



The Adoption and Travel Impacts of Teleworking: Will it be Different This Time?

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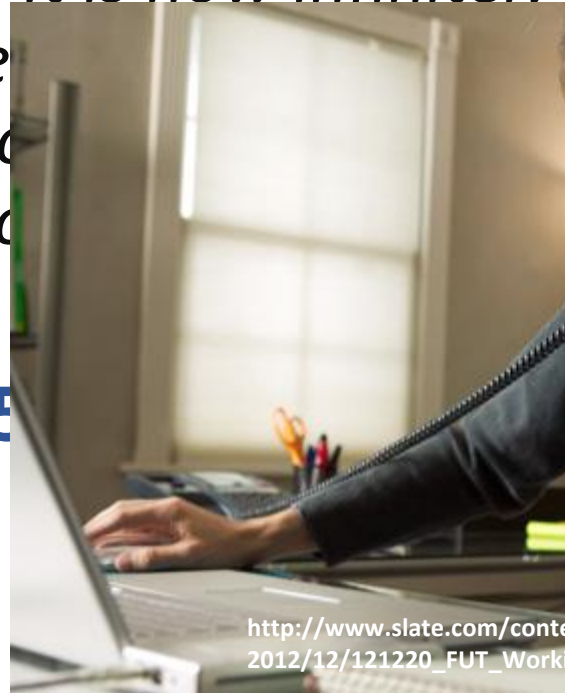
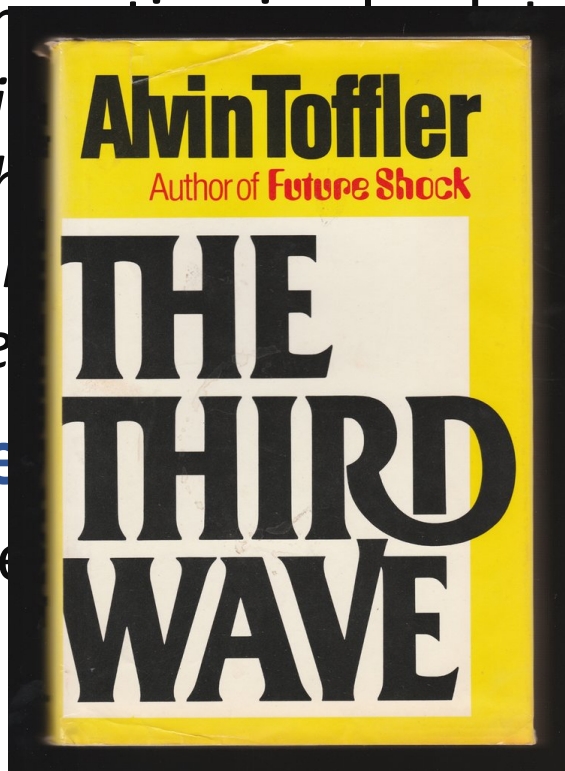
It's déjà-vu all over again!

- Alvin Toffler (1980)

