The Future of Work: Remote Opportunities and Female Labor Force Participation

Meng Song

University of Connecticut

2026 Remote Work Conference
Stanford University
October 28, 2026

Research Questions

- How did the pandemic-driven expansion of work-from-home (WFH) opportunities affect women's labor market outcomes?
  - Can WFH explain the rise in female labor force participation (LFP)?
  - How large are the effects on LFP, employment, and full-time work?
  - Who benefits most?
  - Through what channel does WFH operate?

Contributions

- Some of the first population-level causal evidence that WFH shifts aggregate labor supply
- Separates pandemic-era responses from lasting post-pandemic gains
- MSA-level WFH exposure; reusable for other technology shocks

Findings

- WFH raises female LFP, employment, and full-time work vs. men
- Strongest among college mothers and mothers of young children
- Accounts for $\sim$13% of the narrowing gender gap ($\sim$136,000 mothers)
- Mechanisms
  - Household spillovers: both own and husband's WFH matter
  - Relaxes caregiving constraint: largest where childcare is most costly
  - Works mainly by drawing nonemployed mothers into the labor force
  - College mothers have greater access to high-teleworkability jobs

Data

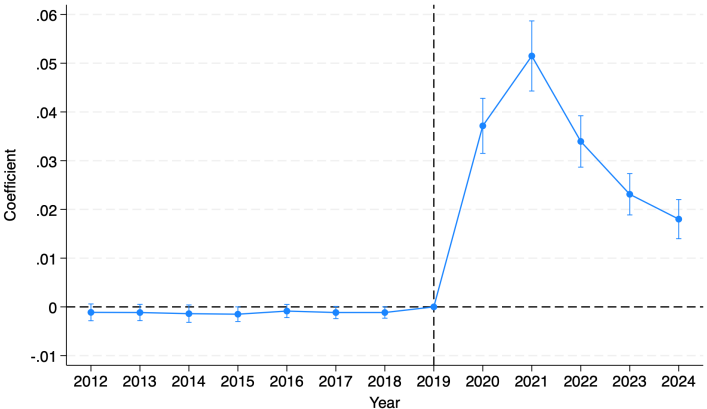
- American Community Survey (ACS)
  - 2012–2024; working-age adults (25–64); excludes military occupations
  - Outcomes: LFP, employment, full-time work
  - Geography: MSAs (baseline); commuting zones (robustness)
- Occupational WFH scores
  - Baseline: Dingel and Neiman (2020)
  - Robustness: Hansen et al. (2023)

Measuring Exposure to WFH Opportunity

$$\text{WFH}_{m,pre} = \frac{1}{T_{pre}} \sum_{t \in T_{pre}} \sum_{o} \left(\frac{\text{Number of jobs}_{m,o,t}}{\sum_o \text{Number of jobs}_{m,o,t}} \times \text{Teleworkability score}_o \right) \quad (1)$$

- Weighted average teleworkability in MSA m (Gupta et al., 2022)
- Pre-period T_{pre}: 2012–2019; fixed thereafter
- Gender-specific: female index for women, male index for men
- Standardized to mean 0, SD 1

Validity of the WFH Measure and COVID-19 Activation



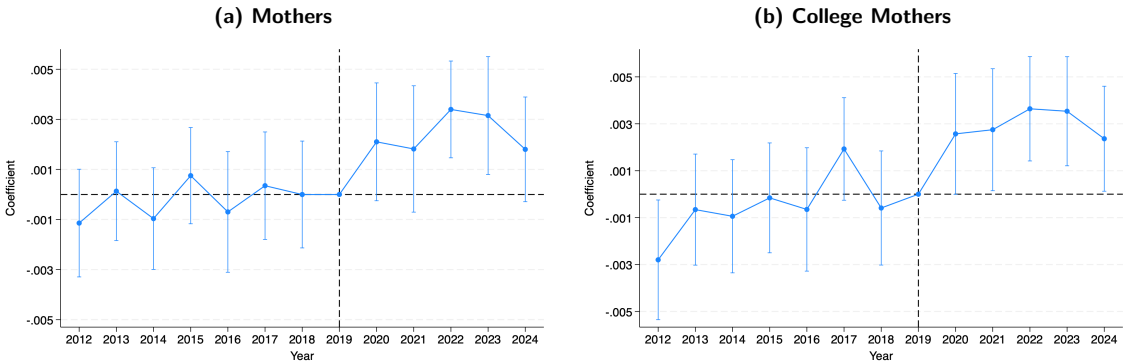
Notes: Event study estimates for females. The dependent variable is an indicator for actual WFH, based on the ACS transportation-to-work variable (primary mode of commuting). 2019 is the reference year.

