

An illustration of a home office environment. On the left, a woman in a pink dress sits at a desk with a laptop, with a small plant on the desk. In the center, a man in a dark shirt sits in an orange armchair. On the right, a woman in a black top and grey pants sits in an orange armchair with a laptop on her lap. The background features a shelf with books, a clock, and a lamp, and a wall with framed pictures and a potted plant. A large orange box with white text is centered in the upper right.

The costs and benefits of working from home, part II

The impact of working from home on innovation, people engagement and well-being

Introduction



Working from home was in some way already known to us. Even before the lockdown in March, our office was not always fully occupied because people were working remotely, at a client or elsewhere. However, working remotely completely and for a longer period of time was new. It is crucial for us to know how our people are doing in these circumstances. For this reason from the first weeks of the Covid-19 crisis, we sent out surveys asking about their well-being. Of course everyone reacts differently, but we take two common denominators with us from those surveys. On the one hand our people miss the contact with colleagues, the sociability and the fun at the office. On the other hand, the advantages of working from home clearly emerge: no daily traffic jams, more efficiency in our day to day operations and more flexibility.

We are convinced that, even if social distancing is no longer necessary, we will not go back to the pre-Covid situation in which desks and parking spaces were occupied during a week. We are preparing for a new way of working, which will consist of a mix of working at the office and at home/remote locations. And that has impact for almost all aspects of operations, management and leadership. The new way of working will have an impact on behavior and communication. It means working together on the basis of trust, freedom of choice, and personal responsibility. It also means maintaining a good work-life balance. It also raises other questions: how can we support people in setting up the home workplace? Does this mean that we have to adjust our terms of employment?

Which technology do we need in the coming years? And can we also take steps to reduce our CO₂ footprint by structurally reducing travel? In short, preparing for the new way of working requires a holistic approach.

We are very aware that redesigning the way of working is taking place at a large scale. With this publication we want to help organizations make the right choices, find the right balance between office and home. While our first publication focused on the benefits of working from home, part II focuses on the impact on the people sides of organizations: the innovative capacity, cohesion and wellbeing of people. It also shows how important it is to take a people centric approach when making decisions about your new way of working.

Looking ahead, finding the right balance and appropriately harnessing momentum to ignite transformation are key challenges. Let this document support you in this process.

A stylized, handwritten signature in black ink, appearing to read 'Marc Borggreven'.

Marc Borggreven
Member of the Board of PwC in the Netherlands and responsible for Human Capital

The impact of working from home on the soft aspects of organizations can be considerable

The impact of working from home remains an extremely topical subject. A substantial portion of Dutch (office) workers are still forced to work from home for a large part of the week to meet the demands of social distancing. But many organisations are seriously thinking about changing their way of working permanently. After all, we have seen that working from home during the pandemic went very well in general. Benefiting from the highly developed digital infrastructure, a lot of work continued seamlessly.

In June we set out to research how – in terms of costs and benefits – a permanent increase in working from home would influence overall societal welfare. We found in our report The costs and benefits of working from home that the net benefit of increasing the time worked from home by just one day per week amounts to € 3.9 billion annually, primarily driven by cost savings to companies and employees. Additionally, this change could bring about a reduction in CO₂ emissions of 605.5 million kgs per year, from less (commuting) traffic.

While a large part of these savings could be realised in the short term, there are clearly many other softer effects that need to be taken into account, such as those related to company culture, collaboration, innovation, and (mental) health.

In this follow up research we have quantified the impact of working from home on innovation, people engagement and well-being. We have done this to give stronger evidence to the indications that working from home has benefits, but also costs. Through this research, we estimate that the costs from these softer effects could be as much as € 1.5 billion per year.

While these costs seem lower than the € 3.9 billion savings we previously estimated, it is important to point out that these costs cannot just be offset against the savings. Many of the softer impacts of working from home might be slower to realise, but could have a longer lasting effect on companies and their ability to innovate and improve productivity, and on employees and their well-being.

It is also important to point out that while the savings from working from home benefits a wider section of the economy (the employers, employees and also the general public), the costs from the softer effects disproportionately impacts employers and productivity.