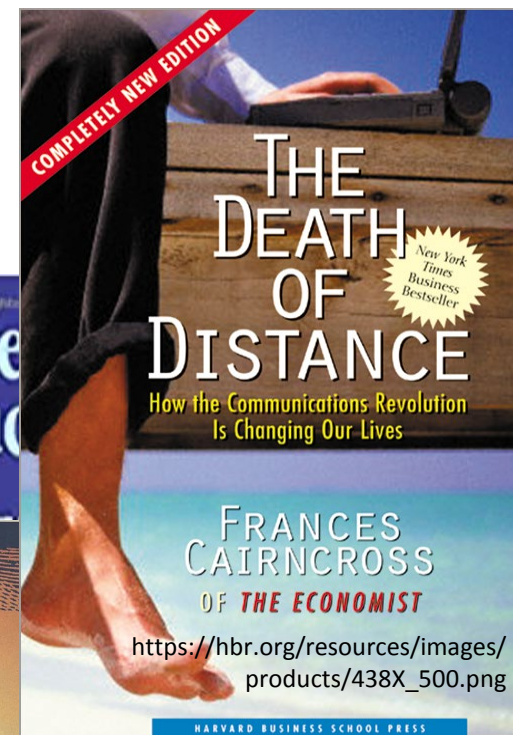
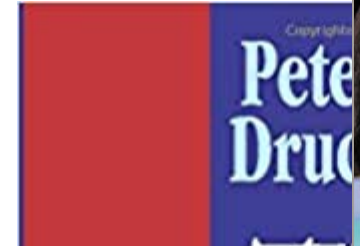
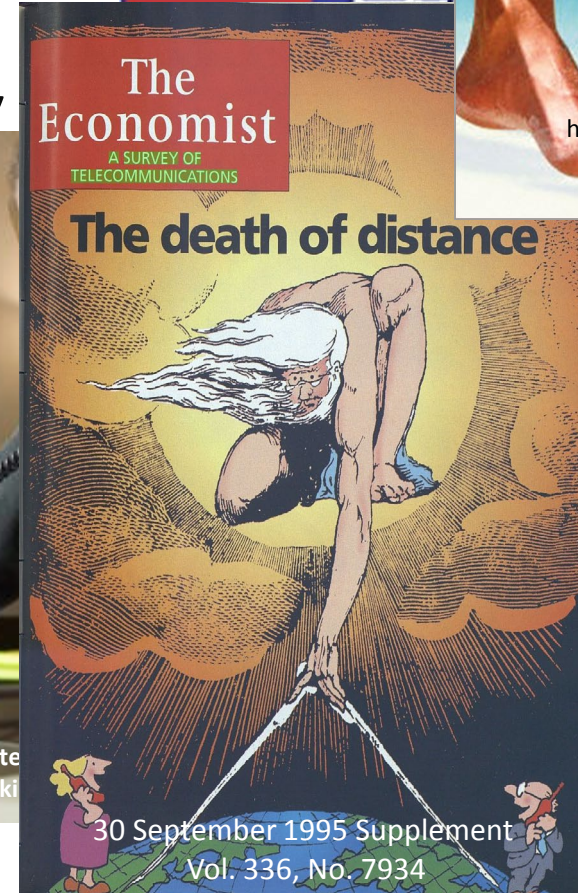
- “The Electronic Cottage”

- Peter Drucker (1993)

- Comparison of the two books: “It is now infinitely



http://www.slate.com/content/2012/12/121220_FUT_Worki



- Frances Cairncross (1995)

- “The Death of Distance”

A typology of extreme events for which teleworking has been promoted

Location of event	home, work, other bldg	<i>planned</i>	
	either	<i>unplanned</i>	
	transport network	<i>planned</i>	

Examples...

- 1984 Los Angeles Olympics
- 1989 Loma Prieta (SF) quake
- 1992 Los Angeles riots
- 1992 flood in Chicago Loop
- 1993 NYC World Trade Center bombing
- 1994 Northridge (LA) quake
- 1996 Atlanta Olympics
- 2002... NY... transit strike
- 2007 I-35W bridge collapse, Twin Cities
- 2008 Fix I-5 (Sacramento, CA)
- 2010... blizzard (DC...)
- 2011 Christchurch, NZ quakes
- 2012 London Olympics
- 2012 Hurricane Sandy
- 2017 Atlanta I-85 bridge collapse
- 2020 Coronavirus pandemic

2012

SHRM

Telecommuting May Ease Chaos of a Transit Strike

Threat of Strike in New York City Puts Spotlight on Remote Access for Workers

By Stephanie Miles *The Wall Street Journal Online*

Updated Dec. 13, 2002 4:10 pm ET

<https://www.wsj.com/articles/SB1039204370405654513>

2002

Hurricane Sandy Forces Companies to Reconsider Telework

<https://blog.shrm.org/workplace/hurricane-sandy-forces-companies-to-reconsider-telework>

By Greg Wright | On November 26, 2012 | News Updates

Los Angeles Times

Earthquake: The Long Road Back :
Telecommuting Takes Off After Quake : Business:
Building owners are converting unused spaces into work stations to meet the demand. Most employees welcome the change.

