeration (firm productivity) gains. This is equivalent to 24 per cent of the direct user benefits normally quantified according to the previous official transport appraisal methodology.⁴

There is also some debate on whether these elasticities are underestimated due to the way that the literature has traditionally measured city size or because they get larger as cities get larger.⁵ More work needs to be done in this area though to test these findings.

³ Rodrigues G and Breach A (2021), *Measuring up: Comparing public transport in the UK and Europe's biggest cities*, London: Centre for Cities

⁴ Graham DJ (2008), *Agglomeration Economies and Transport Investment*, *The Wider Economic Benefits of Transport: Macro-, Meso- and Micro-Economic Transport Planning and Investment Tools*, Paris: OECD

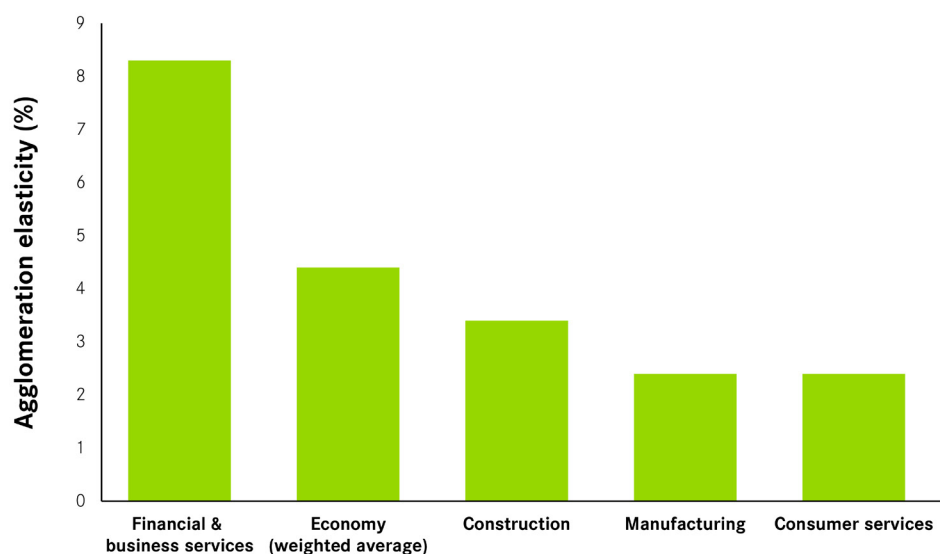
⁵ Graham DJ and Gibbons S (2019), *Quantifying Wider Economic Impacts of agglomeration for transport appraisal: Existing evidence and future directions*, *Economics of Transportation*, 19, 100121

Agglomeration benefits knowledge-based activities much more than routine ones

Activities that are centred around knowledge creation are the ones that tend to benefit the most from agglomeration. Estimates in the UK, which made use of extensive firm-level panel data for four broad sectors of the economy (manufacturing, construction, consumer services and business services) show the extent of this.⁶ It found that agglomeration had a 4.4 per cent uplift on productivity as city size doubled (consistent with the results above). For manufacturing and consumer services it estimated an elasticity of 2.4 per cent, for construction 3.4 per cent, but for business services it was much higher at 8.3 per cent (see Figure 2). The study also found that the effects of agglomeration diminish more rapidly with distance from source for service industries than for manufacturing, suggesting that the ‘learning’ benefit of agglomeration (see below) is particularly important to this type of activity.

Figure 2: Agglomeration has a bigger impact on more knowledge-focussed activities

Estimates of the agglomeration elasticities for different industries in the UK



Source: Graham DJ, Gibbons S, and Martin R (2009), Transport investments and the distance decay of agglomeration benefits, Working paper, Imperial College of London

⁶ Graham DJ, Gibbons S, and Martin R (2009), Transport investments and the distance decay of agglomeration benefits, Working paper, Imperial College of London

There are three main production benefits to agglomeration, which play out over different distances

The main benefits that agglomeration has on production in a city (its consumption impacts are discussed in Box 2) can be classed into three categories: sharing, matching and learning:⁷

- 1. Sharing:** In larger markets fixed costs are reduced via sharing of indivisible facilities (e.g. roads, streetlights), intermediate suppliers, workers, and consumers. Sharing also encourages specialisation and allows firms to pool risks.
- 2. Matching:** In larger markets, it is easier for different types of worker and different types of employers to find each other, and more productive job-worker matches therefore occur at a faster rate (also known as labour market pooling).
- 3. Learning** (also known as knowledge spillovers): more dense environments facilitate the transfer of information, knowledge and skills and the creation of unconventional ideas.⁸ Even in a world of fast communication technologies, close connections between large groups of people and firms provide more opportunities for learning and the sharing of tacit knowledge through face-to-face contact, which tends to facilitate knowledge exchange and transfer of skills.⁹ Both the generation of knowledge and its diffusion benefit from these interactions.

This is particularly important for on-the-job learning, with proximity to colleagues serving as a sort of apprenticeship scheme for younger workers. Workers located next to each other can learn more easily from each other,¹⁰ while younger workers get larger wage gains when moving to the centres of cities.¹¹

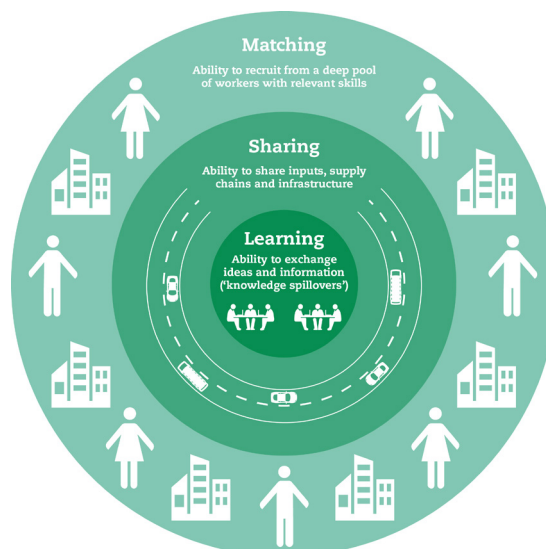
7 Duranton G and Puga D (2004), Micro-foundations of Urban Agglomeration Economies, Thisse JF and Henderson JV (eds.) Handbook of Urban and Regional Economics, Volume 4. North Holland. This is an adaption of an earlier framework set out by Alfred Marshall.

8 Berkes E and Gaetani R (2019), The Geography of Unconventional Innovation, Rotman School of Management, Working Paper No. 3423143

9 See for example Ganguli I, Lin J and Reynolds N (2020), The Paper Trail of Knowledge Spillovers: Evidence from Patent Interferences, American Economic Journal: Applied Economics, 12 (2): 278-302; Andrews M (2020), Bar Talk: Informal Social Interactions, Alcohol Prohibition, and Invention, SSRN Working Paper 3849466; Atkin D, Chen K and Popov A (2022), The returns to face-to-face interactions: Knowledge spillovers in Silicon Valley, NBER working paper 30147

10 Madaleno M, Nathan M, Overman H and Waights S (2018), Incubators, Accelerators and Regional Economic Development, CEP Discussion Paper No 1575

11 De La Roca J and Puga D (2017), Learning by Working in Big Cities, The Review of Economic Studies 84(1): 106-142

Figure 3: The benefits of agglomeration

These benefits play out over different distances. Matching plays out over large distances and varies depending on the distances that workers are prepared to commute.¹² The size of London’s commuter area shows how deep the pool of potential workers that are available to businesses locating in the Capital is. For example, 5 million working age people live within an hour’s commute by public transport of Liverpool Street Station.¹³ And in 2011, 800,000 people commuted into the city. That represents four times the population of York crossing into the Capital every workday.¹⁴

The learning element of agglomeration plays out over a much smaller distance. For the advertising industry in Manhattan this has been estimated to have the greatest impact over 750 metres,¹⁵ while other research finds that these agglomeration effects are strongest over a distance of 1.6 kilometres.¹⁶ A recent study finds evidence of the co-location of similar businesses in neighbourhoods, buildings and even within the floors of buildings, demonstrating the importance of unplanned face-to-face interactions with near neighbours,¹⁷ while there is a drop off in collaboration even within a 10 minute walk between buildings within the same company.¹⁸

12 Rice P, Venables AJ and Patacchini E (2006), Spatial Determinants of Productivity: Analysis for the Regions of Great Britain, *Regional Science and Urban Economics* 36 (6), 727-752; Melo P, Graham D, Levinson D and Aarabi S (2015), Agglomeration, accessibility and productivity: Evidence for large metropolitan areas in the US, *Urban Studies* Vol. 54, No. 1 pp. 179-195; Carlino G, Carr J, Hunt R, Smith T, et al. (2012), The agglomeration of R&D labs, Technical report, Philadelphia: Federal Reserve Bank of Philadelphia

13 Source: ONS; Census 2021

14 Source: Census 2011

15 Arzaghi M and Henderson J (2008), Networking Off Madison Avenue, *Review of Economic Studies* (October 2008), pp. 1011-1038

16 Rosenthal S and Strange W (2003) Geography, Industrial Organization, and Agglomeration, *Review of Economics and Statistics* (May 2003), pp. 377-393

17 Rosenthal S and Strange W (2020), How close is close? The spatial reach of agglomeration economies, *Journal of Economic Perspectives*, 34, 27-49

18 Emmanuel N, Harrington E and Pallais A (2023), The power of proximity to coworkers: Training for Tomorrow or Productivity Today? Working paper

Box 2: The impact of agglomeration on consumption

As well as boosting production, on the demand side agglomeration creates positive *externalities in consumption*. This encourages customer-facing firms to locate closer to consumers and exploit the benefits of scale, while consumers enjoy lower prices and better opportunities for consumption of amenities and goods in larger markets.¹⁹ The collection of theatres in the West End (an example of ‘club goods’) and the much wider range of restaurants on offer in London are a reflection of this.²⁰