Identification Strategy

$$Y_{imt} = \delta_1(\text{WFH}_{m,pre} \times \text{Transition}_t) + \delta_2(\text{WFH}_{m,pre} \times \text{Stable}_t) + \mathbf{X}'_{it}\beta + \alpha_m + \lambda_t + \varepsilon_{imt} \quad (2)$$

- Continuous DiD (Callaway et al., 2024)
  - Transition_t: 2020–2021; Stable_t: 2022–2024
  - α_m, λ_t: MSA and year FE; SEs clustered at the MSA level
- Event study to test parallel pre-trends
- Robust to binary (median split) and quintile-bin treatments

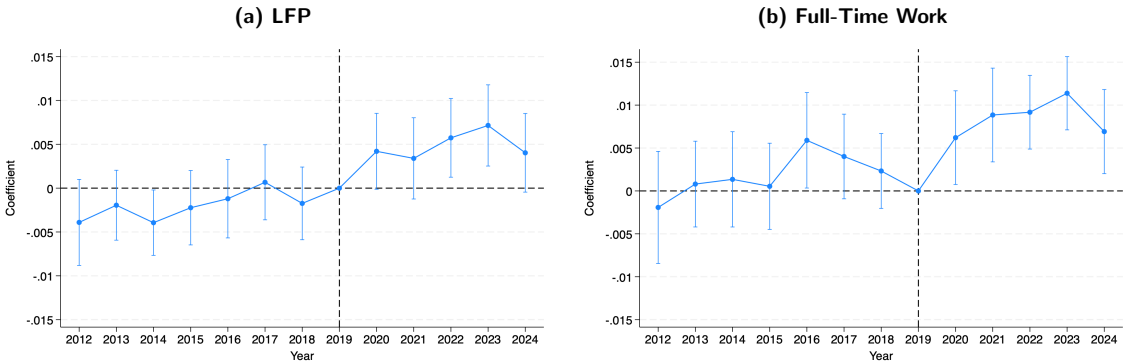
Effects on LFP: Mothers vs. College Mothers



Notes: Parents are defined as individuals with at least one own child under age 18 in the household. Event study coefficients and 95% confidence intervals. 2019 is the reference year. WFH exposure is standardized (mean 0, SD 1). Standard errors clustered at the MSA level.

[Fathers]

Effects on Mothers with Young Children



Notes: Mothers with at least one own child aged 4 or under in the household. Event study coefficients and 95% confidence intervals. 2019 is the reference year. WFH exposure is standardized (mean 0, SD 1). Standard errors clustered at the MSA level.

[Employment]

Effects of WFH Opportunities on Labor Market Outcomes

	(1)	(2)	(3)	(4)	(5)	(6)
	All Males	All Females	Fathers	Mothers	College Mothers	Noncollege Mothers
Panel A: Labor Force Participation						
Transition Effects (2020–2021)	-0.0000	0.0003	0.0005	0.0021***	0.0031***	-0.0037**
	(0.0004)	(0.0005)	(0.0004)	(0.0008)	(0.0007)	(0.0018)
Stable Effects (2022–2024)	-0.0001	0.0008*	0.0007*	0.0030***	0.0036***	-0.0018
	(0.0003)	(0.0005)	(0.0004)	(0.0007)	(0.0007)	(0.0013)
Control Mean	0.9286	0.8722	0.9666	0.8690	0.8813	0.8409
N	6667785	6579056	2385866	2477570	1754457	723113
Panel B: Employment						
Transition Effects (2020–2021)	-0.0018*	-0.0009	-0.0007	0.0007	0.0026**	-0.0076***
	(0.0010)	(0.0012)	(0.0008)	(0.0013)	(0.0011)	(0.0029)
Stable Effects (2022–2024)	-0.0025***	-0.0010	-0.0016***	0.0004	0.0019***	-0.0048***
	(0.0005)	(0.0008)	(0.0005)	(0.0009)	(0.0007)	(0.0018)
Control Mean	0.8881	0.8352	0.9373	0.8295	0.8520	0.7782
N	6667785	6579056	2385866	2477570	1754457	723113
Panel C: Full-Time Employment						
Transition Effects (2020–2021)	-0.0018***	0.0005	-0.0020***	0.0044***	0.0065***	-0.0043
	(0.0007)	(0.0009)	(0.0007)	(0.0011)	(0.0011)	(0.0027)
Stable Effects (2022–2024)	-0.0003	0.0015	-0.0005	0.0064***	0.0083***	-0.0030
	(0.0006)	(0.0010)	(0.0006)	(0.0013)	(0.0014)	(0.0024)
Control Mean	0.8947	0.7573	0.9315	0.7184	0.7361	0.6759
N	6249415	5907945	2313788	2222120	1599723	622397
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