1994

<https://www.latimes.com/archives/la-xpm-1994-02-05-me-19465-story.html>

of an earthquake to shake loose some interest

Move to telecommute may be an Olympic legacy

By Jeffrey Kagan -
Oct 7, 1996, 12:00am EDT Updated Oct 7, 1996, 12:00am EDT

Now that Atlanta's great Olympic telecommuting experiment has concluded, what have we learned? Many Atlanta businesses braced for Olympics-related gridlock by setting up telecommuting programs and business continuity plans to

<https://www.bizjournals.com/atlanta/stories/1996/10/07/smallb7.html>

1996

So (even pre-COVID-19) teleworking must be through the roof by now?

▪ A lot depends on how you define it! Working from home includes

- Moonlighting (second jobs)
- Self-employment (blue-collar as well as white and pink)
- Farmers and live-in domestics
- Long-distance teleworkers
- Overtime (evenings/weekends)

as well as

- Salaried employees not commuting

Transportation impacts differ markedly telework more broadly

reduce

- salaried employees
- live-in domestics

ambiguous

- self-employment
- moonlighting
- long-distance telework

neutral

- overtime WAH

increase

- fieldwork
- working while traveling

How much (pre-COVID-19) working from home is there?

- Statistics like “43% of employees work remotely” (2016) include all of those forms, plus just “away from their team members”

<https://cloc.umd.edu/library/research/State%20of%20the%20American%20Workplace%202017.pdf>

- Census/American Community Survey (ACS) journey-to-work numbers give us the most consistent count for the US

- “How did [you] usually get to work last week?”

- “Worked from home”

