



MIND THE GAP

Big cities thrive because of the economic and social benefits of proximity – but proximity also helps to spread Covid-19. Does this mean an end to the urban revival of recent years – or do vaccines herald a return to normality? According to **Henry Overman** and **Max Nathan**, much will depend on how far the forced experiments of lockdown translate into new norms.

Will coronavirus cause a big city exodus?

The pandemic has generated a passionate debate about the future of big cities. Some predict that Covid-19 will create a tipping point that triggers the end of expensive, commuter-driven conurbations. Others are more positive about urban resilience: if the 'death of distance' didn't finish off big cities in the 1980s, why should this time be any different?

Where are we now?

Countries around the world are now rolling out mass vaccination programmes. This will lessen the need for lockdowns and social distancing – and earlier than some were predicting.

Unfortunately, an early end to the direct disruption will still mean economic pain for some time to come. Temporary economic shocks may have permanent effects on local economies. We lack evidence on how long these 'scarring' effects may persist and how different places and groups might recover from them. What studies we have of 'resilience' suggest that southern and eastern regions of the UK should bounce back strongly, and that a population with high average levels of education and skills helps areas to respond.

Beyond this recovery phase, does an early end to disruption make it less likely we will see major long-run impacts on big cities? We should be wary of assuming

a rapid return to pre-Covid-19 norms because the pandemic might lead to longer-term behaviour changes in at least two ways:

- Forced experiments: Will this year's disruptions become new norms? What jobs will come back, and where?
- Pandemic risk: Are (big) cities now riskier, or seen as riskier places?

The longer-term future of big cities – in the UK, at least – will largely depend on how these forces play out. There are several big unknowns. We lack evidence on how working from home might evolve, whether the density and proximity of big cities make

them inherently vulnerable to globalised pandemics such as Covid-19, and how cities could adapt to those risks. Here, we consider what we know about each of these questions.

Working from home and productivity

New technologies – and cheaper travel – have made remote working increasingly feasible, including for complex tasks. Nevertheless, in the UK and most other countries, only a minority of jobs can be done from home given the tasks involved.

Jonathan Dingel and Brent Neiman (2020) estimate that 43.5% of UK jobs could be done from home. Before Covid-19, just 5% of workers regularly did so, and only 27% of workers had ever worked at home. That ‘working from home gap’ has now closed: one survey suggested that regular remote working had increased from 6% before the pandemic to around 43% by the end of June 2020 (Felstead and Reuschke, 2020). In big cities with large professional and business services sectors usually based in offices, that shift will be even larger.

Working from home is popular: according to the same survey, over 88% wanted to continue some form of it in the future. In August 2020, a BBC survey of 50 major employers, most based in big cities, found that none planned to bring all their staff back ‘in the near future’. While 20 had already re-opened offices for those unable to work from home, 24 had no plans to do so. More recent media reports

suggest that many big firms are planning hybrid models, with remote working for part of the week.

Even if working from home is feasible, that does not make it more productive. We have little hard evidence on the productivity effects of the increase in remote working during lockdown. Newly remote urban office workers have experienced longer working days (DeFilippis et al, 2020), with more, shorter meetings and more email than before. While 29% of UK workers in the Felstead and Reuschke (2020) survey reported higher output under lockdown, 30% reported that it had fallen.

Unfortunately, there are few robust studies of the productivity effects of remote working before Covid-19: people who strongly value working from home tend to select into it, so simple comparisons are misleading. For existing organisations, a static shift to some form of remote working can raise productivity, albeit in very specific cases like patent examining or call centres (Bloom et al, 2014).

Working from home and innovation

Crucially, most of this evidence focuses on how existing teams adjust to working

from home (the ‘static effects’) but says less about the longer term (the ‘dynamic effects’). Evidence points to dynamic learning benefits of physical workplaces. Co-located workers can learn more easily from each other, and develop and test new ideas.

These learning benefits also extend beyond the firm, with a large body of evidence linking physical proximity in cities to higher levels of innovation. As big cities have shifted towards more knowledge-intensive economic structures, these links have strengthened (Duranton and Puga, 2020). The learning effects are especially important for younger workers, who experience bigger wage benefits from moving to big cities.

Dense urban areas seem to be especially good at generating new and unconventional ideas. Inventors moving into clusters substantially increase both their patent counts and citations. Even as new technologies diffuse, the local hubs that generate them hold onto disproportionate shares of employment in those technologies, particularly for the higher skilled jobs (Bloom et al, 2020).

The innovation benefits of proximity are important for urban economic growth –

We could see a shift in the economic geography of big cities, with suburbs benefiting at the expense of city centres

Innovation Benefit



and for economic growth overall. So a collective reorganisation of work could have negative implications for urban and national economies. Even if shifting to remote working makes individual firms more productive, cities may lose the collective benefits of between-firm and worker interaction.

In principle, we might develop online or remote workarounds for these face-to-face dynamics. But it is hard to predict when adaptations will emerge and in what form.