Prior to the pandemic, these forces shaped the geography of London’s economy

Looking at data for London shows how agglomeration influenced the geography of London’s economy on the eve of the pandemic, with the influence of the ‘learning’ element of agglomeration in particular becoming clear. In 2019, as Figure 4 and Figure 5 show, despite accounting for 1.7 per cent of the Capital’s land the centre of London accounted for:

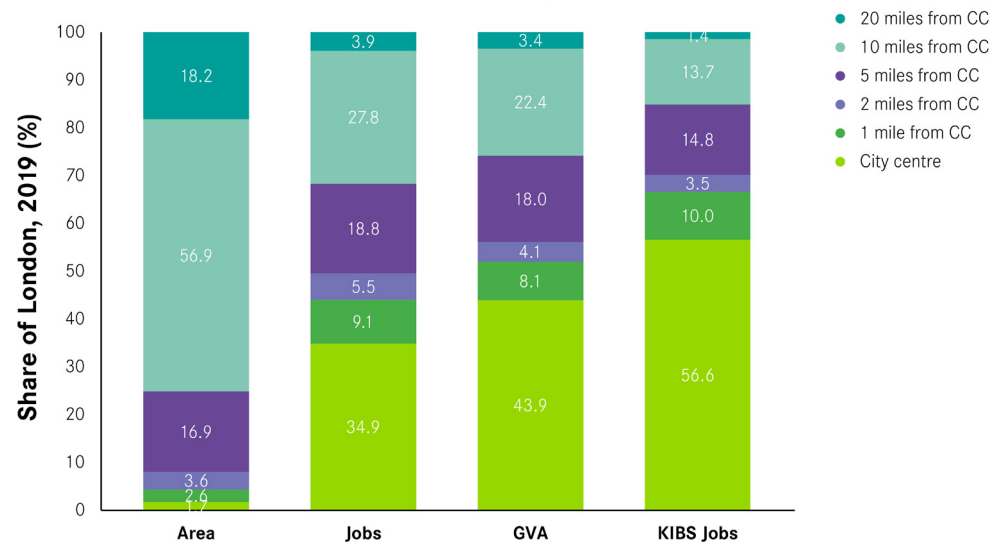
- 41.9 per cent of all GVA in London. This activity was especially concentrated in the City of London, which accounted for 14.8 per cent of economic output.
- 31.5 per cent of all of London’s jobs.
- 52.7 per cent of all of the Capital’s private sector knowledge-intensive business services (KIBS) jobs.

19 Borck R (2007), Consumption and Social Life in Cities: Evidence from Germany, *Urban Studies*, 44(11), 2105–2121

20 McDonald R, Ramuni L and Tan L (2019), *What’s in store? How and why cities differ for consumers*, London: Centre for Cities

Figure 4: London's economy is concentrated in its centre

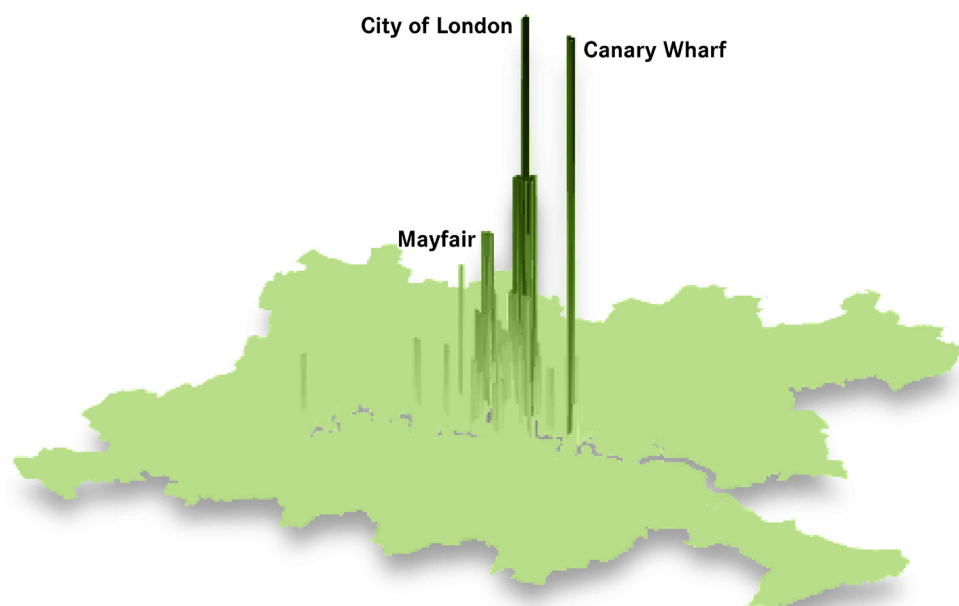
Share of output, jobs and private knowledge jobs in London



Source: ONS

Figure 5: A small part of London accounts for a large part of its economic output

Gross Value Added per square kilometre by lower super output area



Source: ONS

Where firms locate is the result of a trade-off between the benefits and costs of agglomeration

Agglomeration does not come without its costs. Particularly, commercial (and residential) rents are more expensive, congestion is higher and air quality is worse.

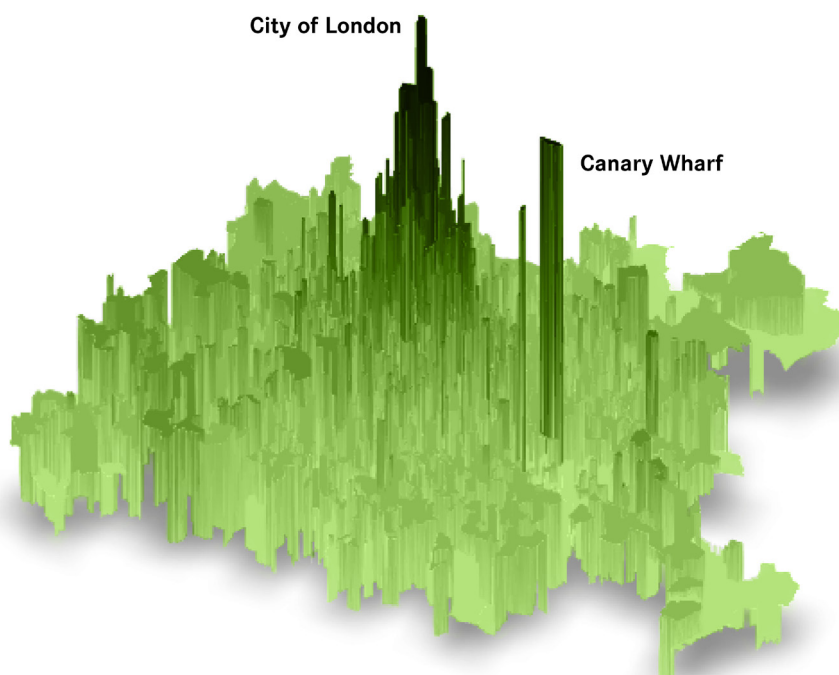
Where firms locate depends on how they balance the trade-offs between the access to the benefits that agglomeration offers and the increased costs it creates. As shown above, the literature shows that more knowledge-intensive industries that undertake more bespoke activities see a net benefit from a central location. More routine activities (for example, call centre and back office operations) do not benefit from access to knowledge spillovers to the same extent because of the nature of their activities and so tend to locate further away from a city centre.²¹

Reflecting this, the clustering of economic activity in London occurred pre-pandemic despite the higher costs of commercial space in the centre that result from higher demand. Office space per square metre in the centre of London (proxied by rateable values) was 224 per cent higher than in the rest of London, which itself was 147 per cent higher than for the rest of England and Wales. Figure 6 shows that the cost of space broadly falls the further from central London a location is, with the one clear exception being Canary Wharf (itself the result of the agglomeration of financial services companies in particular).

²¹ Swinney P (2017), *Why don't we see growth up and down the country?* London: Centre for Cities

Figure 6: Office costs in central London are most expensive in the centre, and fall away with distance from it

Office rateable values per square metre by lower super output area



Source: Valuations Office Agency

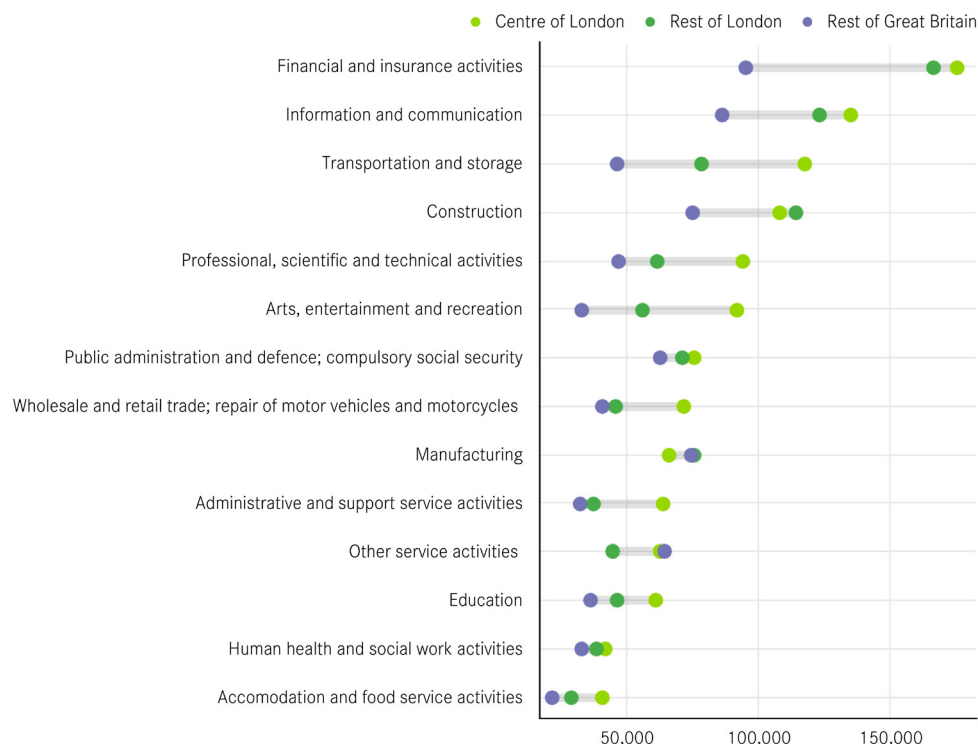
The most productive parts of the UK economy have clustered in the centre of London

The result of this high-knowledge clustering in the city centre was that sectors in the centre of London in particular were more productive than elsewhere in the country. Figure 7 shows that central London was more productive than both the rest of London and the rest of Britain for almost every broad sector in the economy. This was especially the case for finance and insurance and information and communication. For finance output per job was £175,000, slightly higher than the rest of London (which was pulled up by Canary Wharf)²² and considerably higher than the £95,000 in the rest of the country.

