

## **EconoFact Chats: Remote Work in the Post-pandemic Era**

**Nicholas Bloom, Stanford University**

**Published on 20th March 2022**

Michael Klein:

I'm Michael Klein, Executive Editor of EconoFact, a nonpartisan web based publication of the Fletcher School at Tufts University. At EconoFact, we bring key facts and incisive analysis to the national debate on economic and social policies, publishing work from leading economists across the country. You can learn more about us and see our work at [www.econofact.org](http://www.econofact.org).

Michael Klein:

At the beginning of the pandemic, there were advertisements for COVID work wear, which was a nice blouse or a shirt and tie, and a pair of sweatpants. COVID changed many of the ways we live, not least for many of us, working from home rather than from an office. What have been the effects of working from home on businesses and employees? Now, as many places are opening up and we can again go to stores, restaurants, coffee shops, and movies, will people who had been working from home continue to do so, even for some of the work week? Do they want to? If so, will companies be willing to accommodate them? And how will working from home affect productivity, and people's sense of isolation?

Michael Klein:

There's a lot of anecdotal evidence and people have their own experiences to draw on. But it is important to get some broader systematic understanding of the effects of working from home. To do this, I'm very pleased to be speaking today with Professor Nicholas Bloom of Stanford University. Nick is the co-director of the Productivity, Innovation and Entrepreneurship Program at the National Bureau of Economic Research, and a fellow of the American Academy of Arts and Sciences. More to the point for this discussion, Nick is one of the three co-founders of the Survey of Working Arrangements and Attitudes, which began in May, 2020 in response to the dramatic impact of COVID-19 on working arrangements. This is a monthly online survey run jointly by the University of Chicago, MIT, Stanford, and ITAM in Mexico. Nick, welcome to a EconoFact Chats.

Nicholas Bloom:

Thanks very much for having me on.

Michael Klein:

Nick, we're recording this over the internet, not in a studio. So my first question is, what are you wearing?

Nicholas Bloom:

Well, yeah, I mean, we have visual, you can see I'm wearing ... it's a shirt, I'm sorry to disappoint, but I'm also wearing pants. I'm wearing a pair of jeans and I'm even wearing shoes. Because I took my daughter to school this morning, although that in itself is already telling that maybe pre-pandemic, I wouldn't have done that. Yeah, I'm dressed rather boringly normally, for today, at least.

Michael Klein:

Okay. So I'm wearing a nice button down shirt, but then pants that don't at all go with it and flip flops. Does your survey evidence suggest that the more casual home environment is an important source of popularity of working from home?

Nicholas Bloom:

Yes. There's a couple of ways of looking at this. One is when you survey people ... so I should step back and say, people really like working from home. As an economist, I'm going to throw some numbers out there. But with Jose Barrero and Steve Davis, we've been polling people for months about how they value working from home. Hybrid, which is the most common plan for professionals, managers, probably most people listening, post pandemic, which will be say three days in the office two at home, versus going in five days a week. And the average number you get is it's equivalent to about an 8% pay increase. So there's actually some prior research by Alex Mass and Mandy [inaudible 00:04:02] before the pandemic giving similar numbers. But it tells you that people like working from home on average, quite a lot. About as much as a pension or a healthcare plan.

Nicholas Bloom:

When you then ask them, what are the things you most value? Number one is by quite some margin is avoiding the commute. To put figures on that, the average American commutes about 30 minutes a day, each way. And that saves 60 minutes. And on your question about getting ready for work, we've also asked how long it takes you to get ready when you go into the office versus when you work from home? And that's about 30 minutes to go in about 20 minutes to work from home. Because people quite honestly, in the day, you can see, skip a bit on shaving, makeup, wearing clean clothes, brushing ... a lot of stuff. So they like working from home a lot, they like it because it saves them a lot of time. It's also more relaxing.

Michael Klein:

Okay. So the phrase, too much information comes to mind right here. So as a professor, I've always been able to work from home for a day or two each week, even before the pandemic. And I imagine your experience is somewhat similar. But more broadly, what happened to the proportion of people working from home between just before the pandemic, say in January, 2020, and once the first wave hit?

