

POLICY PERSPECTIVES



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THE WORK FROM HOME PHENOMENON — WILL IT STICK?

HIGHLIGHTS

- Across the developed world, the COVID-19 pandemic has led to an unprecedented experiment as hundreds of millions of people have been working “remotely” — mostly from home — amid public health restrictions and widespread office closures.
- In advanced economies like Canada and the U.S., estimates suggest that 37-48% of all paid jobs can be done remotely all or most of the time. Mainly, these jobs typically are performed in office settings and require little or no direct, in-person interaction with customers, suppliers, supervisors and co-workers.
- There is wide variation across both occupations and industries in the proportions of paid work that can be done remotely. In many occupations and industries, relatively few jobs are conducive to “work from home” (WFH).
- Work from home spread rapidly as COVID-19 arrived in March 2020. In the U.S., close to half of all paid work hours from April to December 2020 were supplied by employees working remotely, compared to 5% of paid hours pre-pandemic. Statistics Canada surveys indicate that roughly one-third of employed Canadians were spending a majority of their work time at home as of early 2021, up from about 4% who were doing so back in 2016.
- Employee surveys find that most workers who have gained experience with WFH would like the option to perform a significant share of their work duties from home once the pandemic has ended. This view is not universal among workers, however.
- On the whole, employers are less keen on continuing with WFH, with many signaling a strong preference to have most employees return to traditional workplace settings once it is safe to do so. In a few knowledge-intensive industries, large employers are planning to allow and encourage WFH in the post-pandemic context.
- Based on survey results and published academic studies, we expect an approximate quadrupling in the proportion of paid work in British Columbia that will be done remotely once the pandemic is over. This is equivalent to 18-20% of all jobs (leaving aside the self-employed), compared to 4-5% of jobs before 2020. Put differently, we believe that 400,000-450,000 jobs in B.C. may be done largely on a WFH basis going forward.

Across much of the developed world, the COVID-19 shock has led to an unprecedented social experiment as hundreds of millions of people have been working “remotely” — mainly from home — due to the imposition of public health restrictions and an unusually high incidence of business closures. This extraordinary situation virtually emptied many office buildings for much of 2020 and

caused employers in multiple sectors to retool the organization of work — sometimes in previously unimagined ways.

With COVID case counts, hospitalizations and fatalities diminishing in some developed countries, businesses and non-profit organizations are pondering post-pandemic operational plans and strategies. The arrival of the fourth

wave of COVID-19 in Canada has prompted many employers to pause on re-opening plans. Nonetheless, the general expectation is that at some point in 2022, business activity will “normalize.” Assuming that happens, a key question is to what extent and in what circumstances the work-from-home (WFH) phenomenon will persist.

QUANTIFYING WFH

Since the spring of 2020, several consulting firms and academic research groups have sought to measure and track the impact of COVID-19 on workplaces. Most published studies and reports focus on the United States and the UK. But there is some data and analysis on the pattern of WFH in Canada since early 2020.

Two important initial questions are: 1) how many and 2) what kinds of jobs lend themselves to remote work? Published estimates vary. Recent U.S. studies find that somewhere between 37% and 48% of all paid jobs can be done “off-site” most or all of the time.¹ A large majority of these are what used to be called “white-collar” jobs typically performed in office settings and requiring little or no direct, in-person interaction with customers, suppliers, and even colleagues on a day-to-day basis. Of course, a large proportion of jobs in the modern economy cannot be done remotely; some obvious examples are public safety workers, transit and other transport operators, production employees in manufacturing and natural resource extraction industries, retail and foodservice workers, construction workers, landscapers, personal care aides, barbers and hairdressers, and cleaners.

Table 1, taken from a 2020 U.S. academic paper, lists the top ten occupations ranked in descending order by the share of jobs that can be done remotely. It should be noted that even in these occupations – where WFH is judged to be “relatively feasible” – not all work can

TABLE 1: TOP TEN OCCUPATIONS, RANKED BY THE SHARE OF JOBS THAT CAN BE DONE FROM HOME

1. Computer and computational occupations	100
2. Education, training and library occupations	85-98
3. Legal occupations	84-97
4. Business and financial operations occupations	88-92
5. Management occupations	84-87
6. Arts, design and media occupations	57-76
7. Office and other administrative support occupations	51-65
8. Architecture and engineering occupations	61-88
9. Physical and social science occupations	36-54
10. Community and social service occupations	37-50

Source: Dingel and Neiman, 2020.

be performed remotely, certainly not 100% of the time. Many people in management and community/social service occupations, for example, clearly need to be at physical work sites some of the time.