²² Excluding Tower Hamlets (which includes Canary Wharf), finance and insurance output per job was £88,000 in the rest of London.

Figure 7: Individual sectors, especially agglomeration-sensitive ones, are more productive in central London than elsewhere

GVA per worker by sector, 2018



Source: ONS

Note: Agriculture, mining, and utilities and real estate have been excluded from this analysis because of their unusually high numbers. Productivity for property is highest in central London.

The digital age has not undermined agglomeration, and central London had been playing a growing role in the Capital's economy in the two decades prior to the pandemic

The central paradox of the digital age is that the economy has increasingly concentrated in successful cities despite the rise of ever more sophisticated communications technologies through this time.²³ Empirical evidence from the US highlights an increase in the employment share of interactive occupations over years 1880 to 2000 that is larger in urban than in suburban agglomerations²⁴ because of the benefit that these industries get from the learning element of agglomeration.²⁵ In case of less interactive tasks, there is widespread evidence of

23 Glaeser, E (2010), Agglomeration economics, University of Chicago Press

24 Michaels G, Rauch F and Redding S (2019), Task Specialization in US Cities from 1880 to 2000, Journal of the European Economic Association, 17, 754–798

25 Duranton G and Puga D (2001), Nursery cities: urban diversity, process innovation, and the life cycle of products, American Economic Review, 91, 1454–1477; Puga D (2010), The magnitude and causes of agglomeration economies, Journal of regional science, 50, 203–219; Duranton G and Puga D (2020), The economics of urban density, Journal of Economic Perspectives, 34, 3–26

the opposite force – that is, the dispersion of manufacturing industries from core regions to peripheral regions in developed countries.²⁶

Ever more sophisticated communications technologies have of course made home working more feasible, as Box 3 shows. But it did not reverse the increasing concentration of knowledge-based activities in city centres in the decades leading up to the pandemic.

Box 3: The rise of more sophisticated communications technologies and home working

The rise of better communications technologies appears to have facilitated more home working before Covid-19 struck. A 2012 US Census Bureau report found that the proportion of employees who mainly work from home had more than tripled between 1980 to 2010, from 0.75 per cent in 1980 to 2.4 per cent in 2010.²⁷ Home workers spanned a wide spectrum of jobs, ranging from sales assistants to managers and engineers, with a correspondingly wide range of incomes.

In the UK, home workers constituted over 13 per cent of the national workforce in 2011, which corresponded to a growth of two percentage points since 2001.²⁸ Most of these home workers were self-employed (63 per cent). The WFH rates in the UK were consistent with the EU average, but the Netherlands and Finland reported even higher maximum levels of WFH.²⁹ According to the UK Labour Force Survey (LFS), the share of home workers rose to 14.5 per cent in the latter half of 2019, with London's share (14.3 per cent) being very close to the UK average.³⁰

The LFS also found systematic variation in the WFH rates by occupation and industry. The highest WFH rates were reported amongst skilled traders (25 per cent) and managers, directors and senior officials reported higher WFH rates (21 per cent), whereas sales and customer services (4.2 per cent) and elementary occupations e.g. cleaners (6 per cent) reported the lowest rates. This was reflected in home working by qualification. Another study found that almost half of graduates have worked from home, whilst just over 10 per cent of those with no qualifications have worked from home.³¹

26 Krugman P (1998), What's new about the new economic geography? Oxford review of economic policy, 14, 7-17; Lafourcade M and Thisse J (2011), New economic geography: the role of transport costs, De Palma A, Lindsey R, Quinet E and Vickerman R (eds.) Handbook of Transport Economics, Cheltenham; Elgar E, Combes P, Lafourcade M, Thisse J and Toutain J (2011), The rise and fall of spatial inequalities in France: A long-run perspective, Explorations in Economic History, 48, 243-271.

27 Petr J, Melanie R, and Christin L (2012), Home-Based Workers in the United States: 2010, U.S. Census Bureau, Current Population Reports

28 Beauregard A, Basile K and Canonico E (2013), Home is where the work is: A new study of WFH in Acas-and beyond, Acas research paper, 10(13), 1-99

29 Eurostat (2020), How usual is it to work from home? Available: <https://ec.europa.eu/eurostat/en/web/products-eurostat-news/-/ddn-20200424-1>

30 Office for National Statistics (2020), Coronavirus and WFH in the UK labour market: 2019

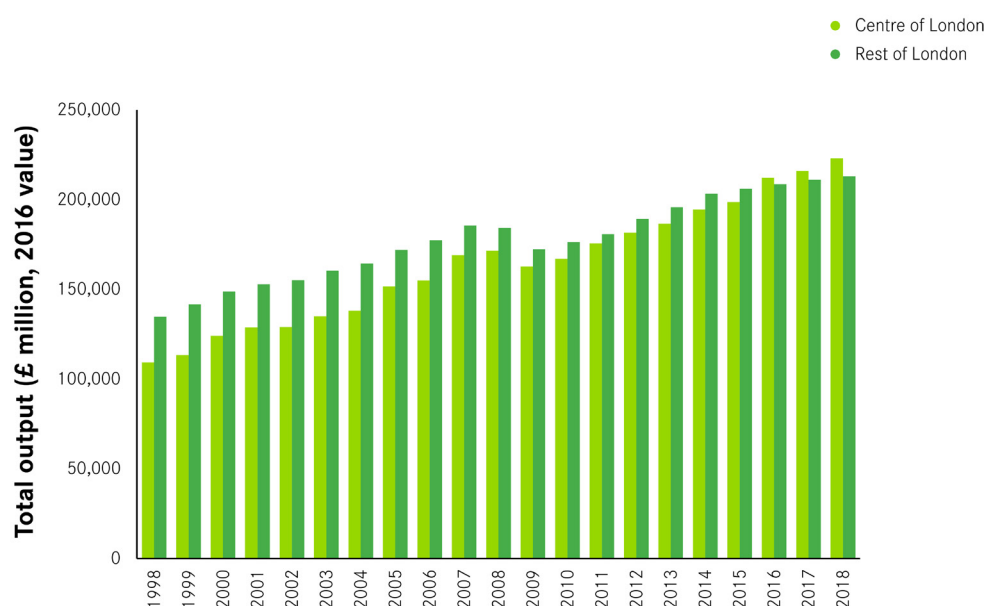
31 Felstead A and Reuschke D (2020), WFH in the UK: Before and during the 2020 lockdown, WISERD Report, Cardiff: Wales Institute of Social and Economic Research

These increases in home working though were both small, and have not stopped national economies continuing to concentrate in big cities.³² This suggests that either there was a rise in hybrid working pre-pandemic in jobs located in successful cities, or it was jobs located outside of cities that were more likely to move to a remote working pattern.

This was very clearly seen in London. Between 1998 (the earliest data available) and 2019, London (and the UK's) economy became more concentrated in the centre of the Capital. The central London economy³³ grew by 104 per cent in real terms over the period, faster than the 58.6 per cent that the rest of London expanded by, and 40.5 per cent for the rest of the country. This meant that 51 per cent of output from London's economy was created in central London in 2019, up from 45 per cent in 1998 (see Figure 8).

Figure 8: London's economy has become more concentrated in its centre since 1998

Gross Value Added in central and the rest of London



Source: ONS

Note: the centre of London is defined here as the local authorities of Camden, City of London, Hackney, Islington, Lambeth, Southwark and Westminster as real GVA is only available at the local authority level.