Assumptions

At the start of the Covid-19 imposed lockdowns, the benefits of working from home were clear. Employees spent less time in traffic, and even with the struggles of working in less than optimal conditions, it allowed for certain net savings - for both employees and employers. The costs of working from home however, take longer to show their effects. Literature and early evidence suggests that working from home causes a decline in collaboration and employee engagement, causing ripple effects on innovation and productivity in the workplace. In this paper, we explore the long term effects of working from home, specifically focusing on the softer aspects that are harder to measure and quantify.

The softer effects studied in this paper differ from the net benefits from the previous paper in three relevant ways.

Differences in effect	Net savings from working from home	Softer effects on collaboration, employee engagement, well-being etc.
Time lag	The savings from working home can be realised in the short term. Some aspects of the savings, like reduction in emissions from work related travel or less need for catering in offices could be realised immediately. Some other effects like less need for office space could also be realised relatively quickly.	The impact on the softer aspects like collaboration, employee engagement etc, could be felt in the short term, but the full extent of their impact will only be realised in the long term. Such aspects can also have multiple ripple effects, like lost productivity in the future because of lower innovation in the short term.
Difference per person	The savings that come from working from home are different for different kinds of companies (larger companies might benefit more, for example). However, the difference mostly comes from scale - most employers and employees are still expected to have the same type of savings.	On the softer aspects, the experience of working from home differs widely for employees. It can have a very positive impact on some employees, especially if they are working from home only a few days per week. For others, it could be starkly negative, especially when they might have little to no remote work experience and challenging personal circumstances. This necessitates making a baseline assumption on the average impact of working from home.
Linear effect over time	The relationship between more working from home and cost savings is largely linear. As working from home increases, the savings coming from less travelling to work and need for less office space and related expenses decline proportionately.	In contrast to net savings, the impact of working from home on the softer aspects is not linear. When working from home intermittently, or just a few days per week, the impact on collaboration and engagement is relatively low. As the number of days away from a common office increases, the costs from decreased collaboration and employee motivation could increase rapidly.



The main assumption that underlies our analysis is:

A ten percent increase in working from home

Anyone who is able to work from home (assumed fifty percent of the total workforce¹) will work from home one additional day per week². At the total workforce level, that means an increase of twenty percent (one out of five days a week) for half of the workforce, that is a net ten percent increase at the economic level.

A proportional relationship between working from home and the softer impact areas

As the variation in individual experiences is so high, it is difficult to set reasonable assumptions on the effect of working from home on the average person. It is understandable that jobs that are highly collaborative in nature would be affected much more, and employees with difficult personal circumstances would possibly face more decline in engagement than others.

To account for such disparity, we assume a proportional relationship between working from home and the softer impact areas. This means that a ten percent increase in working from home is assumed to have a proportional, ten percent impact on collaboration, employee engagement and employee stress and burnout. This is considered to be the maximum impact from working remotely one additional day per week³.

While this extent of impact is possible, the actual impact might be less as companies intervene or provide additional support to employees. Yet, we take this approach as it helps us quantify the worst case scenario which assumes everyone experiences at least a proportional negative effect from working from home. When it comes to softer effects, upsides are great to have, but the possible downsides are more consequential in the sense that they call for timely interventions.

Linear impact over time

The effect of working from home on the softer impact areas changes over time. Working from home initially, for a few days per week are likely to have a positive effect, but this

changes if employees work from home continuously for long periods of time, or most of the days in a week. For the purposes

of this analysis, we have assumed that the relationship between working from home and the softer impact areas stays linear.



1 Surveys conducted by PwC and Global Workplace Analytics indicate that on an average approximately 50 percent of the total workforce of a country is able to work from home, <https://globalworkplaceanalytics.com/how-many-people-could-work-from-home>

2 One day over the time they work from home already (if any)

3 The second order effects (for instance, decline in innovation due to decline in collaboration) are estimated based on research on the relationship between the two metrics.

Impact of increased working from home

Based on these assumptions, we estimate that a ten percent increase in working from home could have a negative impact ranging from € 0.4 billion to € 1.5 billion on the Dutch economy. The highest impact is likely to be due to lost productivity, which is driven by lower innovation and higher absenteeism among employees. We discuss the details in the following sections.