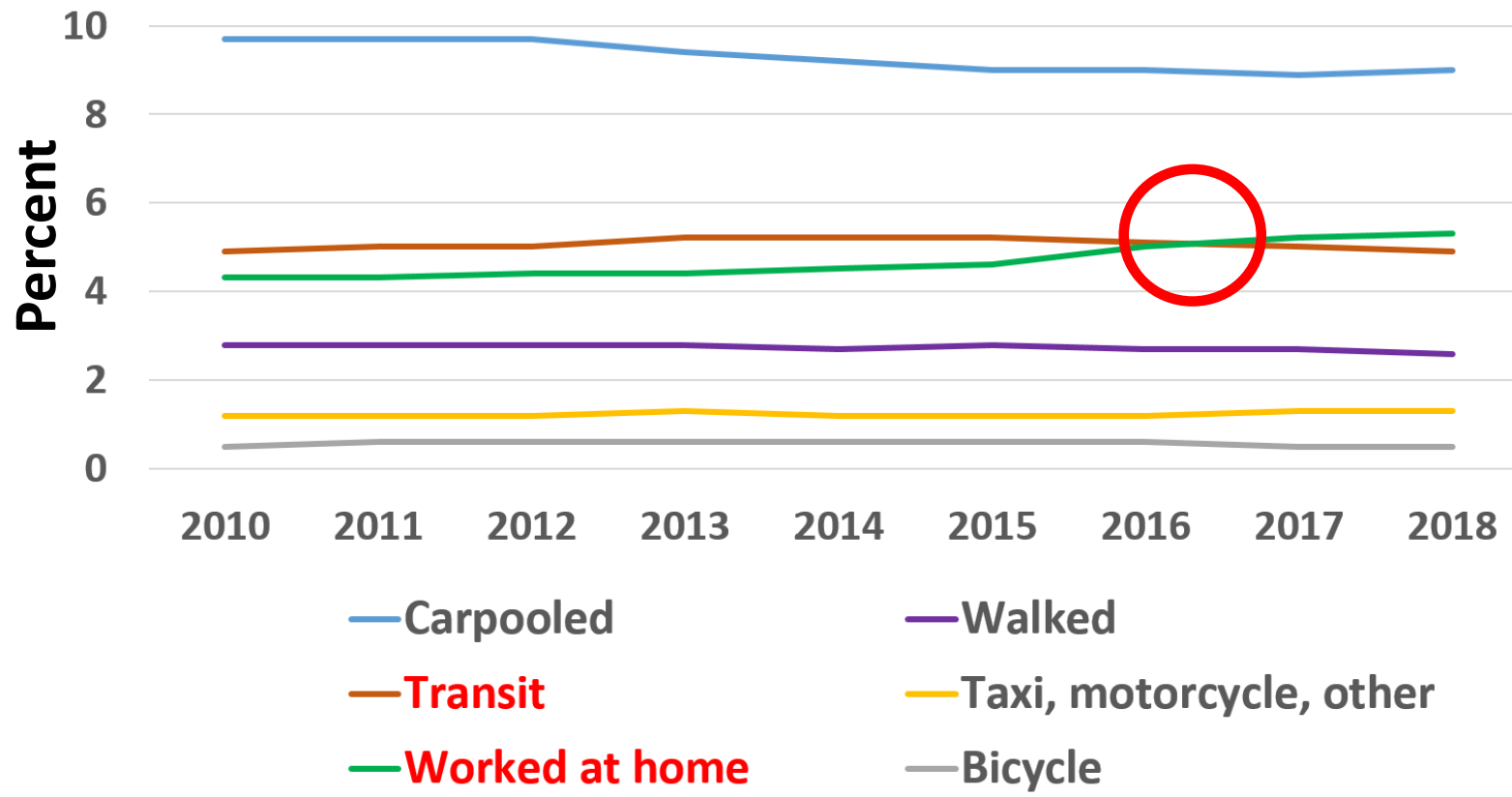
- **Includes** self-employed

- **Excludes** less frequent teleworkers

<https://www2.census.gov/programs-surveys/acs/methodology/questionnaires/2020/quest20.pdf>

What do the US Census numbers show?

"Usual commute mode" shares



- Work-at-home commute share has increased from **2.3%** in **1980** to **5.3%** in **2018**

- It now **exceeds the share of transit**

77% drive-alone share omitted

Mokhtarian et al. 2005; <https://data.census.gov/cedsci/table?q=S08&d=ACS%201-Year%20Estimates%20Subject%20Tables&tid=ACST1Y2018.S0801>

Why aren't the numbers higher?

- Not everyone's **job is suitable**
- Not everyone whose job is suitable **wants to**
- Not everyone whose job is suitable and wants to **is allowed to**
- Not everyone who ... is allowed to **does so on any given day**
- People often don't **do it for very long**

How many *can* work from home?

▪ Based on job

- **56%** (non-self-employed, could partially, Global Analytics), <https://globalworkplaceanalytics.com/work-at-home-after-covid-19-our-forecast>
- **40%** (Pew), <https://www.pewresearch.org/fact-tank/2020/05/06/telework-may-save-u-s-jobs-in-covid-19-downturn-especially-among-college-graduates/>
- **37%** (could entirely), Dingel & Neiman 2020

▪ Allowed to, available, eligible

- **29%** (non-self-employed, BLS), <https://www.bls.gov/news.release/pdf/flex2.pdf>
- **18%** (2017 National Household Travel Survey), https://nhts.ornl.gov/assets/FHWA_NHTS_Report_3B_Final_021119.pdf
- **7%** (civilian, BLS), “flexible workplace”, <https://www.bls.gov/ncs/ebs/benefits/2019/ownership/civilian/table39a.pdf>

How many *did* work from home (pre-COVID-19)?

- **5.3%** “usually” (2018 American Community Survey)
(<https://data.census.gov/cedsci/table?q=S08&d=ACS%201-Year%20Estimates%20Subject%20Tables&tid=ACSST1Y2018.S0801>)
- non-self-employed: **8%** at least once/wk (could be weekends!),
2% full-time (2017-18 American Time Use Survey)
(<https://www.bls.gov/news.release/flex2.t03.htm>)
- **12%** “usually” (2017 NHTS) (<https://nhts.ornl.gov/assets/NHTSBriefTelecommuting041719.pdf>)

How many *do/have now* (during COVID-19)?