This growth has been driven by knowledge-based industries that benefit the most from agglomeration. In 1998 the information and communication, professional, scientific and technical and finance and insurance industries already had more than 50 per cent of their output produced in the centre of London. And this increased throughout the period for all three. For information and communication

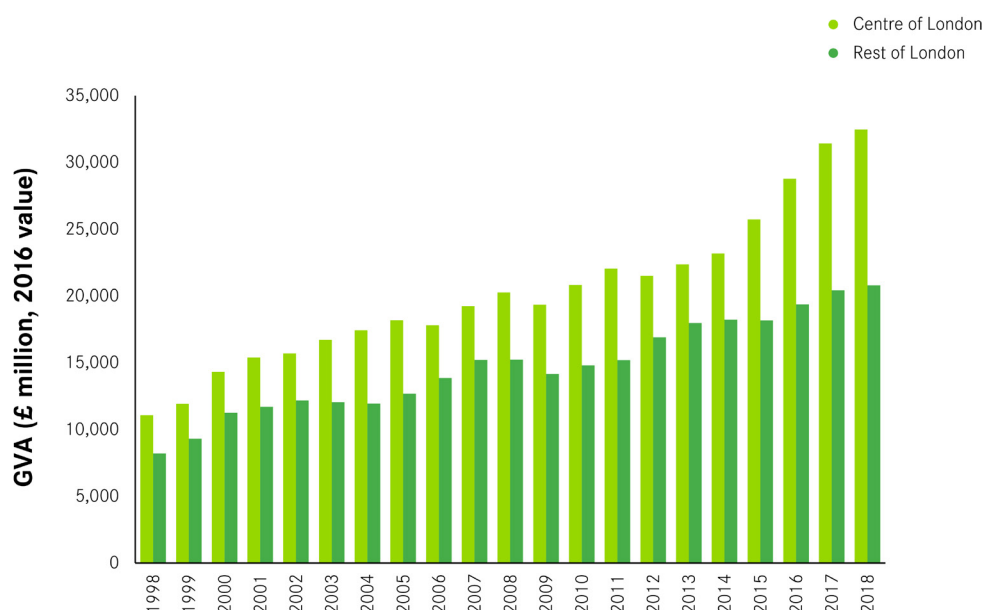
32 Serwicka I and Swinney P (2016), Trading Places: Why firms locate where they do, London: Centre for Cities

33 Central London is defined in this paper as a circle of radius 2 miles with Holborn station at its centre.

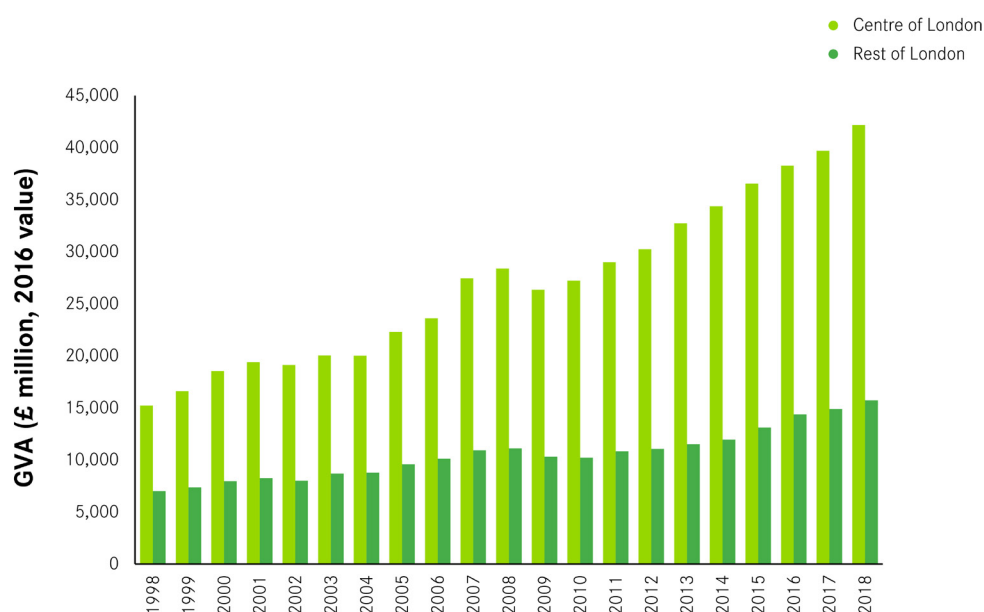
and professional, scientific and technical, this was the result of their activities in central London growing almost constantly since 1998. For finance and insurance, growth in the centre outstripped that elsewhere before 2008, but the continued concentration in the centre since 2008 has been the result of the shrinking of the sector elsewhere in London (particularly Canary Wharf) – growth in the centre has flatlined since the Global Financial Crisis (see Figure 9).

Figure 9: Agglomeration-sensitive industries have grown faster in central London than elsewhere in the Capital since 1998

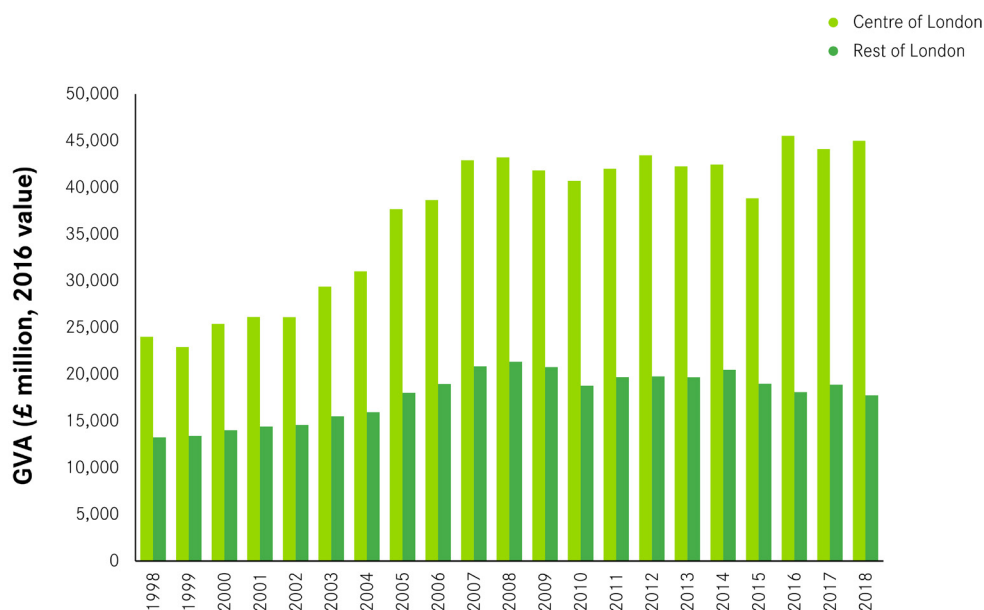
Information and communication



Professional, scientific, and technical activities



Financial and insurance activities



Source: ONS

Note: the centre of London is defined here as the local authorities of Camden, City of London, Hackney, Islington, Lambeth, Southwark and Westminster as sectoral real GVA is only available at the local authority level.

The forces of agglomeration have long been present in London

The forces of agglomeration are not, though, factors that have emerged in the last two decades. Cities have always been places where people have been able to come together to exchange tacit knowledge face-to-face.³⁴ The longevity of the forces of agglomeration sounds caution to predictions of the impact that the pandemic will have on the importance of them, and it should not be expected that they will be easily reversed.

Data from the 1911 census shows that this has been the case for at least 110 years (and likely much longer). While knowledge-based industries played a much smaller role in the national economy in 1911 than today, the benefits of a city location meant that these activities had a very particular geography. Knowledge-based jobs accounted for 6 per cent of all jobs in urban areas in England and Wales, compared to 2 per cent in non-urban areas, meaning they were home to four in every five of these jobs.³⁵

This was most acutely the case in London. As is the case today, it accounted

34 Glaeser E (2016), *The Triumph of the City*, New York: Pan MacMillan

35 The definition of knowledge-based jobs in the context of the economy in 1911 is defined as architects, surveyors, engineers, journalists and workers in advertising, officers of commercial enterprises, commercial or business clerks, bank officials and clerks, insurance officials and clerks, bill brokers and agents, accountants, commercial brokers and agents, solicitors, barristers, law clerks, and those engaged in scientific activities.
Urban areas are defined as the land covered by today's primary urban areas.

for a disproportionate share of knowledge-based jobs: in 1911 it was home to around 21 per cent of population and jobs in England and Wales, but 41 per cent of knowledge-based jobs.

Table 1: Knowledge-based jobs have long clustered in London

Place	Share of population (%)		Share of all employment (%)		Share of knowledge jobs (%)	
	1911	2019	1911	2019	1911	2019
Urban areas	63.3	55.2	64.0	60.1	81.1	71.3
London	21.0	17.2	21.0	21.3	40.5	35.8

Source: Integrated Census Microdata (I-CeM) and Great Britain Historical Database (GBHD). Data was taken at the parish level and aggregated up to modern primary urban area boundaries

Because census data in 1911 was collected on a residence rather than a workplace basis, it does not reveal where in London these jobs were (and indeed may slightly undercount the total amount of jobs in London, especially the higher-paid ones that made a longer commute worth it). But analysis on data from a 1929 survey on commuting show that there were large commuter inflows into central London, and that wages increased with longer commutes, suggesting the jobs in the centre were paying higher wages, presumably to do higher-value work.³⁶ The learning element of agglomeration played out then as it does now.

These long-lasting patterns have also stood up to several challenges before the latest threat from the Covid-19 pandemic. Box 4 looks at the impact of the first technological shock to threaten the forces of agglomeration: the Victorian commuter railway.

Box 4: Victorian railways - the first technological challenge to cities

Challenges to the importance of agglomeration are nothing new. There are a number of ‘shocks’ to cities that in principle should have weakened the impact of agglomeration, such as the development of video conferencing. The analysis above shows that the economy concentrated within central London despite this relatively recent development.

The first major technological challenge to the forces of agglomeration was the development of commuter railway lines into London.³⁷ This development

³⁶ Seltzer A and Wadsworth J (2022), The impact of public transportation and commuting on urban labour markets: evidence from the new survey of London life and labour, 1929–32, CEP discussion paper

³⁷ Heblich S, Reading S and Sturm D (2020), The making of the modern metropolis: Evidence from London, Quarterly Journal of Economics, 135, 2059–2133

led to a decline in the population of the City of London as faster transport opened up the possibility of living further from the centre, and the Capital's population dispersed. But it did not lead to an equivalent dispersal of jobs too. While the night time population of the City declined between 1851 and 1921, its daytime population continued to rise, and doubled over this period to close to 400,000.

04

The impact of Covid-19 on agglomeration

The onset of the Covid-19 pandemic in a world where knowledge-based jobs can be undertaken (at least in part) remotely as a result of technological developments triggered an enormous experiment in the world of work and posed serious questions about the future geography of national economies in developed countries. This section looks at what the literature to date has to say on its impacts and how working patterns in central London, where the impacts of agglomeration were most clearly seen pre-pandemic, have changed since lockdowns have been lifted.