We are likely to see many more experiments in reorganising office work in the coming months and years. If senior decision-makers see that remote working ‘works’, for example, this might sweep away pre-Covid-19 cultures of presenteeism.

If remote working becomes the norm for many office workers, at least some of the time, the implication for big cities, and ‘economic geography’ more generally, may be profound. Much of this depends on the effects on productivity.

The more working from home turns out to be an effective substitute for face-to-face interaction – and as we discussed above, this is debatable – then the more it will increase the spatial footprint of our more dynamic firms and cities in much the same way as commuting does currently, but at lower economic, social and environmental costs. Many would gain in this scenario.

One challenge to this rosy outlook is the possibility of an increase in ‘offshoring’ – firms moving work to other countries to

take advantage of lower staff costs. If a task can be done effectively anywhere, why not outside the UK?

A second challenge is that history tells us that all profound changes to transport and telecommunications costs (‘transaction costs’) induce changes in preferred locations. This means that the geography of people and jobs is likely to change.

Changes to commuting and housing markets

For households, if working from home means less frequent commuting, then the link between residential and work location weakens – or breaks completely in the case of full-time remote working. In either case, this allows non-employment considerations to play a larger role in people’s choice of residential location.

In the UK, housing shortages and unresponsive housing supply make large population adjustments unfeasible. Instead, any significant drop in the demand for big cities will end up reflected in higher house prices in more desirable non-urban locations. These price effects will reinforce existing patterns of segregation as wealthier city households move out.

The fact that higher-paid jobs are more amenable to remote working will exacerbate these effects (Felstead and Reuschke, 2020). In big cities, falls in demand would ease pressure on prices. Unfortunately, overall affordability is unlikely to improve – as remote working plausibly increases the overall demand for space at home.

A similar story could play out within cities. In London, for example, high house prices relative to wages suggest urban amenity benefits are substantial (Gibbons et al, 2011). In this case, relative price changes are likely to hurt current commuter suburbs, where house prices are relatively high, and benefit those suburbs with worse links to existing employment centres. Again, overall constraints on housing supply mean that the resulting population changes will tend to be compositional – with wealthier households relocating to the more desirable suburbs.

The economic geography of retail and leisure

What about the location decisions of firms? We start with what economists call ‘non-tradable’ services, such as retail and leisure. Wealthy households moving to the suburbs increase demand for high-end shops, restaurants and gyms in those neighbourhoods. This could end up increasing commuting for workers providing these services but unable to live nearby.

A critical question is then whether we will see one-for-one shifts of activity from central city locations to suburbs. This will depend on the extent to which households substitute home production, local or online purchases for the services they used to consume while at work. For example, many more workers may make their own lunch when working from home; and while shopping might shift to local businesses, it could also move online.

Newly Remote

Productivity Effect

Spatial Footprint

A rapid return to pre-Covid-19 norms is not inevitable as the pandemic may lead to longer-term behaviour changes

Lockdown will have seen many families substitute online shopping for physical retail (Farrell et al, 2020), and these effects might persist. Offsetting this is reduced expenditure on commuting and office clothing; against that, there is higher spending on office equipment and energy at home.

The future of offices and office work

In large cities, financial and business services are a big share of ‘tradable’ activity: goods and services consumed outside the city where they are produced. We focus on office work, as most tradable activity in big cities is currently organised this way.

For these firms, we can summarise the adjustment process in three stages:

- At the national level, a sudden shift to remote working decreases the amount of work that is done in offices and thus overall demand for office space.
- Firms reorganise individual workflows, a process that is already beginning to unfold.
- In aggregate, these decisions will have major implications for the commercial property market, with winners and losers in different cities.

One key decision for a firm is what tasks and roles must still be performed in an office environment, under social distancing if required. City traders who need very fast, bespoke internet connections might be one example. Others might include many

creative sector employees who place high value on face-to-face interactions.

Another set of decisions is how the wider workforce uses office space – specifically, what mixes of remote and office work are most suitable to meet firms’ goals. Understanding the effects of home working on productivity and innovation, among other outcomes, is crucial here: as explained above, the existing evidence is thin.

As firms start to experiment, caution is needed in making predictions about the office market overall. For example, across firms we might see a lot of full-time remote working, or more mixed patterns (‘five days in ten’, with social distancing). Choices will vary across and within industries.

The wider economic geography of these shifts is also hard to predict. A wide range of theoretical models suggest that falling transaction costs may lead to more concentration in economic activity or to other important structural shifts.

For example, falling transaction costs may help to facilitate the concentration of ‘front office’ activities in city centres while ‘back office’ activities move to the suburbs. Falling transaction costs may also facilitate functional specialisation – explaining why headquarters are increasingly concentrated in bigger cities, while smaller cities specialise in production.

These theoretical predictions are supported by empirical evidence, including the fact that recent reductions in transaction costs have occurred at the same time as big city growth.

Are big cities more vulnerable to pandemics?