- **40%** (late March 2020, Pew) (<https://www.pewsocialtrends.org/2020/03/30/most-americans-say-coronavirus-outbreak-has-impacted-their-lives/>)
- **62%** (Gallup) (<https://news.gallup.com/poll/306695/workers-discovering-affinity-remote-work.aspx>)

How many (say they) want to? (1)

- **59%** of those who WAH during COVID-19, “as much as possible” (<https://news.gallup.com/poll/306695/workers-discovering-affinity-remote-work.aspx>)
- Of FT office wrkrs (co’s of ≥ 100 emps) who WAH during COVID-19:
 - **56%** some of the time
 - **30%** most of the time
 - **12%** all the time (<https://www.gensler.com/uploads/document/695/file/Gensler-US-Work-From-Home-Survey-2020-Briefing-1.pdf>)

DO YOU PREFER TO GO BACK TO THE OFFICE OR CONTINUE TO WORK FROM HOME?



How many (say they) *want to?* (2)

- Of those who WAH during COVID-19, **54% primarily, 75% occasionally**
 - But < **40%** “feel strongly that their employer should provide employee opt-in remote work options when returning to normal operations”???

<https://newsroom.ibm.com/2020-05-01-IBM-Study-COVID-19-Is-Significantly-Altering-U-S-Consumer-Behavior-and-Plans-Post-Crisis>
- Maybe I “want to, but know I can’t/shouldn’t”?
 - Only **37%** of those who **could** and **wanted to** actually **did**
(Mokhtarian & Salomon 1996)

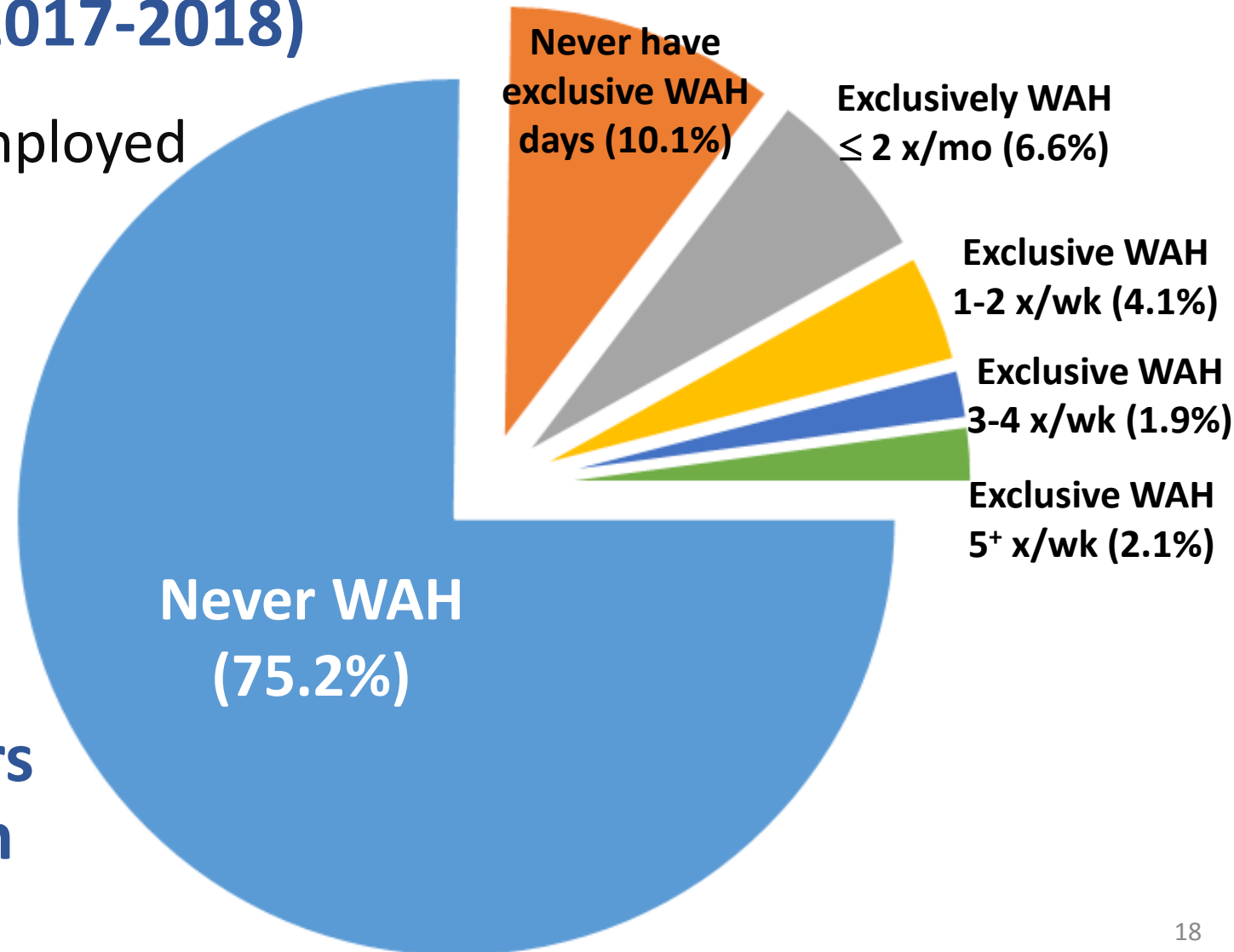
How often did they telework (pre-COVID-19)?