Nicholas Bloom:

Great. So it's a bit like inequality, there's various ways to measure work from home. So my favorite measure is the percentage of full paid days at home, since that's what's [inaudible] office use and commuting. And if you look at that across the entire US economy, it was about 5-6% before the pandemic. So roughly one in every 20 days were at home, 19 out of 20 were in person. During the pandemic, at it's very peak, that rose to 60%. So that's an enormous increase. And it looks like post pandemic from our month to month surveys, it's going to drop back down to about 25%. So again, to kind of wrap it up from pre to post pandemic, that's a fivefold increase. And we're looking at kind of one in four days across the entire economy, post pandemic that will be worked from home.

Michael Klein:

There is a concern at the outset of the pandemic that companies would take a big hit in terms of productivity when their employees work from home. But this didn't seem to happen, did it?

Nicholas Bloom:

No. I mean, I'd say the biggest surprise, even for me. I've been working and working from home for almost 20 years and I've been a big proponent of it; the big surprise is like how successful working from

home has been. I mean, most people were deeply skeptical pre pandemic, lots of jokes about working from home, shirking from home or working remotely, remotely working, et cetera.

Nicholas Bloom:

And it turns out, I mean, again, we see that in surveys, but just to summarize, working from home has turned out to be tremendously successful. It looks like if you work certainly hybrid, which is the typical scheme, let's say three days in the office is two at home. Take Apple. So Apple company is announced, you're going to come into work Monday, Tuesday, Thursday, you're going to work from home Wednesday, Friday. That scheme looks like it probably is going to increase productivity by 3-5%. So it's not negative. In fact, it looks like it's positive and it's not massively positive. But yes, working from home, turns out, it works pretty well, as everyone now knows two years into the pandemic.

Michael Klein:

Well, let me follow up on that. A real advantage of getting together in a workplace is the informal interactions, talking around the proverbial water cooler. This both fosters a team spirit, and it can often lead to developing new ideas. Is there any evidence that morale or creativity have been hurt by the isolation involved in working from home?

Nicholas Bloom:

Yes, to be clear, there's three modes. There's fully in person and about half of all Americans are going to have to be fully in person because their jobs just don't allow working from home. So this is like frontline manufacturing, retail, et cetera. There's fully remote, which post pandemic, there's not going to be a lot of jobs, but there'll be some, maybe 10-15%. And then there's hybrid. And most folks, professionals and managers, are going to be hybrid. And the reason is, while we really like working from home, it does look like there's some definite benefits from being in the office is of which the two that are raised around innovation and culture.

Nicholas Bloom:

Now on the evidence, the evidence base is much thinner. I've probably spoken to around 300-400 managers and they always raise it. So that's like a lot of anecdote. I mean, there's not that many studies, there's one by Sonia Jaffe and co authors that looked at this in Nature Human Behavior; looked at firms that have flipped from ... they did a natural experiment on firms that flipped to fully remote, and showed that communication across teams dropped, synchronous communications, meetings, talking in person dropped. It looked like it was much more emailing within a team. And they kind of infer, which I think it matches the anecdotal data that when you're remote, you have lots of these transactional Zoom type meetings. But you don't tend to bump into new people as much, you're not in the office canteen, you're not in meetings. And long run, that's likely to reduce productivity.

Nicholas Bloom:

Certainly as an academic, I noticed this, that Zoom conferences are just very different from in person conferences. And in person conferences, there's the breaks that I love, the lunches or the dinners, where you get to chat to new folks that you maybe wouldn't talk to otherwise. That doesn't tend to happen when you're sitting, listening to a paper over Zoom.

Michael Klein:

Yeah. They've tried to have like rooms that you go into during a Zoom conference. That's really not the same and just doesn't work out. You mentioned frontline workers, you mentioned managers. Your survey finds that working from home during the pandemic was not evenly spread across people, but it tended to

be much more prevalent among those with higher paying jobs. So could you speak a little bit about maybe some of the inequality aspects of working from home? And of course, this was a big issue initially because people on the front line were much more prone to getting the virus. But even without that, there seems to be a lot of inequality issues linked to this. Would you agree?

Nicholas Bloom:

Yes, absolutely. I mean, generally I'm hugely in favor of it. The inequality issue stems from the fact that basically working from home is a really nice perk, it's a great benefit, but not everyone's getting it. So it's true, it raises inequality. It raises in a way that's slightly odd because not like one group is losing, it's just one group, professionals, managers are gaining, the other group isn't.

Nicholas Bloom:

But yes, to be clear on it, if you look at working from home, there is a fair amount of variation. It's almost entirely driven by education-income, as in the job you do. So if you look in the data, there's not that much variation by say, gender, race, age, what else? Kind of location. It's heavily, heavily driven by education. So basically wealthy, educated people tend to be able to work from home because their jobs use computers, their office jobs that can be done remotely. If you look at people, particularly say those that left school at 16, they're pretty unlikely to have work from home jobs because they're working in frontline occupations.