The productivity impact of a rise in remote working is not yet understood

The key area of debate on what will be the dominant way of working in the future has hinged on whether there has been any productivity hit to moving to remote working. If there is no long-term change to productivity (or indeed an increase), then this would cast doubt on the on-going requirement for face-to-face interaction.

The short answer to this question is that it is too early to tell, with various studies pointing in different directions. For example, on the negative side:

- A study of UK workers found that the transition from office-based work to WFH (work from home) led to increased work intensification, online presenteeism and employment insecurity, thereby causing psychological strain and poor levels of work engagement.³⁸
- Similarly, a study of the US workforce reported decreased worker productivity resulting from increased work intensity (e.g. receiving more

38 Adisa T, Ogbonnaya C, Adekoya OD (2021), Remote working and employee engagement: a qualitative study of British workers during the pandemic, Information Technology & People

information from teams and engaging in more planning activities) due to WFH.³⁹

- Another study conducted in Japan concluded that WFH productivity was about 60-70 per cent of the productivity at business premises and was especially low for employees and firms that started working from home after the onset of the pandemic.⁴⁰
- Additional evidence suggests that since the onset of mass home working, 30 per cent of workers reported that it is now more difficult to meet targets, and they had concerns of underperforming.⁴¹ Previous studies have also found that home workers reported longer working hours.⁴²
- A study of Microsoft found that interactions between workers during the pandemic tended to become more siloed, with fewer links between different departments and a decrease in synchronous communications that made it harder to share information between colleagues.⁴³

Meanwhile, on the positive side:

- A study of Finnish workers found that home workers were more relaxed, more efficient, and produced a better quality of work.⁴⁴
- A study in America estimated a 5 per cent productivity uplift from saved commuting time and optimisation of working practices from more flexibility.⁴⁵
- A study commissioned by the Bank of England highlighted differences in the impact across UK firms. According to this study, firms where more work could be done from home and where sales involve less face-to-face contact with customers reported a productivity increase between the second quarter of 2020 and the first quarter of 2022.⁴⁶

Existing studies have also explored how socio-demographic factors contribute to differences seen in the impact of WFH. For example, one study found that WFH

39 Jimenez-Gomez C, Sawhney G, Albert K (2021), Impact of Covid-19 on the applied behaviour analysis workforce: Comparison across remote and non remote workers, *Behavior Analysis in Practice*, 14(4), 873-82

40 Morikawa M (2022), Work-from-home productivity during the Covid-19 pandemic: Evidence from Japan, *Economic Inquiry*, 60(2), 508-27

41 Tronco Hernandez Y, Parente F, Faghy M, Roscoe C, Maratos F (2021), Influence of the Covid-19 Lockdown on the Physical and Psychosocial Well-being and Work Productivity of Remote Workers: Cross-sectional Correlational Study, *JMIRx Med.*, 2(4), e30708

42 Guler M, Guler K, Guner Gulec M, Ozdaglar E (2021), Working from Home During a Pandemic: Investigation of the Impact of Covid-19 on Employee Health and Productivity, *Journal of Occupational & Environmental Medicine*, 63(9):731-41; Awada M, Lucas G, Becerik-Gerber B, Roll S (2021), Working from home during the Covid-19 pandemic: Impact on office worker productivity and work experience, *Work* 2021, 69(4):1171-89

43 Yang L, Holtz D, Jaffe S et al. (2022), The effects of remote work on collaboration among information workers, *Nature Human Behaviour* 6, 43-54 (2022)

44 Guler M, Guler K, Guner Gulec M, Ozdaglar E (2021), Working from Home During a Pandemic: Investigation of the Impact of Covid-19 on Employee Health and Productivity, *Journal of Occupational & Environmental Medicine*, 63(9):731-41

45 Barrero J, Bloom N and Davis S (2021), Why working from home will stick (No. w28731), National Bureau of Economic Research

46 Bloom N, Bunn P, Mizen P, Smietanka P and Thwaites G (2022), The impact of Covid-19 on productivity, Bank of England, Staff Working Paper No 900

men were less productive than WFH women. Additionally, unmarried workers with no children, older workers, and those with higher levels of income were also found to be less productive. Another study found that highly educated, high-wage employees and long-distance commuters exhibited smaller reductions in productivity when WFH. Having an appropriate workspace was also associated with higher levels of productivity, something more likely in larger living spaces.⁴⁷

All of these studies look at the relatively short-term impact of the pandemic on productivity. It is possible that the impacts are felt over the longer term. If pre-existing social bonds helped to get work done in the immediate shift to greater remote working, but it affected the ability to create new bonds or impacted upon creativity and new ideas generation, then the impact may take much longer to emerge.

A very recent paper looking at workers in a Fortune 500 software engineering firm (so a study focusing on knowledge work – something previous studies have tended not to do⁴⁸) offers some insight on this. By looking at feedback on engineers' code, it shows that Covid-induced remote working increased short term productivity but had long term impacts on on-the-job training and promotions, especially for younger workers. It also found evidence that working in a hybrid model pulled down productivity by making collaboration more difficult.⁴⁹

This provides evidence to answer the question that ultimately will determine what will happen in the future – that is, the individual benefits versus the wider company benefits of proximity. Even if shifting to home working makes individual workers more productive (and the evidence on this for knowledge work is light), knowledge firms and the cities they are located in could still lose the collective benefits of between-worker and between-firm interaction.⁵⁰

It should be no surprise that predictions of a wholesale shift to fully remote working have not come to pass

Given this distinctly mixed picture, it is worth considering both the theoretical impact of the rise of more advanced communications technologies on the benefits of agglomeration and the observed patterns of behaviour that have

47 Morikawa M (2022), Work-from-home productivity during the Covid-19 pandemic: Evidence from Japan, *Economic Inquiry*, 60(2), 508-27; Awada M, Lucas G, Becerik-Gerber B and Roll S (2021), Working from home during the COVID-19 pandemic: Impact on office worker productivity and work experience, *Work*, 69(4), 1171-89; Mehdi T and Morissette R (2021), Working from home: Productivity and preferences; Afonso P, Fonseca M and Teodoro T (2021), Evaluation of anxiety, depression and sleep quality in full-time teleworkers, *Journal of Public Health* 25, 25

48 The best known work in this field is on call centre workers. See Bloom N, Liang J, Robberts J and Ying ZJ (2015), Does Working from Home Work? Evidence from a Chinese Experiment, *The Quarterly Journal of Economics*, Volume 130, Issue 1, February 2015, Pages 165–218

49 Emmanuel N, Harrington E and Pallais A (2023), The power of proximity to coworkers: Training for Tomorrow or Productivity Today? Working paper

50 Nathan M and Overman H (2020), Will coronavirus cause a big city exodus? *Environment and Planning B Urban Analytics and City Science*, November 2020

happened in London since lockdown restrictions have been lifted.

The two benefits that are in theory affected by the rise of technologies are the matching and learning elements of agglomeration. In principle, matching – that is, the ability of cities to match people to jobs – is deeply affected. Remote technologies quite literally open up a world of workers that companies can hire from, rather than solely those within commutable distance.

Learning, though – the sharing of ideas and information – is not. There is no doubt that remote technologies do offer some degree of substitution to face-to-face interaction, but they do not seem to replace them. Analysis of the eye-movement data of people communicating over video conferencing finds that virtual communication can curb creative idea generation.⁵¹

Crucially, this in turn impacts on matching. If people do still need to come together, then geography becomes important again for hiring. It may be the case that commuting distances have become longer as people trade coming in fewer days, pre-pandemic, with longer commutes – although there isn't any strong evidence on this as yet – but they still need to be within commuting distance. This would suggest that agglomeration will remain important.

The shift from fully remote to hybrid working shows the enduring benefit of face-to-face interactions in London

The gradual change in behaviour of workers and companies, since the lifting of the final lockdown, backs up this theory. Far from Covid-19 triggering a future world of fully remote working, real time and survey data point to a return to the office that is being encouraged by businesses. This suggests that there is a productivity loss by not being able to interact face-to-face.

Unsurprisingly, there was a large increase in home working across the country as a result of the Covid-19 lockdowns. While the majority of jobs still had to be done at a workplace – in the 2021 Census, 49 per cent of people did not work from home – there was a 28-percentage-point increase in home working from the previous census to 31 per cent of all people in England and Wales.

This was most clearly the case in London. The ability of knowledge-based jobs to be done remotely,⁵² and the proportion of these jobs in the Capital, meant that home working⁵³ by the city's residents increased from 3 per cent to 42 per cent (see Figure 10).