■ American Time Use Survey (2017-2018)

(<https://www.bls.gov/news.release/flex2.t03.htm>)

- Main job only, excludes self-employed
- “Worked at home”
 - **Excludes** telework center
 - **Includes** evenings
- “Worked exclusively at home”
 - **Excludes** home+coffee shop
 - **Includes** weekends

- Ave. frequency ~1.7 days/wk
→ ~5% non-self-empl workers exclusively WAH on any given weekday



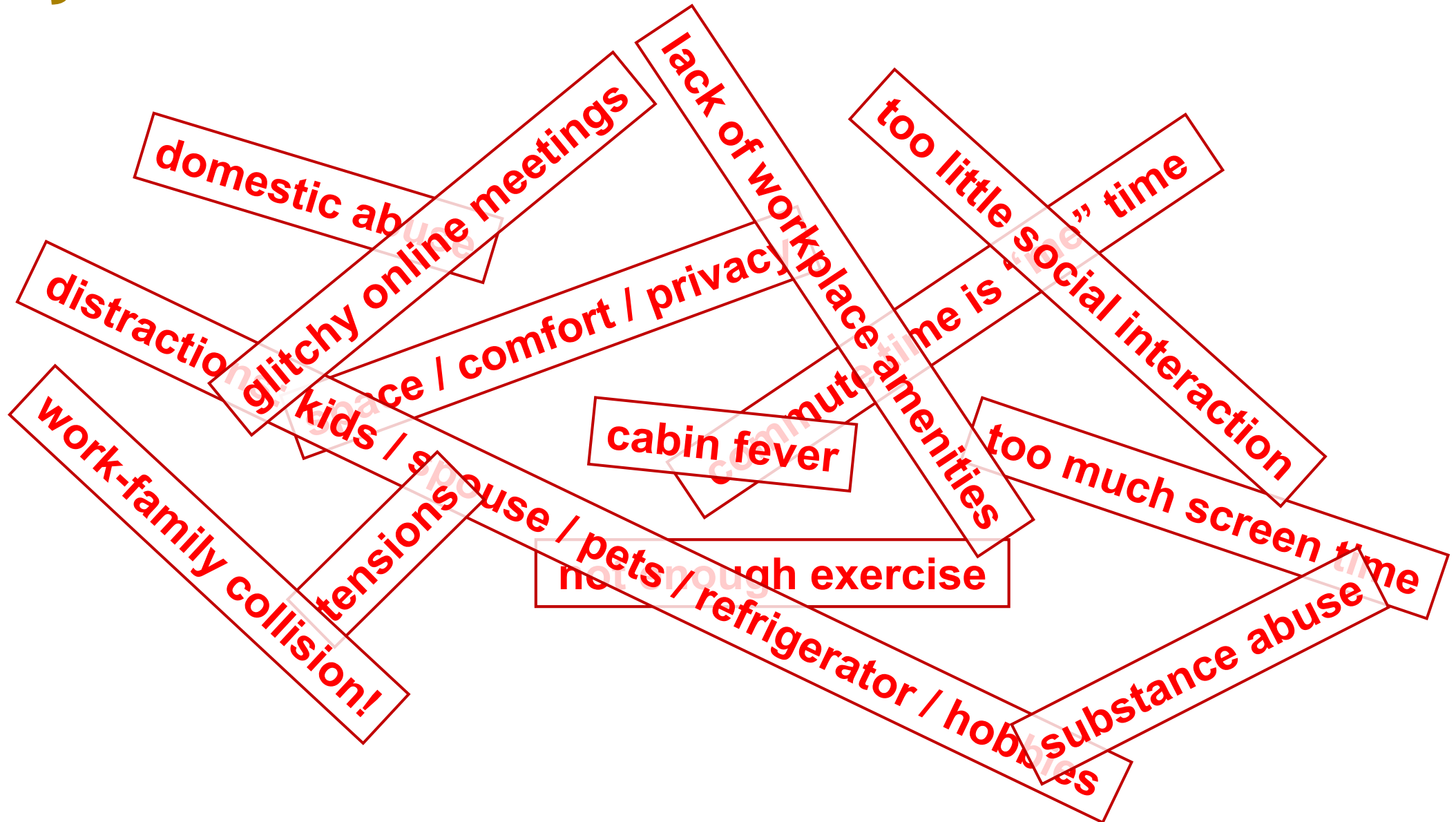
How long did they telework (pre-COVID-19)?