A second key question that will affect the future of big cities is whether they are more vulnerable to Covid-19 or similar viruses. Big cities have a long history of being hard hit by pandemics. Evidence on Covid-19 is more limited. Contact-tracing studies highlight how prolonged exposure in crowded, enclosed environments and events spreads the virus. Thus, it is possible that big city size, density or connectivity makes them inherently more vulnerable to Covid-19.

Consistent with this, in the UK and elsewhere, the biggest, densest cities were hit earlier by coronavirus. But allowing for timing, one US study finds no significant link between Covid-19 death rates and density (Carozzi et al, 2020). That is, other factors may offset the proximity disadvantage of big cities. For example, they tend to have younger than average populations and greater numbers of people who can reduce their exposure by changing their behaviour.

If these findings generalise, broader economic, physical or demographic characteristics – for example, reliance on public transport, crowded urban housing, physically and economically exposed work in frontline services, and concentrations of vulnerable groups - may better explain the spread of Covid-19. While these are features of many big cities, especially in more deprived neighbourhoods, they are also present in smaller cities and towns – including areas where Covid-19

Decisions about the organisation of work will have major implications for the commercial property market, with winners and losers in different cities

**Five Days
in Ten**

**Back
Office**

**Functional
Specialisation**

case rates remain high. It is essential, but challenging, to disentangle these competing explanations.

Longer-term urban adaptation

Working from home is one way in which cities are already adapting. How will cities adjust in other ways? For example, can cities that rely on public transport find innovative commuting arrangements that both manage congestion, and allow employment to remain concentrated in the existing city centre? How might they manage this against a backdrop of falling tax revenues, if overall demand for office space falls and takes some local services with it?

History suggests that big cities have usually managed to adapt ways of working and living to new diseases. While this time could be different, the arguments considered above urge caution in making premature predictions about the death of the city.

Conclusions

Big cities have gone through long phases of growth and decline in the past. How will they evolve after Covid-19? The longer-term impact on big cities is highly uncertain. We have pulled together theory and evidence to speculate about some possible urban futures.

Covid-19 has already altered patterns of urban work, shopping and social interaction: the question is whether – and how – these continue. In countries with effective public

health responses and which successfully vaccinate their populations, we are more likely to see voluntary change: as public confidence returns, firms and households can try out new ways of organising life and work. By contrast, in locations where the virus remains endemic, forced adaptation will continue.

At one extreme, we might see no significant long-term changes: big cities will bounce back just as they have done in the past, with a return to old norms. At the other extreme, we could see radical changes to ways of working and living, and to our economic geography – although exactly what these might look like is not yet clear.

It is important to remember that in the recent past, long-term falls in transaction costs – due to better technology and cheaper travel – have been associated with more big city growth, not less. Covid-19 could strengthen, rather than weaken these tendencies. But a consequent shift within the economic geography of big cities, with suburbs benefiting at the expense of city centres, is quite plausible.

Henry Overman is professor of economic geography at LSE and research director of CEP. **Max Nathan** is associate professor of applied urban sciences at University College London and a research associate in CEP's urban and spatial programme.

An earlier version of this article was published by the Economics Observatory (<https://www.economicsobservatory.com/>).

Further reading

Nicholas Bloom, Tarek Hassan, Aakash Kalyani, Josh Lerner and Ahmed Tahoun (2020) 'The Geography of New Technologies', Institute for New Economic Thinking.

Nicholas Bloom, James Liang, John Roberts and Zhichun Jenny Ying (2015) 'Does Working from Home Work? Evidence from a Chinese Experiment', *Quarterly Journal of Economics* 130(1).

Felipe Carozzi, Sandro Provenzano and Sefi Roth (2020) 'Urban Density and Covid-19', CEP Discussion Paper No. 1711 (<https://cep.lse.ac.uk/pubs/download/dp1711.pdf>).

Evan DeFilippis, Stephen Michael Impink, Madison Singell, Jeffrey Polzer and Raffaella Sadun (2020) 'Collaborating During Coronavirus: The Impact of COVID-19 on the Nature of Work', National Bureau of Economic Research Working Paper No. 27612.

Jonathan Dingel and Brent Neiman (2020) 'How Many Jobs Can be Done at Home?', *Journal of Public Economics* 189.

Gilles Duranton and Diego Puga (2020) 'The Economics of Urban Density', *Journal of Economic Perspectives* 34(3): 3-26.

Diana Farrell, Lindsay Relihan, Marvin Ward and Chris Wheat (2020) 'The Early Impact of Covid-19 on Local Commerce: Changes in Spend across Neighborhoods and Online', CEP Occasional Paper No. 50 (<https://cep.lse.ac.uk/pubs/download/occasional/op050.pdf>).

Alan Felstead and Darja Reuschke (2020) 'Homeworking in the UK: Before and During the 2020 Lockdown', Wales Institute of Social and Economic Research and Data.

Stephen Gibbons, Henry Overman and Guilherme Resende (2011) 'Real Earnings Disparities in Britain', SERC Discussion Paper No. 65 (<http://www.spatial-economics.ac.uk/textonly/serc/publications/download/sercdp0065.pdf>).

Old
Norms

Consequent Shift