Nicholas Bloom:

And yes, that is an issue. In fact, we see that in the labor market, one of the things that's currently driving very high rates of inflation in the US is that labor supply is well down. We're missing about 5 million workers versus pre trend. And if you look at where that comes from, there's two groups, one is early retirees, the other group is lower educated, lower income workers that don't seem to have returned as much to the labor market. And I think one reason is, there's still a fear of being in person, and these folks are not the people that get to work from home. So if there's a way to roll that out, that would be go some way actually to addressing some of the labor supply issues, as well.

Michael Klein:

But inherently, it seems like a lot of jobs just cannot be from home, as you're mentioning. I mean you think about people working in a supermarket, people working in a restaurant. These are all jobs that inherently cannot be remote.

Nicholas Bloom:

Mostly. Although, there's some flex, I'll give you two examples. So, my next door neighbor, she's a doctor and I've been talking to her during the pandemic. She used to say she was a family doctor, she go in five days a week. She said during the pandemic, they start to offer telemedicine because partly, they change the regulation to support it. Post pandemic she said she's going to be doing this one to two days a week because both she and a lot of her patients actually prefer it. It's quicker and easier.

Nicholas Bloom:

And then, separately, I actually talked to Satya Nadella at Microsoft about what was happening in Microsoft. And he said for him a big revelation was they had a lot of these stores, these Microsoft stores and all those employees, you think couldn't work remotely. And he said, what happened is a lot of the business swiveled onto online and the same employees that used to be in store, were now online sales assistants. And actually they've done a lot of work doing that, been quite successful. So you're right, that a lot of jobs can't be done. Look, if you're working in Chipotle, you can't really have someone doing that

remotely. But I think in the medium and certainly longer-run this, there's going to be some migration of individual tasks that will transfer to online.

Michael Klein:

That's really interesting, the way things could be shifting. One distinction that you didn't mention, perhaps, is family structure. People with small children or people with children in schools that operated remotely, found it really hard to work at home. And for example, we saw a lot of women leaving jobs when the challenges of simultaneously doing a job and caring for children got to be too great. So do you find evidence that by gender, by family structure, there might be more of a distinction or there might be more differences than for example, women who might not have children? Or men in families where perhaps for a range of reasons, the wife, rather than the husband is taking more responsibility for the care of children.

Nicholas Bloom:

Great, yeah. So I tell you what we see in the data. So first I do children then talk a bit about gender. So if you look at having kids, there is a bit of a U shape in terms of preferences for coming into the office by age. So the youngest people, people based in their twenties and people 55 plus has a higher preference to come in. A lot of that's explained by having young kids. There are two factors having young kids and the one hand, people want to be around because of childcare. On the other hand, it's obviously noisier in that sense, you may think they don't want to be around. It seems like the first one slightly dominates, but not massively. So people with young kids have a mildly higher preference to work from home, but it's not enormous.

Nicholas Bloom:

In terms of gender, there's an interesting dichotomy here. If we look in the survey data, so we've collected about 100,000 observations over the pandemic. The levels of work from home during the pandemic for men and women have been very, very similar, incredibly similar, actually. So they've gone up and down together. If you ask people what they want post pandemic and what they're going to get from their employer, then you see quite a noticeable gap. So for both men and women, what they want is greater than what their employers offering them. So on average, there's a gap. People want to work from home more than they're going to get, more than employers told them. But that gap is almost 50% larger for women.

Nicholas Bloom:

And the reason is, post pandemic they express a slightly higher preference to work from home. And post pandemic, their report their employer actually is less likely to let them work from home. And that's something we're very actively looking into because the second bit of that, I'm not sure I fully understand why. I mean you can think of ... discrimination is one reason. Another reason might be occupational structure, industrial structure, full time versus part-time, et cetera. So we're trying to collect this. But I think post pandemic, there may be an issue around gender gaps between what people want to do and what their employers are offering them.

Michael Klein:

I'd like to follow up on that a little bit more with a safer work environment because of greater immunity among the workforce; because of vaccination, and there are plans for offices to open again, and for jobs that had been remote to again, revert to being in person. But do you think this opportunity will be realized? Or will people and companies want to continue to have remote work, even if only part-time? Are we going to see a big shift in the way work is done for people whose jobs could be remote? Will they continue to be remote?