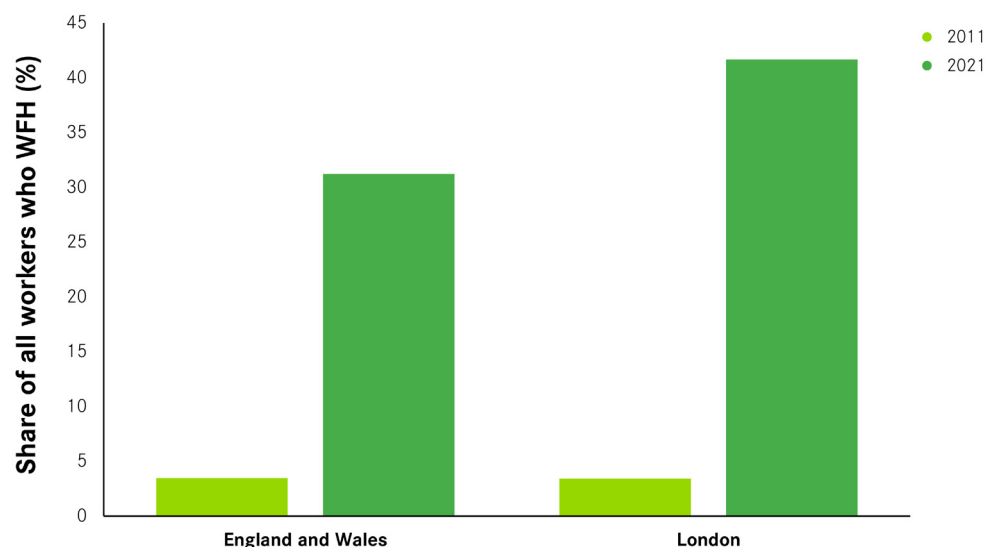
51 Brucks M and Levav J (2022), Virtual communication curbs creative idea generation, *Nature*, 605(7908), 108-112; Posner M (2011), *Cognitive Neuroscience of Attention*, Guilford Press; Rowe G, Hirsh J and Anderson A (2007), Positive affect increases the breadth of attentional selection, *Proceedings of the National Academy of Sciences, USA* 104, 383-388; Mednick S (1962), The associative basis of the creative process, *Psychol. Rev.* 69, 220-232; Jung R, Mead B, Carrasco J and Flores R (2013), The structure of creative cognition in the human brain, *Frontiers in Human Neuroscience*, 7, 1-13

52 Source: ONS Characteristics of Home Working Survey

53 Defined as fully remote or most days worked from home.

Figure 10: A greater share of London residents worked remotely during lockdown than elsewhere in England and Wales

Share of all residents that worked from home in 2011 and 2021



Source: Census 2011, 2021

But the most recent census was conducted during a lockdown. What is more interesting is how workers and businesses have responded since. For this there is little official data. But combining Transport for London (TfL) data with a survey commissioned for this report gives insights as to how this picture has evolved.

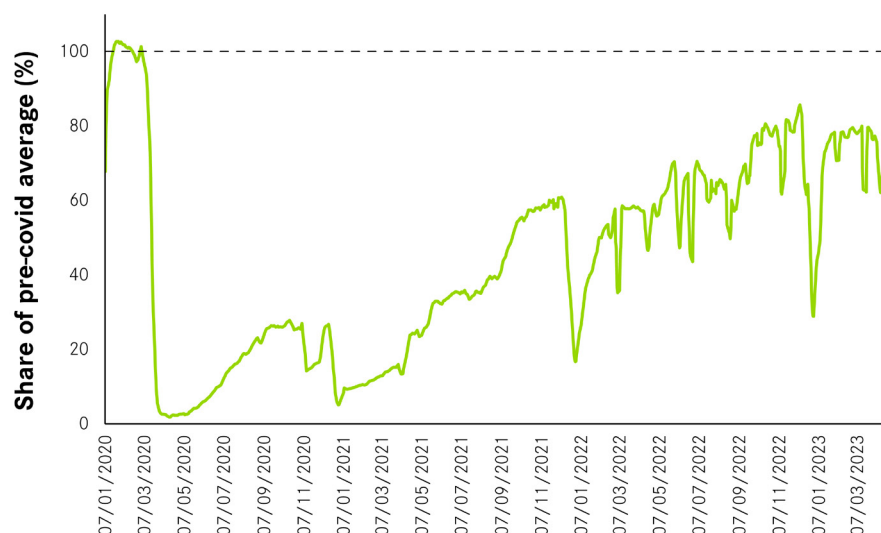
Looking at TfL data for Tube exits from Underground stations in and around the City of London (where offices are the dominant use of space),⁵⁴ Figure 11 shows that:

- There was a sharp increase in exits in the second half of 2022, and by the end of November 2022 weekday exits were up to 71 per cent of February 2020. This was 40 per cent higher than in April 2022, and represents a weekly increase in exits of around 600,000 in spite of storms and repeated train and London Underground strikes.
- It has plateaued, however, in 2023 to date, with very little further increase beyond November 2022 levels.
- This return varies by day of the week, with Tuesdays, Wednesdays and Thursdays being more popular than Mondays and Fridays (reflecting pre-pandemic trends). Thursdays are the busiest days.

⁵⁴ These stations are Aldgate, Aldgate East, Bank, Barbican, Blackfriars, Cannon Street, Chancery Lane, Farringdon, Holborn, Liverpool Street, London Bridge, Mansion House, Monument, Moorgate, Old Street, St Paul's and Temple.

Figure 11: The return to work in 2022 has plateaued in 2023

Weekday 'office' tube station exits as share of pre-Covid-19 average



Source: Transport for London

Note: the chart displays a weekly rolling average. Pre-pandemic average defined as the average of February 2020

- The survey of 558 central London workers fills in detail on the behaviour of individual workers that the TfL data cannot provide. It shows that in April 2023:
 - On average workers spent 2.3 days in the office, or 50 per cent of all working days. This was 59 per cent of January 2020 levels. Box 5 looks at working patterns before the pandemic.
 - At 2.4 days, the number of days in the workplace was slightly higher for people living in London than those commuting in from outside (2.0 days). In particular, those living outside of London were less likely to work 4 or 5 days in the office than those living within it.
 - Of those going into work (as opposed to working fully remotely), the most popular hybrid model was two days in the workplace – 31 per cent of workers did so. That said, almost half of workers went into their workplace for at least three days. Tuesdays and Wednesdays were the most common days in the office, while Friday was the least popular.
 - Younger people were more likely to go into work than older people, with those aged under 30 spending more time in the office. Given the likely contribution more experienced people make towards on-the-job learning for younger workers, this may be an important issue for skills development.

Box 5: Working patterns before the pandemic

While hybrid working has risen to prominence since the lifting of Covid-19 restrictions, working some days remotely was already a popular option before the pandemic hit. In January 2020, 11 per cent of survey respondents worked fully remotely (with their office notionally in central London). Excluding these people to look only at workers who went to the office pre-pandemic shows that 28 per cent were working a hybrid pattern. Of these workers, the most popular pattern was working one remote day per week.

In line with the TfL data, the survey also shows that there has been an increase recorded in the amount of time spent in the office, but this trend is much more muted than relevant TfL ‘office’ station exits (suggesting respondents overestimated how much they worked in the office 12 months ago).

Most businesses have insisted on a return to the office, but vacancy data suggests hybrid working will persist

It appears that the majority of businesses working in activities that could be undertaken from home have taken a cautious approach to requiring people to come back into the office. Few businesses have been outspoken on the issue. The CEO of Goldman Sachs was a clear exception this, describing home working as ‘an aberration’.⁵⁵

This caution is understandable given the mismatch between employer and employee preferences and the post-Covid-19 labour shortages experienced in many countries. Numerous surveys have reported on large numbers of employees who claim they would quit their job if required to come in to work five days a week.⁵⁶ A survey of WFH preferences across 27 countries highlighted a gap between employer plans and worker desires.⁵⁷ The survey found that employers planned an average of 0.7 WFH days per week post-pandemic, but workers wanted more than 1.7 days. Separate US data from the Survey of Working Arrangements and Attitudes 2021 and UK data from the Business Insights and Conditions Survey 2021 showed similar mismatches.⁵⁸

The most high-profile mismatch between organisation and employees has perhaps been between Apple and Twitter and their staff, with plans to increase

⁵⁵ ‘Goldman Sachs CEO Solomon calls working from home an aberration’, CNBC, Thursday 25 February 2021

⁵⁶ For example, see Barrero J, Bloom N and Davis S (2021), Why working from home will stick (No. w28731), National Bureau of Economic Research

⁵⁷ Aksoy C, Barrero J, Bloom N, Davis S, Dolls M and Zarate P (2022), Working from home around the world (No. w30446), National Bureau of Economic Research.

⁵⁸ Office of the National Statistics (2021), Business and individual attitudes toward the future of WFH in the UK – April to May 2021

office working days being met with strong employee pushback.⁵⁹

That said, more company bosses appear to have spoken out against home working in recent months. At the World Economic Forum in Davos it was reported that there was more open questioning of home working from business leaders such as JP Morgan and BlackRock.⁶⁰ And more recently even Mark Zuckerberg, CEO of Meta (and the creators of the Metaverse, which imagines a much greater amount of life will occur virtually), told staff that working in the office helped build relationships and get more done, referring to preliminary analysis that suggested that junior engineers “perform better on average when they work in-person with team-mates at least three days a week.”⁶¹ These comments were echoed by Disney CEO Bob Iger in January.⁶² And more recently IBM’s CEO, Aravind Krishna informed employees that a failure to return to the office may lead to limited career progression. He told Bloomberg, “Remote work can be hazardous to your career”.⁶³

Despite the wider reticence, the majority of central London office-based businesses appear to have also set minimum office days. Three quarters of respondents to the survey said that their companies required them to be in their workplace at least one day a week, and almost half had their days specified by their employer. Two days was the most common number of required days (26 per cent), followed by three (21 per cent).

A number of employees go to their office more than this baseline requirement. Just over a quarter of respondents reported going in more than prescribed by their employer, although for workers living outside of London it was much lower at 6 per cent. This suggests that despite the nervousness reported around employers pushing people back to the office, a reasonable number are already going beyond what guidance has been given.

There is as yet seemingly little appetite for employers to push beyond these requirements. Using job adverts as a proxy for employer intentions in the future, Figure 12 shows postings on Indeed for any vacancy that says it is either hybrid or remote for companies based in London. For all jobs, the share is both considerably higher than pre-pandemic levels and, while it was flat for much of 2022, it was higher than for 2021.