Table 2 lists the top ten industry sectors (rather than occupations) based on the proportions of jobs that can be done at home, ranked from highest to lowest, as reported in the aforementioned U.S. study. Not surprisingly, industries where “white-collar” jobs are common dominate the list. However, just because the education sector, for example, is better able than most to accommodate WFH, does not mean it is always optimal or wise to deliver educational instruction remotely. In-person classroom instruction has many advantages over virtual learning, especially for younger children. In addition, on-site learning is an integral part of

education and skill acquisition in fields like engineering, medicine, nursing, chemistry, and other science disciplines.

Not shown in Table 2 are industries where WFH is not feasible for the bulk of employees. Examples of industries where researchers find that at least 75% of work must be performed “on site” are accommodation and foodservices, natural resources, retail trade, construction, transportation, and manufacturing.²

The WFH phenomenon became increasingly visible as the COVID-19 crisis took hold in the spring and summer of 2020. In the United States, **close to half of all paid work hours from April to December 2020 were supplied by employees toiling from home, compared to 5% of paid hours before the pandemic.**³ This figure speaks to the magnitude and

¹ Joseph Maria Barrero, Nicholas Bloom, and Steven J. Davis, “Why Working from Home Will Stick,” NBER Working Paper 28731 (April 2021); Jonathan Dingel and Brent Neiman, “How Many Jobs Can be Done at Home?” Becker Friedman Institute, University of Chicago (June 2020).

² Ibid.

³ Barrero, Bloom and Davis, op. cit.

TABLE 2: **TOP TEN INDUSTRIES, RANKED BY THE SHARE OF JOBS THAT CAN BE DONE FROM HOME**

1. Education services	71-83
2. Professional, scientific and technical services	80-86
3. Management services	79-86
4. Finance and insurance	76-85
5. Information services	72-80
6. Wholesale trade	52-67
7. Real estate, rental and leasing	42-54
8. Public administration	41-47
9. Utilities	37-41
10. Other services (ex public administration)	31-43

Source: Dingel and Neiman, 2020.

speed of the shift to WFH amid the chaotic conditions spawned by the pandemic. In Canada, a Statistics Canada survey reported that, as of January 2021, roughly one-third of employed individuals were spending a majority of their paid work time at home, up from just 4% who were doing so back in 2016.⁴ A more recent Statistics Canada survey finds that through June 2021, 30% of employees were performing most of their work-related duties from home.⁵

THINKING ABOUT THE NEW NORMAL

To what extent will people continue to work from home once the pandemic is over? WFH's stickiness and the different models of work organization that evolve have wide-ranging implications — for

employees, businesses and non-profit organizations, investors, municipal planners, the owners of office and retail buildings, and service providers clustered in the central business districts of large and mid-sized cities.

Consider first the preferences of employees. A survey of employees undertaken in the UK earlier this year found that one-fifth of UK workers hope to work remotely 100% of the time in the post-pandemic context. Another 40% aspire to spend 2-3 days per week working from home.⁶ The Statistics Canada survey referenced above revealed that up to 80% of employees who gained experience with WFH during the pandemic **would like to devote at least half of their work hours to WFH going forward.**⁷ Recognizing that many current employees

(including essential workers) have continued to perform their duties “on-site” in the last 18 months, this still amounts to a significant slice of the Canadian workforce which appears keen to have the option of WFH post-pandemic.

However, WFH is not always a preferred or popular choice, even for employees who can do their jobs remotely. Many young adults, in particular, value the learning opportunities and social interactions afforded by on-site work. A recent American survey suggests that two-thirds of new college graduates hope to spend most or all their work time in an “office” environment.⁸

Or course, what employees prefer may not align with the views and needs of employers. Anecdotal evidence and media reports indicate that many businesses in the U.S. and Canada want all or most of their staff to return to traditional work settings — not necessarily right away, but over a period of months. According to consulting firm McKinsey & Company, most U.S. employers “believe the office [will] again become the primary place of work,” with some “insisting on a full-time return to the office because they see the remote work of the pandemic period as an extraordinary shift forced by an extraordinary event, not as a new routine.”⁹ This finding is consistent with what we have been hearing from many Business Council members in the past 6-8 months.