Impact on collaboration: less collaboration in groups and less casual encounters

The most direct implication of working from home is less face to face communication. While this does not necessarily have a direct relationship with collaboration (which can be achieved remotely as well), working from home is likely reducing the time spent by employees on collaborative group work compared to individual focus time. According to a research published by Microsoft⁴, working from home during lockdown decreased collaboration time spent by employees by nearly five percent. Another study⁵ that analysed digital communication data of users in sixteen large metropolitan areas in North America, Europe and the

Middle East concluded that people spent 11.5 percent less time in group meetings when working from home full time during the lockdowns than before.

The effectiveness of the collaborative time is another matter. Multiple studies emphasize the positive impact of effective collaboration on innovations in the workplace. Effective collaboration happens in environments that promote the exchange and transfer of resources and knowledge, which can in turn be a competitive advantage for companies. Remote work leaves less time for serendipitous interactions, and while it is still possible to achieve the same exchange of ideas and resources, it takes much longer for the magic to happen. Apart from innovation, the overall quality of work is also likely to suffer, as it might incorporate less diversity of perspectives that comes with more interactions.

So, what does more working from home mean for innovation and the overall economy?

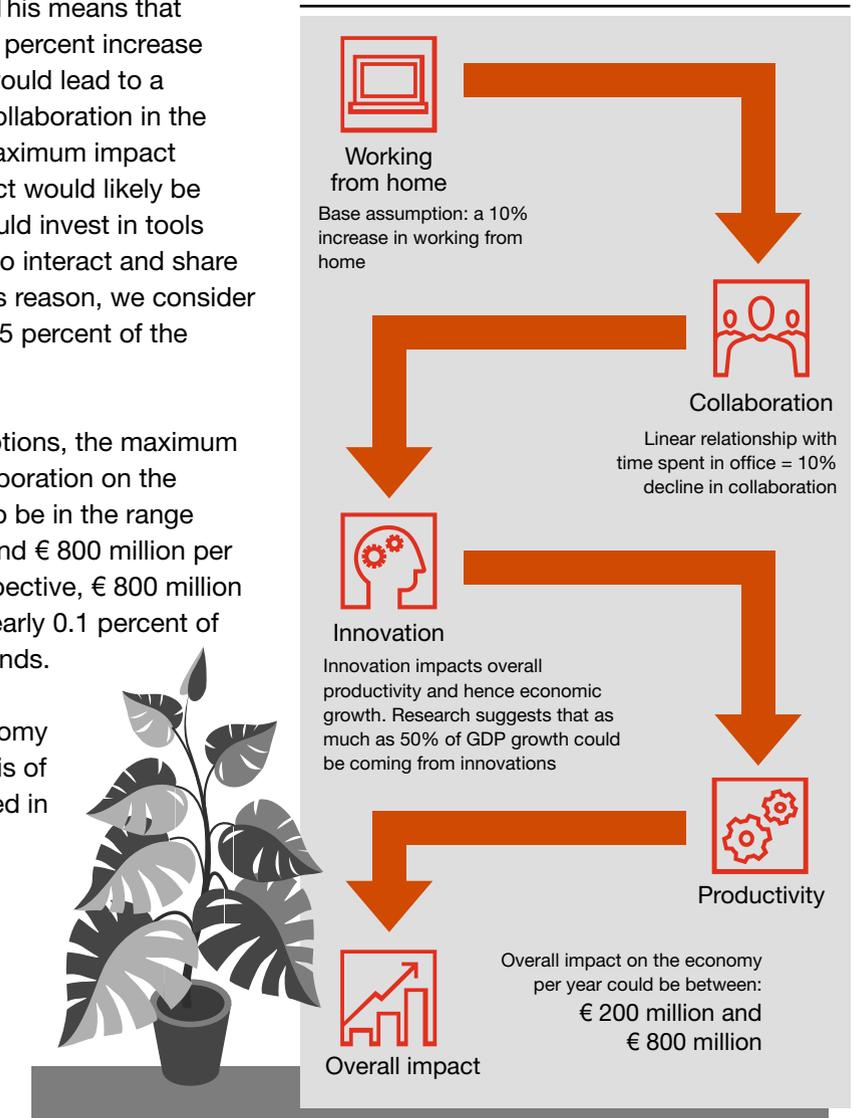
As stated earlier in this report, we assume a negative linear relationship between

an increase in working from home and effective collaboration. This means that our assumption of a ten percent increase in working from home would lead to a ten percent decline in collaboration in the economy. That is the maximum impact possible - the real impact would likely be lower as companies would invest in tools that enable employees to interact and share ideas effectively. For this reason, we consider the lower bound to be 25 percent of the maximum impact.