[Young Children] [Interpreting the Effects]

Household Spillovers: Own and Spousal Channels

Panel A: All Education Levels

	All		No Children		Children		Young Children	
	Baseline	Decomposed	Baseline	Decomposed	Baseline	Decomposed	Baseline	Decomposed
Wife	0.0017***	0.0013**	0.0003	0.0004	0.0029***	0.0020**	0.0058***	0.0042**
	(0.0006)	(0.0006)	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0017)	(0.0017)
Husband		0.0079***		0.0007		0.0147***		0.0238***
		(0.0010)		(0.0012)		(0.0015)		(0.0025)
Control Mean	0.8624	0.8624	0.8708	0.8708	0.8545	0.8545	0.7825	0.7825
N	3261043	3261043	1578289	1578289	1682754	1682754	616803	616803

Panel B: College-Educated

	All		No Children		Children		Young Children	
	Baseline	Decomposed	Baseline	Decomposed	Baseline	Decomposed	Baseline	Decomposed
Wife	0.0020***	0.0017**	0.0009	0.0009	0.0028***	0.0021**	0.0056***	0.0043**
	(0.0007)	(0.0007)	(0.0010)	(0.0010)	(0.0009)	(0.0009)	(0.0018)	(0.0017)
Husband		0.0066***		0.0006		0.0116***		0.0185***
		(0.0011)		(0.0013)		(0.0016)		(0.0025)
Control Mean	0.8750	0.8750	0.8847	0.8847	0.8669	0.8669	0.8035	0.8035
N	2373517	2373517	1078232	1078232	1295285	1295285	504058	504058
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
MSA F.E.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Husb. Occ. F.E	No	Yes	No	Yes	No	Yes	No	Yes

Notes: Married women with co-resident husbands; stable period (2022–2024). Decomposed models add the husband's WFH treatment (above-median occupational teleworkability) and husband occupation FE. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Mechanisms of WFH Effects on LFP

	Childcare Cost Burden		Entry vs Retention Margin	
	(1) High	(2) Low	(3) Entry	(4) Retention
Panel A: Mothers				
LFP (2022–2024)	0.0033***	0.0017*	0.0073***	0.0002
	(0.0009)	(0.0010)	(0.0021)	(0.0002)
Control Mean	0.8733	0.8625	0.4921	0.9891
N	1438820	926481	580017	1897553
Panel B: College Mothers				
LFP (2022–2024)	0.0039***	0.0027**	0.0073***	0.0003*
	(0.0009)	(0.0011)	(0.0026)	(0.0002)
Control Mean	0.8844	0.8759	0.4876	0.9906
N	1025408	651309	365874	1388583
Controls	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes

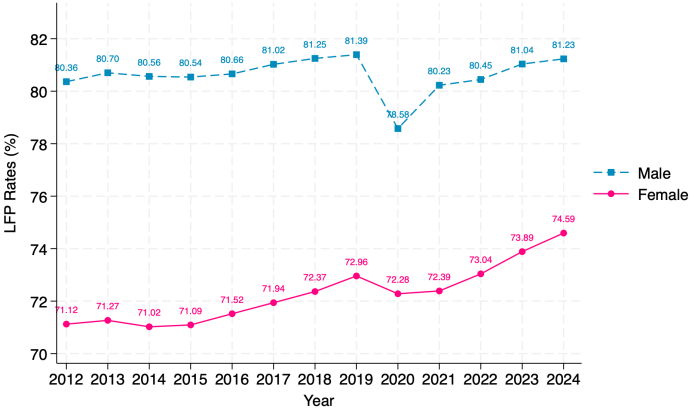
Notes: Stable period (2022–2024). Childcare cost burden: annual price of center-based care for children under 5 relative to female median earnings (2022 National Database of Childcare Prices), split at the MSA median. Entry: worked fewer than 40 weeks in the prior year; Retention: worked 40 or more weeks. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

[Occupational Access]

Robustness Checks

- Time-varying individual and MSA controls
  [Controls]
- COVID-19 severity and school/childcare closures
  [Additional Checks]
- Binary (median split), quintile bins, and triple difference
  [Binary] [Quintiles] [Additional Checks]
- Alternative WFH indices (hybrid, industry-based); pre vs. post
  [Hansen] [Additional Checks] [Pre vs. Post]
- Commuting zones (1990, 2020) and weighted regressions
  [Commuting Zones] [Weighted]
- Pre-existing linear trends; 2008 financial crisis placebo
  [Additional Checks] [2008 Placebo]
- Prior-year residence; ages 25–54; 2017–2019 baseline index
  [Additional Checks]

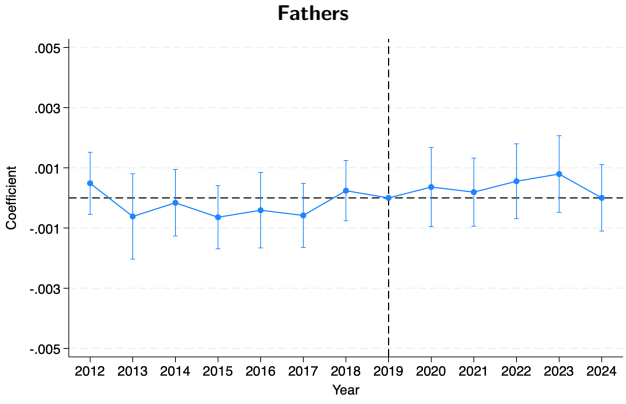
Appendix: Labor Force Participation Rates by Sex



Notes: This figure presents the labor force participation rates from 2012 to 2024, separately for males and females. The data source is the American Community Survey (ACS) and reflects the working-age population (ages 25 to 64) in the United States. The values are expressed as percentages and are not seasonally adjusted.

Back

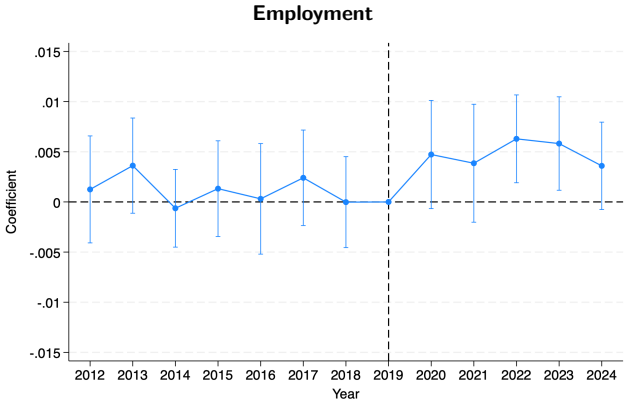
Appendix: Effects on Fathers' LFP



Notes: Parents are defined as individuals with at least one own child under age 18 in the household. Event study coefficients and 95% confidence intervals. 2019 is the reference year. WFH exposure is standardized (mean 0, SD 1). Standard errors clustered at the MSA level.

Back

Appendix: Employment, Mothers with Young Children



Notes: Mothers with at least one own child aged 4 or under in the household. Event study coefficients and 95% confidence intervals. 2019 is the reference year. WFH exposure is standardized (mean 0, SD 1). Standard errors clustered at the MSA level.