A much-cited paper by a group of leading U.S. economists estimates that large and mid-sized American

⁴ M. Mehdi and R. Morissette, *Working from Home: Productivity and Preferences*, Statistics Canada (April 2021).

⁵ Statistics Canada, “Working from home during the COVID-19 pandemic, April 2020 to June 2021” (August 2021).

⁶ Shivani Taneja, Paul Mitzen and Nicholas Bloom, “Working from home is revolutionizing the UK labour market,” voxu.org (March 15, 2021).

⁷ M. Mehdi and R. Morissette, *Working from Home: Productivity and Preferences*, Statistics Canada (April 2021).

⁸ McKinsey & Company, “Trends that will define 2021 and beyond: six months on” (July 21, 2021).

⁹ Ibid.

employers, in aggregate, **are planning to have their staff supply about one-fifth of workdays from home once the pandemic ends**, with the remaining 80% of workdays spent in traditional workplace settings. Recall that this compares to 4-5% of workdays spent in WFH mode pre-pandemic. There is a great deal of variation in support for continued WFH across industry sectors. For example, large U.S. investment banks like Goldman Sachs and J.P. Morgan have stipulated that essentially all employees should plan to “return to the office” before year-end. At the other end of spectrum, some leading technology firms – including Apple, Google and Shopify – have said they will provide employees with very wide latitude to continue to work from home indefinitely.

The available evidence indicates that once the pandemic ends, a common pattern across large and mid-sized organizations will be to have employees in jobs where remote work is feasible devote roughly two days per week to WFH (equating to 40% of an average work week for full-time employees).¹⁰ Two days a week represents an average across all employees for whom WFH is an option. In most organizations that permit or encourage WFH, it is likely that some employees will spend most of their time working from home, while others will perform most or all their duties in physical locations maintained by their employers.

No comparable forward-looking data on employers’ expectations

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exist for Canada, but it’s unlikely the plans of Canadian employers differ significantly from those of their U.S. peers. A recent survey by human resource staffing firm Robert Half finds that more than half of Canadian managers intend to require their “teams” to return to the office on a full-time basis once all COVID-related restrictions have been lifted.¹¹ In many Canadian organizations, a “hybrid” model is expected to emerge, involving a mix of WFH and more traditional on-site work.

The American academic studies and surveys referenced above, assuming their findings are applicable to Canada, point to **an approximate quadrupling in the proportion of paid work¹² in British Columbia that will be performed remotely post-pandemic**, compared to the situation pre-COVID. Ignoring the self-employed, **this suggests that the equivalent of 400,000-450,000 B.C. payroll jobs may be done on a WFH basis once the pandemic has passed.** Note that 400,000-450,000 jobs represent 18-20% of all paid employees in the province.¹³

WHAT ABOUT PRODUCTIVITY?

There is much debate among academics and management experts about the implications of WFH on productivity. Early in the pandemic, experiences with WFH were often positive. The shift to video meetings and the rapid spread of remote work were surprisingly smooth, and considerable optimism developed around the benefits of WFH. But now more people talk about “zoom fatigue” and the loss of the intangible benefits – for workers, but also for their employers – that come from in-person meetings and interactions with colleagues, supervisors and customers/clients.

Still, at an economy-wide level, stronger productivity growth “has been one of the silver linings” of the pandemic, according to Goldman Sachs.¹⁴ In the U.S., productivity gains have been most apparent “in industries where virtual meetings are feasible and in-person expenses like travel and entertainment have scope to decline – for example, information technology services, professional services, and product development/wholesale trade.”¹⁵ The increased penetration of digital technologies has been the key factor boosting productivity in certain sectors during the COVID-19 crisis. Figure 1 summarizes cumulative U.S. productivity growth from the 4th quarter of 2019 through the 1st quarter of 2021 across broad industry categories, as reported by Goldman Sachs.

¹⁰ Barrero, Bloom and Davis., op. cit.