Based on these assumptions, the maximum impact of reduced collaboration on the economy is estimated to be in the range between € 200 million and € 800 million per year. To put this in perspective, € 800 million per year translates to nearly 0.1 percent of the GDP of the Netherlands.

The impact on the economy is calculated on the basis of the relationship illustrated in the figure 1.

Figure 1: Impact of working from home on collaboration



4 How work from home affects collaboration: A Large-Scale Study of Information Workers in a Natural Experiment During COVID-19, <https://www.microsoft.com/en-us/research/uploads/prod/2020/07/NFW-27-Yang-Jaffe-et-al.pdf>

5 Collaborating during coronavirus: The impact of Covid-19 on the nature of work, <https://www.nber.org/papers/w27612.pdf>, July 2020

Impact on employee engagement: lower productivity, higher absenteeism and employee turnover

Improving employee engagement is widely used nowadays by organizations as a way to improve organizational performance. Flourishing and healthy employees perform better, stay in the business longer, cost less and cause fewer organizational risks. In other words, improving employee engagement leads to a better performing organization.

As more employees start working from home, employees' sense of cohesiveness with teams could fall. Employees might find it harder to stay connected to their teams through virtual meetings, while feeling part of a community is a crucial influencer on motivation and engagement.

When explored in detail, the relationship between remote work and employee engagement is complex. According to a research from Gallup⁶, as workers increase the time they work remotely, the employee engagement could initially increase because of the added work flexibility it provides. However, beyond a threshold (over three-

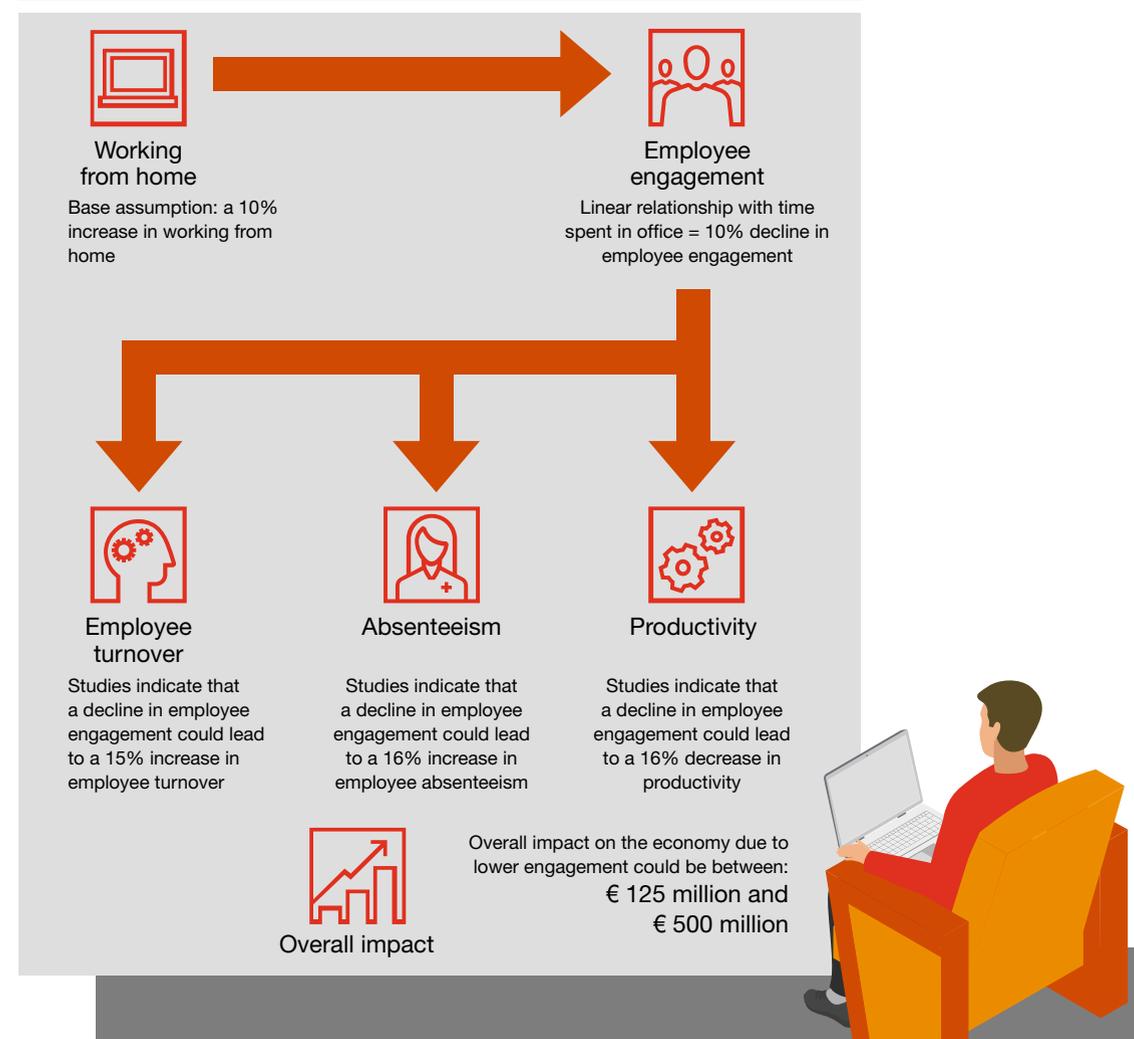
four days a week according to the research), the engagement starts to fall. Various other research have shown similar findings⁷.