59 ‘When Office Return Turns Sour: Apple and Twitter’s Struggles Reveal Fractures In Corporate Culture’, Forbes, April 4 2023

60 ‘Working from home is under threat – from employers’, The Times, 19 January 2023; ‘Get back to the office or else, JP Morgan Chase warns’, The Times, 13 April 2023

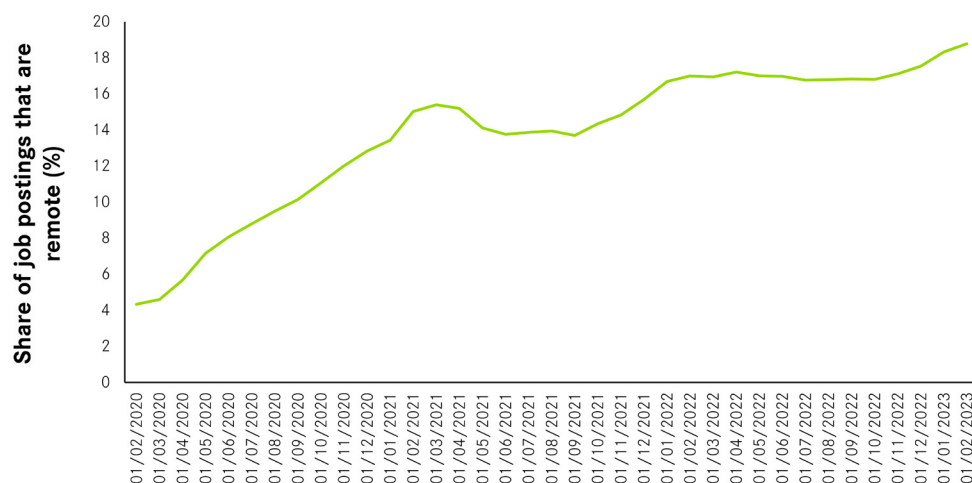
61 ‘Job cuts, AI and the office – Mark Zuckerberg sets out to fix Meta’, The Times, Friday 17 March 2023

62 ‘The companies backtracking on flexible work’, BBC, 7 February 2023

63 ‘IBM CEO says working from home won’t get you anywhere’, Techradar 8 May 2023

Figure 12: London's share of remote job postings is still climbing

Job vacancies advertised as remote or hybrid by London-located companies



Source: Indeed

Note: This data is not seasonally adjusted

Commercial office costs have not yet seen sharp falls

One of the knock-on impacts of predictions of much greater home working was that there would be a big fall in demand for office space in the centre of London. Data from property agencies does not suggest that this has happened to date. Rents for Grade A space in the West End have recovered from falls at the beginning of the pandemic, although rents in the East End are around 6 per cent lower than 2019.

It appears, however, that there has been some change in the structure of deals being made. Rent free periods (which don't show in the headline rent figures) have been extended, and the length of contracts has fallen from 11.6 years to 6.4 years. There are also signs of a flight to quality, with 91 per cent of office space leased in the City of London in the year to June 2022 being grade A, up from 67 per cent pre-pandemic and evidence of businesses swapping larger grade B space to smaller grade A offices.⁶⁴ This suggests that demand for central London office space has weakened but there has not been an implosion.

⁶⁴ 'The hidden sorry state of the London office market', Investors' Chronicle, September 19th 2022

Worker spend has recovered in line with the return to the office

Unsurprisingly, businesses built around selling goods and services to workers have seen a hit from the reduction in worker footfall.⁶⁵ An index that tracks the performance of Pret-a-Manger stores in the City and Canary Wharf shows that in early 2021 transactions were less than a third of what they were before the pandemic. But this has recovered in line with the recovery in workers in the second half of 2022 and as of the last two weeks of April 2023 it had reached 95 per cent of its pre-pandemic baseline.

⁶⁵ Quinio V (2020), *Homeworking and the high street: How important is it for city centres that workers return to the office?* London: Centre for Cities

05

What this means for future working in London

It is not clear how things will settle in the coming years, and what the results of the experiment will be but where central London finds itself today does, at least, provide a likely floor to what is likely to happen in the future. Given this, the following sets out three scenarios using this bounding in order to outline the uncertainties over what will happen and what the potential longer-term implications of each scenario would be.

Scenario 1: Hybrid working continues to match current patterns

This is a world where weekday Tube exits from ‘office’ stations in and around the City remain around 62 per cent of pre-pandemic levels, with Thursdays – the most popular day – up to 70 per cent of pre-pandemic levels. The volume of people exiting on Tuesdays, Wednesdays and Thursdays (daily average of 717,000) is much higher than Mondays and Fridays (an average of 546,000), and 2 to 3 days in the office per week is the most popular pattern.

The long-term implications to consider in this scenario are the impacts on:

Productivity and pay

This is the most important, and most contentious, implication. If there is no productivity impact from a hybrid approach to working, then there will be no long-term impact on the national economy from a greater amount of home working. However, there is very little evidence to date regarding whether this is the case, both in terms of whether there is an impact and in terms of what the size this impact is likely to be. For example, if there is a productivity hit, is it linear, so that the loss for two days’ home working is double that of one day? Or is the hit for

one day much less than that for two days?

The question to answer is whether a two- or three-day office week is enough to establish and sustain social bonds, maintain creativity and facilitate on-the-job learning to the level that a five-day office week would do. Agglomeration theory would predict that this is not the case – the serendipitous nature of how new ideas are generated would mean that more limited face-to-face interactions would create a hit. It seems likely though that this would not be linear if tasks not requiring input from colleagues are done on home working days (e.g. admin tasks); creativity would fall by less than 40 per cent in a scenario where people spend 40 per cent less time in the office (by working two days remotely).

For London, though, the challenge is not just maintaining productivity levels in a different model of working arrangements; it is to kickstart productivity growth, which had flatlined since the Global Financial Crisis.⁶⁶ The big risk here is that hybrid working sees a further deterioration in productivity growth off the back of a poor performance over the previous decade and a half at a time when the London economy needs to move in the opposite direction.

If this is the case then there would be a knock-on impact on wages and standards of living. If productivity rises less quickly than it would in a world where office working is the default, then this should feed through to lower wage increases (off the back of already poor wage growth in the Capital since 2008). There is an argument that workers are willing to trade this against the benefits of greater home working.⁶⁷ But people should at least be clear that this trade off may exist – working from home may mean immediate lower commuting costs but could mean lower wages in the longer run.

It could also have an impact on skills accumulation and career development. If less time is spent in the office, and older workers in particular spend less time there, then the ‘unofficial apprenticeship’ that happens from face-to-face learning would be reduced, with implications for future promotions, wage increases and standards of living.

Public Transport

The public transportation system would need to adapt to a more permanent working pattern shift. London’s transport system (TfL) is particularly vulnerable to the shift to hybrid work because it is far more reliant on fare revenue than its global counterparts, with more than 70 per cent of its income coming from ticket

⁶⁶ Rodrigues G and Bridgett S (2023), *Capital Losses: The role of London in the UK’s productivity slowdown*, London: Centre for Cities

⁶⁷ For example, surveys run in America during the pandemic suggested workers were willing to reduce wages by 7 percent, on average, for the option to work from home two or three days per week. See Barro JM, Bloom N and Davis SJ (2021), *Why Working From Home Will Stick*, NBER Working Paper 28731

sales.⁶⁸ The result is that the pandemic has created a large funding gap.

The options for TfL in light of no further increase in government subsidy are either to cut services or find an alternative funding model in order to stay afloat. On the former, cutting services would lengthen travel times, meaning that the number of people within commutable distance of London would shrink, weakening the matching benefit of agglomeration and so making London relatively less attractive for businesses. It would also make tackling climate change and air pollution more difficult in the Capital. On the latter, TfL's ability to shift its funding model is constrained by legislation – it does not currently have the power to raise non-fare revenue in the same way cities like Paris, New York, and Singapore do.

Car usage

If workers spend more time in a lower-density suburban environment, particularly outside of London, then car usage could increase as car dependence increases. In 2011, 90 per cent of commutes into central London were undertaken by public transport, by foot or by bicycle. Given the less extensive coverage of public transport in outer London and beyond because of their lower-density nature, any travel that is done on home working days is much more likely to be done by private transport.⁶⁹ This would likely be compounded if TfL had to subsequently cut its services.

National data on transport usage supports this. Car trips returned very close to pre-pandemic levels in 2021, despite reduced commuting because of increased home working, while public transport usage trailed well behind.⁷⁰

Property market

In principle fewer working days per employee reduces the requirement for office space. Crucially, this depends on any one company's workforce being staggered throughout the week (a trend that neither the TfL nor the survey data show has seen to date) rather than coming in on the same days, and the ability of a company to adjust its space due to its tenancy agreement and the nature of the building it is in.

If workers were staggered, and there was no drop in the output from these workers, then this would lead to an increase in profits due to the cost saving from lower rents. A reduction in overall demand would then pull down the cost of space across central London, creating a cost saving for those companies that negotiate their lease and do not downsize. How much this saving would be would depend on whether lower rents attract in businesses that were previously priced out of central London.

68 Rodrigues G and Gibson J (2022), What's next for Transport for London, London: Centre for Cities

69 Budnitz H, Tranos E and Chapman L (2020), Telecommuting and other trips: an English case study, *Journal of Transport Geography* Volume 85, May 2020, 102713

70 Source: Department for Transport

If workers aren't staggered, and so come in on the same days each week to maximise the benefits of face-to-face interaction, this means that similar amounts of office space will be required to that of a pre-pandemic working pattern. The result would be that there would be no material cost saving. If productivity does fall as a result of hybrid working, then this is the worst outcome for businesses, as profits decline while property remains a fixed cost.

The data suggests the latter is playing out so far. As set out above, the fact that commercial rents have not substantially fallen suggests either that few companies are reducing floorspace yet or that any reduction in floorspace is being offset by increasing demand from companies moving into central London.