¹¹ Emily Douglas, “56% of Canadian managers want employees fully back in the office,” *Human Resources Director* (August 18, 2021).

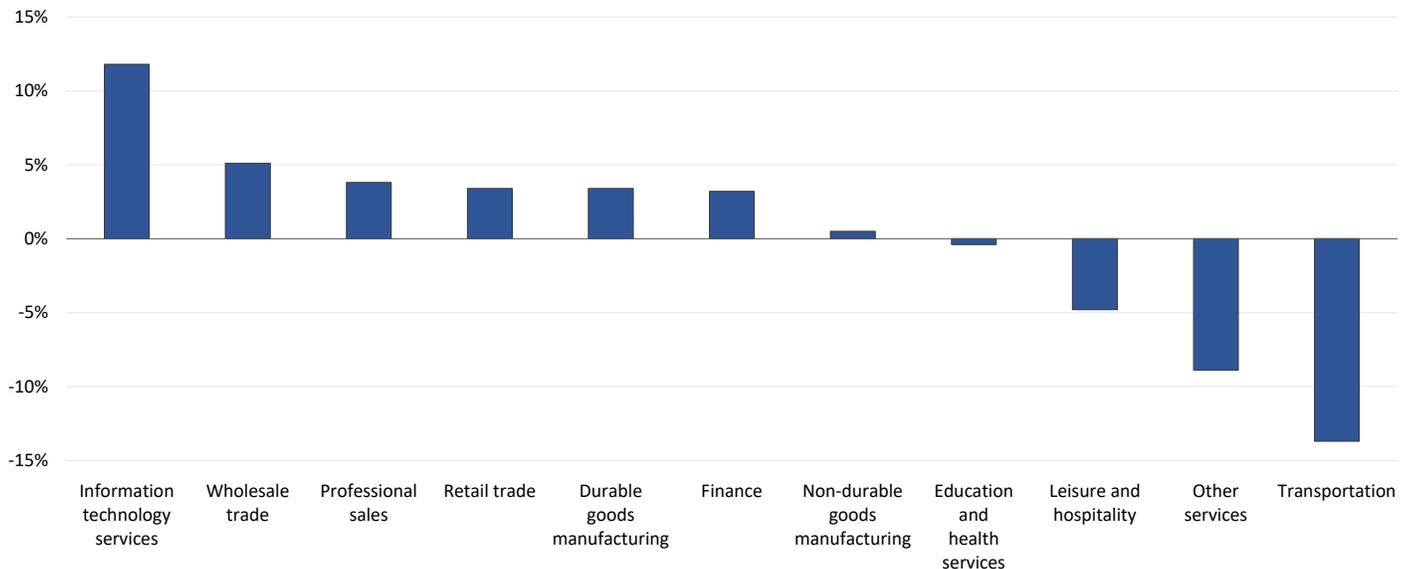
¹² Paid work excludes the self-employed.

¹³ In 2019, total employment in B.C. stood at 2.67 million, of which 473,000 were classified as self-employed.

¹⁴ Spencer Hill, Goldman Sachs Economics, “A Persistent Productivity Pickup” (July 12, 2021).

¹⁵ Ibid.

FIGURE 1: U.S. CUMULATIVE PRODUCTIVITY GROWTH BY INDUSTRY SECTOR (REAL GDP PER EMPLOYEE), Q4 2019 THROUGH Q1 2021



Source: Goldman Sachs.

One would assume the picture in Canada is similar. However, a May 2021 Statistics Canada study found “no conclusive evidence...that working from home increases or reduces industry productivity performance.”¹⁶ The data for 2020 show a pattern of rising labour productivity in most industries in first half of the year, as hours worked fell more sharply than measured output (real GDP). However, the trend reversed in the second half of 2020, as lockdowns and other restrictions were gradually eased and hours worked steadily rose.