Nicholas Bloom:

Yeah. When you ask people what they want, roughly a quarter of people post pandemic say, "look, I never want to work from home again. It's isolating and depressing, I want to come in full time." There's roughly a quarter that want the exact reverse, they want to work from home permanently. And then the other half, which say would include me, were like, "look, I want to come in two, three days a week. But I want to work from home two, three days a week." It turns out most firms, I talk to professionals and managers, are going to have that kind of hybrid set up. So the typical company is saying three days in person, two remote. So for most professionals and managers, it's going to look a lot like pre pandemic, except now you say, get to work from home on Monday and Friday. So you're still going to have to be commuting three days a week, you still have to live close enough to get in.

Nicholas Bloom:

There are about 10 to 15% of the labor force that will be fully remote. That's a pretty radical change for those guys. So you can now move cross country, you can potentially move internationally. It's interesting, I've talked to quite a lot of CEO ... like I was talking to Hayden Brown, she's the CEO of Upwork, last Friday. And she was saying, look, even for Upwork where we have a fully remote company, we still have these retreats whereby we meet up for about a week, once every two, three months to kind of build bonds to build connections. So I think even for fully remote workers, yes, you could go to Mexico or Alaska or Thailand. But you're still going to have to come back if you're a professional manager once every other month. So even those folks, I think, may not go too far away. They may just change State, I doubt too many of them will change country.

Michael Klein:

Well, we do see, in fact, in real estate prices and housing prices, we have an EconoFact memo on that. Where, for example, there's been this huge increase run up in the housing prices in Boise, Idaho, or I know in Missoula, Montana. Where people find this would be a really kind of nice place to live, a much cheaper place to live. And I can still work from there.

Nicholas Bloom:

Yes, totally. We've been looking at ... completely right, and we've seen this in data, as well, looking at Zillow property price data. So one of the things I've been looking at with Arjun Ramani, who's another co-author, is using the US Postal Service change of address data. So amazingly, the US Postal Service gives you net flows by month by zip code. And so what we've seen during the pandemic is what we call the donut effect. So big cities like San Francisco, New York, LA, Chicago have lost about 10% of their population from the city centers out to the suburbs.

Nicholas Bloom:

And what's driving that is a lot of folks in city centers that used to go in five days a week are now, post pandemic realizing they're only gonna go in in two, three days a week. And they're saying, look, I don't need to commute every day, so I can live a bit further away. But obviously I maybe need a bit of space for a home office or I'd like a bigger yard. So there's a lot of folks moving out to the suburbs. And in fact, the hottest property prices or some of the hottest ones have been the suburbs of big cities.

Nicholas Bloom:

But there are some folks, as you say, that are going fully remote, leaving the centers of big cities, like a lot of tech workers and going much further afield. And these are the folks that are driving up the prices of what we would call nice kind of exurbs or very rural locations. So if you leave central San Francisco as a tech worker, you're working for Facebook, you're on \$200,000 a year. You probably go for somewhere

potentially rural that's pretty nice, like a holiday destination and Boise, Idaho would fit into this kind of area. Tahoe does. Tahoe near San Francisco's skiing destination has exploded, the market there is completely exploded. It's like doubled in price. Because a lot of techies want to live permanently up there.

Michael Klein:

So what are some of the other spillover effects, Nick, of greater working from home? For example, commercial real estate or for businesses that cater to office workers like lunch spots or office custodial services.

Nicholas Bloom:

Yes. I'll mention two others. So one seems a bit of a dud, and the others, I think a big issue. So the dud, which surprised me, I completely mis-predicted this in May, 2020; is that commercial property is actually doing fine in city centers. So initially you think, well look, if there's a donut effect, people are moving out, they're only coming into the office three days a week, surely firms are going to cut commercial space and that's going to kill city center property markets. Turns out that's not happened. And in fact, I have two large surveys, one with the Atlanta Fed in Chicago, one with the Bank of England in Nottingham in the UK. Both of them have surveyed firms and asking them their demand for office space, post pandemic. And they both report drops of only 2-3%.

Nicholas Bloom:

And you're like, "how can this be?" And the reason that while footfall is way down, office space is hardly changed, is when you talk to companies they say it's really hard to schedule to save space. So, Michael, imagine we're in the same firm, mostly companies either are letting individuals or teams choose. In which case they're generally choosing to work from home Monday, Fridays. Or like Apple, they have a common plan. Let's say you work from home Wednesday, Fridays. Either way, it's really hard to make much use of the space. And so commercial offices, long run, may see pretty radical changes. So 5, 10 years from now, I think it would be a big deal. Short run, we're not seeing much. So that's one thing that doesn't turn out to change.

