

LESS PRODUCTIVE WHEN WORKING FROM HOME?

FIELD STUDY ON BEHALF OF THE NBER

How productive is it to work from home? Almost every company has been asking this question since the coronavirus pandemic, but the figures calculated by various studies are contradictory. There are many reasons for this fact: the complexity of the topic, the selection of the research setting, and various factors that can influence the results. An attempt to avoid at least the last of these difficulties characterizes a study conducted in July 2023 by the National Bureau of Economic Research in Cambridge, Massachusetts, titled "Working from Home, Worker Sorting and Development". The study comes to a clear conclusion: employees working at the office performed 18% better on average than their colleagues working from home. However, these results are representative only for standardized work requiring a strong focus. In addition, the specific framework conditions of the study require a critical look. Nonetheless, the study and its findings represent a definite gain for further discussion.

The study was conceived and implemented under the scientific guidance of David Atkin and Antoinette Shoar (both working at Massachusetts Institute of Technology) as well as Sumit Shinde (University of California at Los Angeles).

The motivation of the study

In their introductory review of the relevant literature, the three authors of the study refer, among other things, to two scientific studies conducted by Bloom et al. in 2014 and 2022. The first of these two studies concluded that working from home has an effect that clearly increases productivity. The second study deals with hybrid working and demonstrated that it has a positive effect on employee loyalty and results in at least a small increase in productivity. However, because both of these studies were conducted exclusively with individuals that had already worked in the respective company before the field research began, Atkin, Schoar and Shinde presumed that the effects that

were measured depended to a large extent on how the employees were selected or on how they were assigned to the individual groups. For example, in the first study conducted by Bloom et al., only those employees were included who had actively requested this change. Atkin, Schoar and Shinde wanted to exclude related selection effects, e.g. those connected with career ambitions. In addition, they wanted to make it possible to measure any motivation effects resulting from the implementation of the test subjects' wishes. Consequently, Atkin, Schoar and Shinde decided to use an unusually strongly controlled setting for their field research.

The experimental setup

Because of the good measurability and comparability of the work activities, the authors selected the data input industry for their field test. The study was conducted in the city of Chennai in southern India. All of the study participants were recruited via job ads for a work period of eight weeks and hired as employees. If their performance was good, they received a corresponding assessment and support in their further job search. A performance-dependent remuneration served as a direct incentive to perform well. The weekly working time was limited to 35 hours for all the participants. Overtime work was prevented by technical measures. During the job application process, the test subjects were faced with tasks that represented some of their future work activities. Their performance of these tasks was measured in order to exclude base effects, among other things. The job applicants were also asked about their preferences regarding working from home versus working in an office. However, their subsequent assignment to one of these two groups was randomized. In order to determine other influencing factors, the authors noted the test subjects' private living conditions, e.g. whether they had children or persons in need of care in their households and how time-consuming the commute to the office would be. Appropriate measures in the study design largely excluded any effects that would distort the measured performance during the eight-week study as a result of the fact that the test subjects working in the office might have closer contact with their supervisors. All of the test subjects were provided with the same technical equipment and went through a three-day training process in the office at the beginning of the work phase. The evaluation was based on the work results of a total of 235 individuals, of whom 124 worked from home and 111 worked in the office. The entire study began in January 2017 and lasted for 15 months.

An overview of the findings

THE INFLUENCE OF THE PLACE OF WORK ON PRODUCTIVITY

At the end of the eight-week study period, the employees in the office were 18% more productive than their colleagues working from home. This effect was primarily evident in the faster work rate of the employees working in the office. In addition, the quality of their performance (error-free data input) was better than that of their colleagues working from home.

In the case of difficult tasks, the performance advantage of the office workers over the workers from home increased to 24%.

Only a small percentage of the performance differences (2.46%) could be explained by breaks. The individuals working in the office were idle during 14.60% of their working time (measured according to the use times of the keyboard and the mouse). The idle time of the employees working from home amounted to 17.06% of the total.

CHOICE OF THE PLACE OF WORK

The researchers also wanted to find out which employee groups were especially attracted to working from home. In short, these were the more highly qualified individuals who had already done better in the entrance tests, and who also maintained their higher performance level almost unchanged during the eight-week work phase — independently of the place where these individuals were actually working.

What is remarkable is that the employees in this group also performed better when working in the office than when working from home. They benefited even more from the office environment than their less qualified colleagues.

INFLUENCING FACTORS

In line with expectations, this study also demonstrated that there are various causes underlying individual preferences and levels of performance. Definite effects could be observed only in the case of employees who took care of children or other individuals at home in parallel with their work or whose household income was significantly lower than the average. Their performance while working from home declined to a greater extent than that of the other test subject groups.

A critical view

When interpreting the results, it must be kept in mind that during the field study the employees worked exclusively on focused tasks of comparatively low complexity. The individuals working from home had hardly any contact with their colleagues. In addition, some of the individuals hired for this experiment had a low level of education, and some of them had never worked in an office environment before. Thus it cannot be excluded that for this group of individuals office work represented a greater level of prestige than working from home. Both of these factors could have influenced individual preferences for specific places of work. Moreover, because most of the test subjects came from a relatively poor social class, it can be assumed that there was no equipment comparable to the office in their home environment. Many elements of the experiment would not have been compatible with the regulations of US or European labour law.

A summary of the findings

The study demonstrated that the workers doing standardized focused work in an office were significantly more productive (18%) than those working from home. The study did not explore whether the positive effect of the office was due to better equipment, working near one's colleagues, or other effects. However, it clearly demonstrated that one third of the effect was due to mutual learning and support received from colleagues at the office.

It is striking that the better qualified employees benefited more strongly on average from working in the office than their less qualified colleagues. However, these better qualified employees were exactly the ones who expressed a clear preference for working from home at the beginning of the field test.

INFORMATION ON THE STUDY

Source: Atkin, D.; Schoar, A.; Shinde, S.: Working from Home, Worker Sorting and Development, published in the NBER Working Paper Series, Working Paper 31515, July 2023. <http://www.nber.org/papers/w31515>

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