Arguably, the time periods examined by Goldman Sachs and by Statistics are too brief to allow for firm conclusions to be drawn about how WFH will impact labour productivity

over the medium- and long-term. As the Statistics Canada paper observes, “It may be the case that some of the potential cost savings (for employers) related to less demand for office space and equipment have not yet been realized as businesses assess their post-pandemic policies, or that workers and managers need more time to adjust given the suddenness of the shift to telework.”¹⁷

Looking ahead, McKinsey Global Institute has identified pathways to accelerate productivity growth in North America and Europe in eight large economic sectors over the next few years, mainly owing to the deployment of technologies like AI, robotics, and other process innovations.¹⁸ Through faster technology adoption and

innovations in how work is done and how organizations operate, McKinsey estimates that labour productivity growth in these eight sectors can be raised by roughly 1% per year through 2024. If achieved, the result by 2024 would be an increase in per capita GDP ranging between US\$1,500 and US\$3,500 for countries in North America and Europe. As the McKinsey researchers note, “[t]hat would be a stunning outcome.” But it depends on two conditions being met: organizations act purposefully and with speed to implement productivity-enhancing actions, and policymakers continue to focus on supporting and fostering a robust macroeconomic recovery. The story of how WFH may affect productivity is complicated. Apart

¹⁶ Weimin Wang, “Impacts of the COVID-19 pandemic on productivity growth in Canada,” Statistics Canada catalogue no. 36-28-0001 (May 26, 2021).

¹⁷ Ibid., p. 7.

¹⁸ McKinsey Global Institute, “The consumer demand recovery and lasting effects of COVID-19” (March 2021). The sectors examined were health care, construction, retail, ICT, banking, pharmaceuticals, automotive, and logistics.

from the surveys and analytical papers by economists, it is also possible to glean insights from case studies of specific organizations and workplaces. A recent study examined the effects of adopting WFH in a large Asian IT services company that abruptly switched all of its staff to WFH in March 2020.¹⁹ Based on a rich dataset of more than 10,000 employees spanning 17 months before and during the pandemic, the authors collected information on productivity, hours worked, time allocation, and employees' contacts with colleagues inside and outside of the firm. The study also includes estimates of each employee's commute time when in the office, and how many children (if any) employees have living at home.

The company in question has a "highly developed process for setting goals and tracking progress, culminating in a primary output measure for each employee." Productivity is measured as output divided by hours worked. Most studies of WFH, including the ones discussed earlier, are based on survey data. In contrast, this study directly examines employee performance using the measures implemented by a single large firm.

The data gathered enabled the authors to compare outcomes for the same employees before and during WFH. They report the following findings:

- Employees significantly increased total hours worked, by about 30%, during WFH. Much of this increase came from working outside of "normal" office hours.

- Despite the disruptions due to the pandemic and the shift to WFH, there was no significant change in measured output (the primary evaluation metric for each employee). That is, on average employee productivity didn't change, as seen by the firm.

- Given (expanded) work time and (generally stable) measured output, the authors estimate that labour productivity declined about 20%, on average, as WFH was adopted. The results suggest employees became less productive during WFH but worked longer hours to compensate, such that the company saw no overall decline in employees' productivity.

CONCLUSION

The ongoing COVID-19 pandemic provides important insights into what a transition to a different model of work may look like. It is clear that the future of work in the post-pandemic world will be mixed across industries and occupations, depending in part on the feasibility of WHF. The worker-level impacts will be very heterogenous, as higher-skilled service employees gain additional flexibility while many often lower-paid "essential" employees continue to show up at their physical workplaces day after day. If a new equilibrium develops in which a substantially higher fraction of overall work in the economy is performed remotely, this will have important knock-on consequences — including for the owners of office space, for the vibrancy of central

business districts, and for the housing choices of employees who no longer need to commute to work every day. There is also the question of whether and how government labour, employment and health and safety regulations may need to be modified to account for the fact that a larger proportion of paid work will be done remotely.

At this point, we can't say with confidence how the WFH phenomenon will affect the levels and future growth of labour productivity. There is some evidence that the COVID-19 crisis led to a productivity boost in certain industries, but whether this proves to be a one-time bump or instead points to faster productivity growth over time remains uncertain. To the extent that the pandemic induces faster deployment of advanced process technologies and the speedier adoption of other innovations across the broad economy, it is reasonable to expect a positive effect on labour productivity growth over the rest of the decade.

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¹⁹ Michael Gibbs, Chicago Booth; Friederike Mengel, University of Essex; and Christoph Siemroth, University of Essex, "Work from Home & Productivity: Evidence from Personnel & Analytics Data on IT Professionals," Becker Friedman Institute, University of Chicago (May 2021).