Nicholas Bloom:

The thing that I think is potentially a big hit and needs careful policy consideration is impact on public transport. So a lot of things like the New York Subway, commuter rail, BART in San Francisco, are seeing permanent reductions in usage. So BART predicts, long run, it's going to be 30% down, it's currently 50% down. Now these public transport systems have very high fixed costs. So if you have a 30% drop in ridership, it doesn't save a lot of cost, but it obviously drops your revenue a lot.

Nicholas Bloom:

And I think an important policy question's going to have to be for state and local governments, how to support public transport? Because if we let BART in San Francisco say, you let BART go bankrupt. That throws tens of thousands of car journeys onto the roads, causes major traffic congestion, it's hugely disruptive and it would be disaster. But the state government, I think, or the city government, is going to have to think about how to handle [inaudible]. And that's a thorny policy problem. And it's a global one. I mean, London transport's facing the same thing, for example. And these are billions and billions of dollars.

Michael Klein:

There's some real inequality issues there, as well. Because the people who depend upon public transportation tend to be lower income than the people who say, would be taking their own cars to work and things like that, I imagine.

Nicholas Bloom:

Yeah, I think so. It's an interesting point. My guess is probably the bottom 20%, probably don't work or maybe are not taking public transport. But you're right, probably if I was to guess, I'd say income percentile is kind of 30 up to 60-70 are the heaviest users. And then the very wealthy, they're at the other end, probably drive to work or also maybe can fully remote, have other ways to get in. But yes, I mean a second issue is the government. I think it's important that we encourage and support people being able to work, as part of the very positive spillovers on that. So I think there's going to be an important policy issue. I mean, in particular in Europe, Europeans are more relaxed with subsidizing public transport, Americans less so. But if we don't do it, these subway systems are going to collapse and then we're going to have traffic hell, as everyone turns to driving.

Michael Klein:

Nick, to conclude, I'd like to just mention that people's jobs are such an important part of their lives. We spend a large proportion of our waking hours at work. Do you have any conjectures on how greater working from home may affect people's lives, perhaps outside the purely economic sphere? Will people maybe feel more isolated and alone?

Nicholas Bloom:

It's an interesting question. So I'm going to give you an optimistic end on where I hope things can go. So under hybrid, which is by far the most common thing, the idea is ... we were talking about in the preview, it's a bit like the Autor, Levy, Murnane task based model of the labor market. So if you think of pre pandemic, what we did throughout the week was a range of tasks. So meeting people, training, presentations, lunches, leaving dues, et cetera.

Nicholas Bloom:

Now let's say, 60-70% in a typical job were social things and maybe 30% was individual stuff, doing email, writing reports, doing data. Hybrid, the idea is, the social stuff is now pushed into three days and the quiet time is done at home. And if firms get this right, you still have as much face to face time with your colleagues, more or less. But you now save two days at home and you can work from home. Now the upside of that is you save two hours of commuting a week and about half of that goes to work more. But the other half goes to more leisure, more time with your kids.

Nicholas Bloom:

So my positive hope is that if we manage hybrid well, we'll both be more productive. We probably won't lose much connectivity with our colleagues, but we'll have a bit over an hour extra a week to spend on leisure, childcare, exercise, which is what we see in the data. So I think we can come up with a win-win situation here, but I think it needs some supportive policies. We've talked about public transport, the other element that's clearly make sure broadband is there. And it needs to be well managed by companies.

Michael Klein:

Well, it's nice to end on an optimistic note. I guess the only downside is maybe people will listen to podcasts a little less often if they're not commuting. But hopefully they'll continue to listen to EconoFact Chats. So Nick, thanks very much for joining me today, remotely, for this very interesting conversation.

Nicholas Bloom:

Michael, thanks very much. It was fantastic to catch up.

Michael Klein:

This has been a EconoFact Chats. To learn more about EconoFact and to see the work on our site, you can log into [www.econofact.org](http://www.econofact.org). You can subscribe on our site to our newsletter that will let you know when we publish new memos and new podcast episodes. Please feel free to share this podcast and our memos with friends, colleagues and on social media. EconoFact is a publication of the Fletcher School at Tufts University. Thanks for listening.