What does more working from home mean for employee engagement and the overall economy?

On employee engagement as well, the assumption is that a ten percent increase in working from home would lead to a maximum engagement decline of ten percent. A decline in employee engagement causes a drop in productivity but also an increase in employee turnover and absenteeism, further affecting overall productivity.

Based on these assumptions, the maximum impact of reduced engagement on the Dutch economy is estimated to be in the range between € 125 million and € 500 million per year.

Figure 2: Impact of working from home on employee engagement



6 Is working remotely effective?, State of the American Workplace, <https://www.gallup.com/workplace/283985/working-remotely-effective-gallup-research-says-yes.aspx>

7 Though fewer, there are contrasting research findings as well. Frequently quoted among them is Bloom et al. (2015), that compared the performance and satisfaction outcomes of employees who had volunteered to take part in a randomised control trial of 994 call centre operators. In this research, working from home consistently led to higher job satisfaction and lower job turnover.

8 State of the Candidate, Monster, <https://hiring.monster.com/employer-resources/wp-content/uploads/sites/2/2020/01/2020-SOTC-Infographic.pdf>

9 Working anytime, anywhere: The effects on the world of work, ILO, https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_544138.pdf

10 CBS, <https://www.cbs.nl/en-gb/news/2020/13/nearly-1-in-10-dutch-people-frequently-lonely-in-2019>

11 Loneliness and Social Isolation as Risk Factors for Mortality, 2015, <https://journals.sagepub.com/doi/10.1177/1745691614568352>

12 TNO research, <https://www.rtlnieuws.nl/economie/business/artikel/4916891/werknemers-met-burnout-kosten-nederlandse-bedrijfsleven-28>

Impact on well-being: increase in isolation, stress and burnout

The effect of working from home on the well being of employees is particularly important, as any adverse effects on well-being can cause multiple ripple effects. While it could have a number of effects on work-life balance, overall health, and satisfaction, in this report we are particularly focusing on employees' mental well being and ability to perform in their jobs.

The impact of remote work on mental well-being could be a function of many other things, such as work intensification (do workers work more as a result of working from home), effectiveness of communication (do they feel the stress of communicating remotely), interruptions or perceived work autonomy. In effect, working remotely could increase the feeling of being isolated, stressed or burnt out, as has been reported by a survey evaluating the effect of remote work during the Covid-19 lockdowns⁸.

Some studies have reported similar results even before the Covid-19 lockdowns, such as a report from ILO⁹ which notes that 'high-

mobile' workers are more at risk of negative health and well-being outcomes.

What does more working from home mean for well-being and the overall economy?