- **An under-researched question!**
- **After the 1989 Loma Prieta (SF) quake** (Pratt 1991):
 - Only half the teleworkers (N = 32) were still doing so 2-6 mos later
- **Across three 2-year pilot projects** (Varma et al. 1998):
 - 60-70% (N=773) were still doing so at the end
- **In one study of telecenter users** (Varma et al. 1998):
 - 50% (N=274) had stopped teleworking within 9 months
- **Constraints more important than preferences**

Why wouldn't we want to work from home?

- Saves time (commuting, getting dressed?)
- Saves money (commuting, grooming?)
- Better work-family balance
- Higher productivity
- Less stress
- Safer neighborhoods (eyes on the street)
- Job retention, access
- Good for the environment
- **Less contagion!!!!**

Why *would* we want to work from home?



Why *wouldn't* managers want their staff to work from home?

- **Saves a ton of money** (if eliminating assigned offices)
- **Improves recruitment**
- **Improves retention**
- **Reduces absenteeism**
- **Increases productivity**
- **Virtue signaling** (care about environment, employees)

Why *don't* managers want their staff to work from home? (if they don't have to)

- **Management resistance is still perhaps the strongest barrier, often for good reasons...**
 - Value of in-person communication
 - Greater “overhead” of remote management
- **... and often for weaker ones**
 - “How will I know they’re really working?”
 - “I don’t want to let Susie do it but not Joe”

Won't it be different this time?

- Well, we've heard that before ...
- But technology's so much better now...
 - And it will get even better!
 - But technology is not the main barrier
 - Considering tech-based companies such as **Yahoo** (2013), **Reddit** (2014), and **IBM** (2017) had previously cut back or withdrawn teleworking programs...
- Some key reasons for the slow adoption of working from home have not gone away
 - Value of in-person communication
 - Weak employee preferences
 - Home, internal constraints

The boring (likely) truth

- We will neither snap back to the status quo ante
- Nor will “everything” be different now
- We will be somewhere in between