Scenario 2: Hybrid working persists, but central London's economy continues to grow

This first scenario limits itself to looking at a pre-pandemic baseline in terms of total number of jobs. It is possible, though, that, even in a hybrid world, the number of workers in central London exceeds the pre-pandemic baseline if the number of jobs in central London continues to grow in the way it did in the decades before the pandemic. If agglomeration continues to be important, then this is a likely outcome.

The implications for the transport network depend on what happens on peak midweek days and how many jobs are created. Because office working still remains considerably below its pre-pandemic peak, there would need to be considerable jobs growth for usage on a morning peak to outstrip that of pre-pandemic levels.

However, if there was a further increase in the popularity of Wednesdays and Thursdays towards pre-pandemic levels without an increase in working on other days, this would pose a particular problem. It would mean that London would require the same Capital investment in transport and an increase in day-to-day running costs as would be the case in an expansion on a five-day commuter model. The economics of providing this would clearly be more challenging and present the worst-case scenario for TfL and Network Rail.

Scenario 3: Ways of working return back to what they were like in 2019

An upper bound limit is a one where working patterns return to what they looked like pre-pandemic, with four to five days in the office being the most popular pattern and the number of jobs in the centre of London continuing to grow. In this scenario, central London firms see that there is a competitive advantage associated with having their workers spend their working time in the office, and those companies that downsized since the pandemic have to readjust to larger footprints.

If this were to happen, then the challenge for the Capital would be as it was pre-pandemic: to deal with the costs of growth, making sure that enough commercial and residential space is provided and that there is sufficient investment in the transport system to deal with rising congestion to address the Capital's poor recent productivity growth.

While this third scenario may seem unlikely, given the stalling in the return to work that the TfL ridership data suggests, what is clear is that all of these scenarios are far above what was widely predicted in 2020. Even if there are no productivity implications from less time spent in the workplace, the scenarios above show that where the equilibrium settles on this will have considerable implications at the very least for how London is managed.

06

What needs to change

The lockdowns that were instigated as a result of the Covid-19 pandemic triggered a mass experiment in the way in which large parts of the economy functioned, with many workers switching from working in their office to working at home. This led to many predictions in 2020 that office working had been consigned to the past but the gradual return of workers to the office since lockdowns have been lifted have shown these predictions to be wide of the mark.

The analysis in this report shows why this should be no surprise. The forces of agglomeration shaped the geography of the UK economy, and London in particular, not just on the eve of the pandemic but for at least 100 years previous to it. Projecting from a point of crisis is always unreliable, but even more dubious when these predictions go against trends that are at least a century old. There are no free lunches; unless something fundamental has changed in how people generate and share ideas, the future should be at most a moderated version of the past.

While the mass change that was predicted has not come to pass, the world of work at the time of publication is still considerably different from January 2020. In central London, workers went into the office in April 2023 at around 60 per cent of what they did in January 2020. And older workers, and those who live outside of London have lagged this average.

This is a concern for the UK economy, if there is a productivity hit to having workers meet less frequently face-to-face. There is no strong evidence either way to provide any insight on what has happened to productivity since 2020 – this is an experiment being run for the first time. But there is a strong literature on the benefits that agglomeration creates that would suggest that there will be a long-term productivity hit.

Clearly, greater flexibility brings very visible short-term benefits to individual workers. But if there is an ‘externality’ generated by bringing them together, then there is a risk that in a currently tight labour market this unprecedented flexibility

takes priority over the longer-term benefits that face-to-face interaction brings to both the company and the wider economy, most notably through creativity, innovation and on the job learning and career development.

The reticence of businesses to require employees to be back in the office more frequently is understandable given how tight the jobs market continues to be and the apparent mismatch in employee and employer preferences. There have been few employers who have been willing to publicly state they want staff back full time.

This means that a coordinated move between business and government is likely to be required to create a further shift in working patterns. Both the **national government and the Mayor of London should now work with businesses to encourage an increase of the minimum number of days expected in the office**, with the Mayor launching an equivalent to his ‘Let’s Do London’ post-lockdown campaign to encourage workers back to the office more frequently.

Policy should also aim to minimise the costs of office working for workers. It can do this in two main ways. First, it can at the very least **maintain existing service levels on public transport** so as not to increase the time taken to commute. Second, it can reduce fares. The scope to do this is likely to be limited given the impact of the pandemic on transport revenues. But an option would be to **temporarily remove peak morning fares on a Friday**, the quietest day of the working week. Where technically possible, this should be linked to travel earlier in the week, so that if someone had used the network at peak time three times already that week then their Friday travel would be discounted. If this caused a substantial increase in ridership it would boost revenues.

Policymakers should also be very cautious of policy being overly influenced by the immediate benefits of home working to the individual at the cost of longer-term prosperity by such policies inadvertently undermining agglomeration. As well as maintaining frequency of public transport services and traffic management in London, policy will need to continue to:

- **Manage the balance between residential and commercial space in central London** so that the former does not cannibalise the latter. Switching commercial property to residential use is not easily undone. A shift towards residential would limit the ability of the central London economy to grow in the future.
- **Improve public transport infrastructure.** Delaying long term decisions on further investment (in projects like Crossrail II and the Bakerloo line extension) today in the belief, based on short term evidence, that demand will be permanently lower stores up problems for tomorrow.

Finally, the **Government should be more proactive in attempting to**

measure the impact of hybrid working on productivity. If this lies at the heart of future decisions about land use and transport investment, then it should conduct research on what this impact is to better inform future policy decisions.

The Mayor of London should contribute to this through setting up a Productivity Advisory Council (akin to the Chancellor's Economic Advisory Council) made up of businesses to feed in the impact of hybrid working and other issues on the productivity of the Capital.

07

Appendix

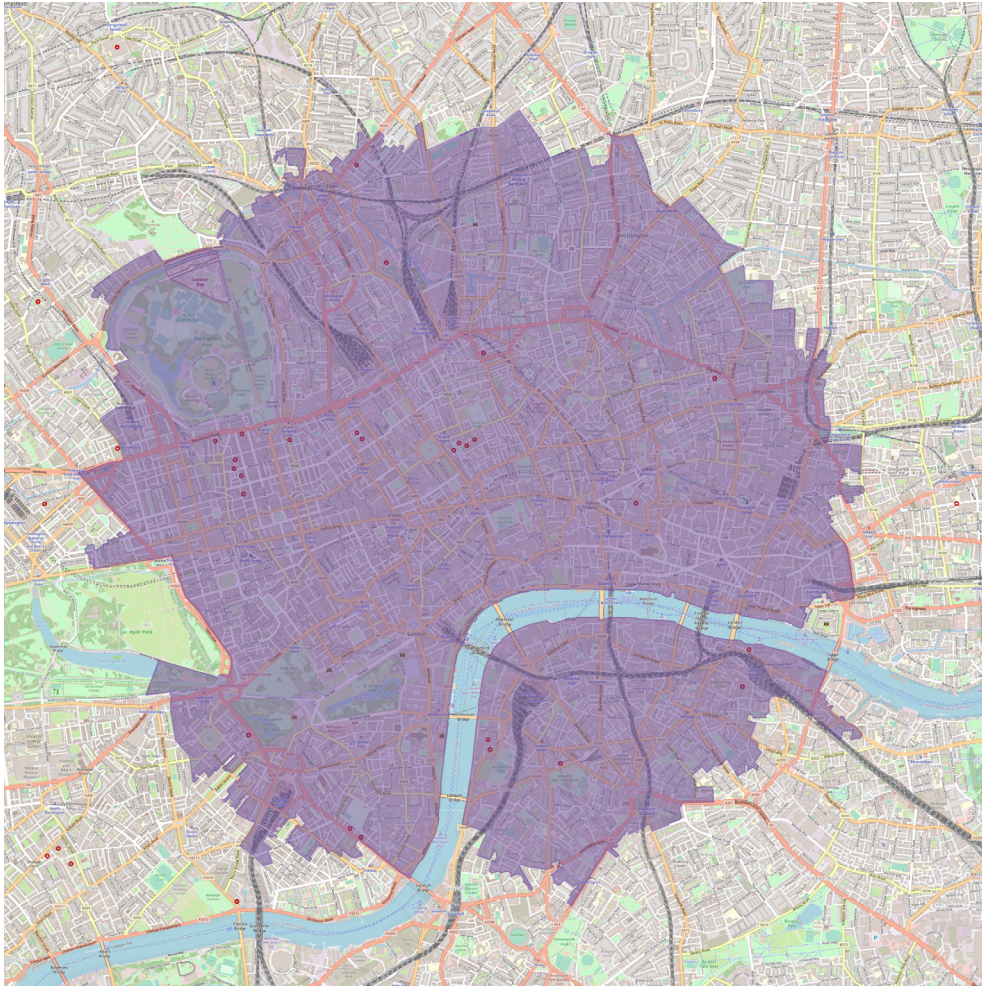
Methodology of the survey

To collect information on the working patterns of central London workers, Centre for Cities commissioned Focaldata to run a survey and supplemented this through a mirrored survey using Google Forms. It ran from 18 April to 1 May 2023. Respondents were asked questions on working patterns covering remote/hybrid work and days worked in the office for the periods of January 2020 (pre-pandemic), April 2022, and April 2023. Respondents had to work (or notionally work if fully remote) in central London as defined in the map below for each time period covered. In order to be representative of central London's office workers, the sample was weighted to reflect the sectoral composition of central London, based on data from ONS' Business Register and Employment Survey and census 2011.

In order to have responses reflect those working in office-based jobs, two filters were applied. The first was to exclude any workers who worked on weekends to remove people working in face-to-face services like shop floor retail and hospitality. The second was to exclude those working in health.

This approach collected 558 relevant responses.

Figure 13: Definition of central London



Source: © OpenStreetMap contributors



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