Even in pre-Covid times, loneliness was a big challenge. In a 2019 survey¹⁰, nine percent of the Dutch population aged fifteen and over reported they frequently felt lonely, and another 26 percent said they sometimes felt lonely. The cost implications from this is huge, with research suggesting that isolation could be twice as harmful to physical and mental health as compared to obesity¹¹.

According to WHO, burnout is characterized by "feelings of energy depletion or exhaustion; increased mental distance from one's job, or feelings of negativism or cynicism related to one's job; and reduced professional efficacy. Burnouts already cause a high burden on the Dutch economy, costing nearly 2.8 billion euros per year¹².

An increase in working from home could increase the feelings of stress and loneliness among employees, pushing this cost further up.

Our estimates indicate that the effect of increased working from home on burnout and stress could be between € 50 million and € 200 million per year. € 200 million is an increase of over eight percent of the existing costs from this condition, and an increase of over five percent of the finance of mental health institutions in the country.

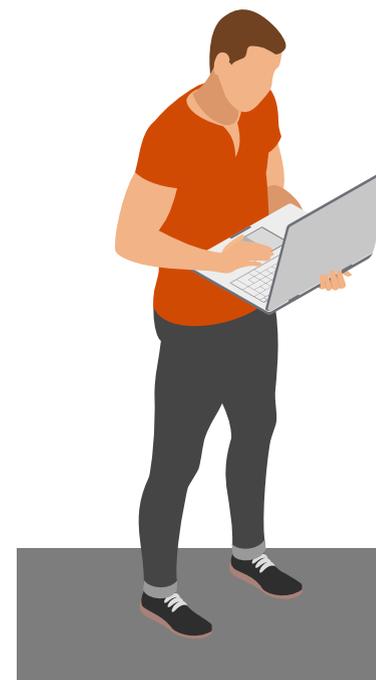
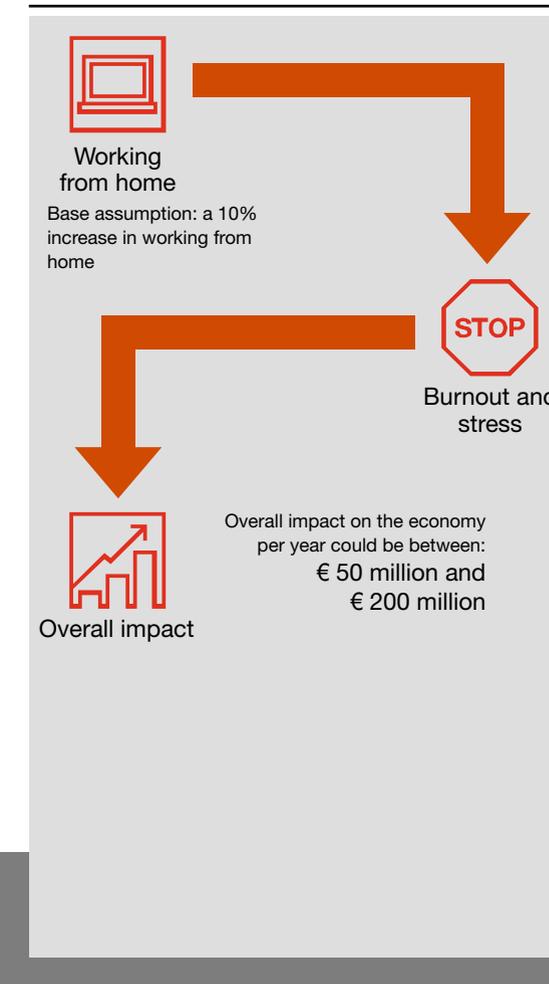


Figure 3: Impact of working from home on burnout and stress



Distribution effects

The impact of working from home, softer or otherwise, is not equally distributed throughout the population. There are two big sources of variation - between those who can work from home and those who cannot, and the variation because of personal circumstances.

A big part of the distribution effects is rooted in the fact that not all jobs can be done remotely, and for extended periods of time. Data from CBS shows that it is mostly government administrators, ICT managers, policy advisers, higher education managers and professors, and business and administrative services managers that are most able to work from home, and hence these will be the areas most affected by the impacts we discussed.