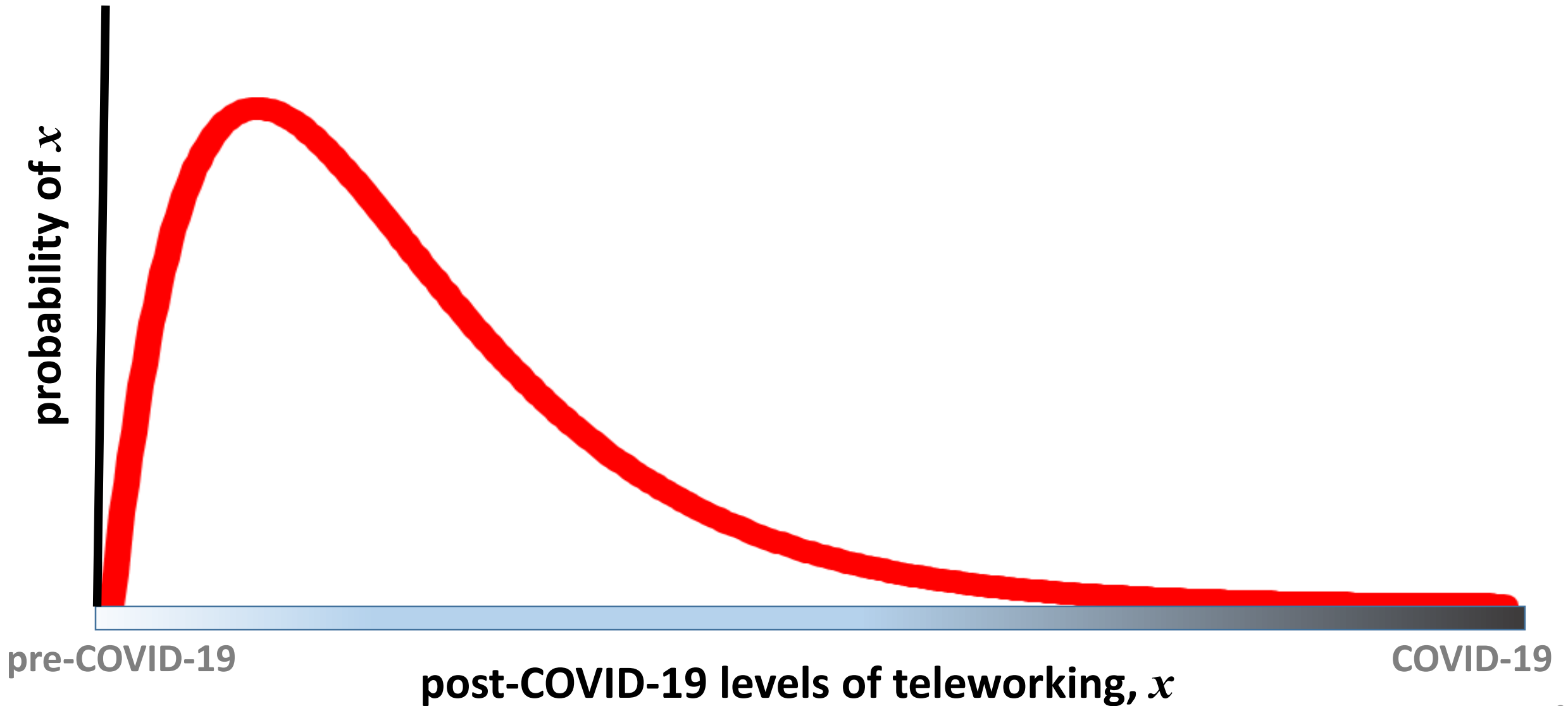


<https://images7.alphacoders.com/438/thumb-1920-438352.jpg>

pre-COVID-19 levels

COVID-19 levels

Pat's probabilistic prediction



Closing thoughts ⁽¹⁾

- **We used to ask how to increase the adoption of teleworking**
- **A pandemic has taken care of that for us**
 - Arguably under less than ideal circumstances
 - But with lots of time to adjust...
- **So organizations and employees alike should have an adequate idea of its pros and cons**
- **Let's see what happens!**

Closing thoughts ⁽²⁾

■ Some research needs...

- Measurement of amounts, with careful and consistent definitions!
- Frequency, duration, reasons for quitting, re-entry
- Impacts on residential location
- Carbon footprint of long-distance teleworkers
- Impact differences between opt-in and involuntary programs

■ Don't forget the ~40% who cannot telework