Apart from specific job designations, some demographics and industries would also be more likely to be affected than others. For example, research from American Time Use Survey¹³ that collects data from American citizens, pointed out that people with higher education and elderly people are most able

to work from home. The same research also pointed out that some industries such as, Information and Communication, Financial Services, Business Services and Public Administration were better able to work from home than others. This implies that organizations in these industries and with a high proportion of workers from this demographic, will be affected the most by the increased working from home effects. The variation because of personal circumstances is more complex and difficult to generalise.



¹³ US Bureau of Labor Statistics, <https://www.bls.gov/opub/mlr/2020/article/ability-to-work-from-home.htm>

Mitigating the negative impact of more working from home

As employees work from home more, companies will save costs, but will also be faced with the negative effects of remote work. Newer challenges will emerge that they will need to address with their workforce strategies, like managing virtual teams and being cognizant of family situations of employees.

Creating a sustainable workforce that is sufficiently resilient to work from home

The goal is to mitigate the risk of working from home and the negative impact it has on collaboration, organizational culture and stress caused by isolation. To do so, organizations should try to avoid the impulse to focus on the outcome: less productivity, more absenteeism, more burnout and more employee turnover. Organizations should try to focus on effective collaboration, employee engagement and well-being of employees. As our research found out, by focusing on improving these aspects, outcome will improve. For this, leadership is essential.

For leaders these aspects are important:

- Lead the way and show the right example, practice what you preach;
- Choose the right leadership style to guide your people;
- Invest in a good functioning leadership team.

In order to improve employee engagement and well-being, think of the following aspects:

- Don't work from home more than three days. This will lead to isolation and less engagement;
- Put people in the right position to flourish;
- Keep track on people, know how they feel and what they need;
- Invest in initiatives that improve employee engagement.

In a virtual environment, collaboration is less effective. Think of the following initiatives to improve effective collaboration in a virtual environment:

- Invest in designing virtual processes and use technology to collaborate effectively;
- Find a balance between company offices, co-working spaces and home offices that suits best.

Plan-do-check-act

While we identified the aspects that are necessary to deal with a situation in which employees work from home more after Covid, there is no solution that fits all organizations because not all organizations are the same. Culture between organizations differ, needs of employees differ. It's therefore important to know what the needs of the employees are. This can be arranged by continuously monitoring (e.g. via surveys) the needs of the employees. On the basis of the outcome organizations need to take action in order to meet the needs of the employees and determine what spearheads are for next period. Timing is very important, don't wait too long to take action. Otherwise employees don't believe they are heard.

Actions have to be taken on three different levels: individual, team and organization level. On individual level actions that can be taken are coaching and classroom training. On team level actions that can be taken are: team building activities, team thermometer, redesign of team goals or introduction of a 'Chief Happiness Officer' that is responsible for the well-being of the team.

On organizational level leadership engagement and a clear vision on well-being in line with the company's purpose and strategy are crucial.

A balanced approach to working from home

In our previous research we estimated that a 10% increase in working from home could generate € 3.9 billion in savings annually, in addition to cutting emissions. In this report, we estimated that the costs from these softer effects could be as much as € 1.5 billion, but these could be longer lasting, potentially impacting future productivity growth. For this reason, the costs cannot be offset against the savings from working from home, and efforts must be made to minimise any negative impact on the workforce.

Considering both the cost and benefits of working from home, taking a balanced approach will be critical for companies. There are various levers that can be used to ensure that the workforce remains resilient, productive, happy and healthy, while all the potential cost savings from working from home is realised.

Appendix

10% increase in working from home				
Assumptions	Impact on	Maximum impact	Minimum impact	Notes
Collaboration (decrease of 10%)	Innovation	€ 800,000,000	€ 200,000,000	Less collaboration is expected to slow down innovations, causing a decline in productivity and output
Employee engagement (decrease of 10%)	Employee turnover	€ 60,000,000	€ 15,000,000	Decline in team cohesion and overall company culture can have an impact on employee engagement, leading to increased turnover and absenteeism, as well as lower productivity
	Absenteeism	€ 190,000,000	€ 50,000,000	
	Productivity	€ 250,000,000	€ 60,000,000	
Employee well being	Stress and burnout	€ 200,000,000	€ 50,000,000	Instances of stress and burnout could rise as a result of work intensification and poor work life balance when working from home
Total impact on the economy		€ 1,500,000,000	€ 375,000,000	