Back

Appendix: Parents with Young Children

	(1) Fathers children < 5	(2) Mothers children < 5
Panel A: Labor Force Participation		
Transition Effects (2020–2021)	0.0011	0.0055***
	(0.0007)	(0.0014)
Stable Effects (2022–2024)	0.0017***	0.0074***
	(0.0005)	(0.0015)
Control Mean	0.9694	0.7996
N	864951	846022
Panel B: Employment		
Transition Effects (2020–2021)	-0.0008	0.0032*
	(0.0012)	(0.0018)
Stable Effects (2022–2024)	-0.0017**	0.0042***
	(0.0007)	(0.0014)
Control Mean	0.9409	0.7583
N	864951	846022
Panel C: Full-Time Employment		
Transition Effects (2020–2021)	-0.0020*	0.0060***
	(0.0010)	(0.0016)
Stable Effects (2022–2024)	-0.0010	0.0075***
	(0.0009)	(0.0016)
Control Mean	0.9314	0.7084
N	841829	708852
Controls	Yes	Yes
Fixed Effects	Yes	Yes

Notes: Parents with at least one own child under age five. Transition period: 2020–2021; stable period: 2022–2024. Gender-specific WFH indices. MSA and year FE; SEs clustered at the MSA level. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Back

Appendix: Interpreting the Effects

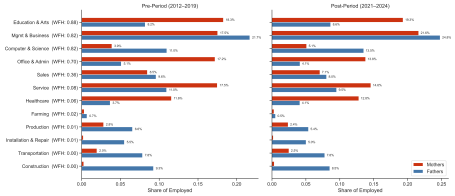
	(1) Mothers	(2) College Mothers	(3) Mothers children < 5
Panel A: Stable Effects (2022–2024)			
Labor Force Participation	0.0030***	0.0036***	0.0074***
	(0.0007)	(0.0007)	(0.0015)
Employment	0.0004	0.0019***	0.0042***
	(0.0009)	(0.0007)	(0.0014)
Full-Time	0.0064***	0.0083***	0.0075***
	(0.0013)	(0.0014)	(0.0016)
Panel B: Pseudo First Stage			
2022-2024	0.0263***	0.0281***	0.0293***
	(0.0023)	(0.0026)	(0.0029)
F-statistic	154.84	183.70	203.65
Panel C: Wald Estimator			
Labor Force Participation	0.1141	0.1281	0.2526
Relative effect (%)	13.13	14.54	31.59
Employment	0.0152	0.0676	0.1434
Relative effect (%)	1.83	7.93	18.91
Full-Time	0.2433	0.2954	0.2560
Relative effect (%)	33.87	40.13	36.14
Control Mean (LFP)	0.8690	0.8813	0.7996
Control Mean (Emp)	0.8295	0.8520	0.7583
Control Mean (FT)	0.7184	0.7361	0.7084

Notes: Panel A: stable effects (2022–2024) from the main results. Panel B: pseudo first stage. Panel C: Wald estimator (reduced form / first stage) and relative effect as a percentage of the pre-pandemic control mean. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

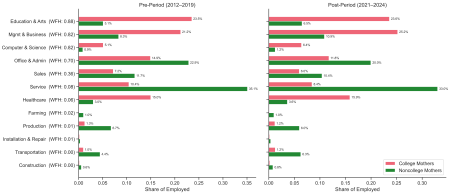
Back

Appendix: Occupation Distribution by Demographic Group

(a) Mothers vs. Fathers



(b) College Mothers vs. Noncollege Mothers



Notes: Share of employed workers in twelve occupation groups (2018 SOC intermediate aggregation), sorted by average Dingel and Neiman (2020) teleworkability (in parentheses). Pre-period: 2012–2019; post-period: 2021–2024.

Back

Appendix: Robustness to Control Variables

	Labor Force		Employment		Full-Time	
	(1)	(2)	(3)	(4)	(5)	(6)
	Mothers	College Mothers	Mothers	College Mothers	Mothers	College Mothers
Panel A: No Controls						
2022–2024	0.0031***	0.0037***	0.0008	0.0021***	0.0065***	0.0084***
	(0.0008)	(0.0007)	(0.0009)	(0.0007)	(0.0014)	(0.0015)
Panel B: Baseline Individual Controls						
2022–2024	0.0030***	0.0036***	0.0004	0.0019***	0.0064***	0.0083***
	(0.0007)	(0.0007)	(0.0009)	(0.0007)	(0.0013)	(0.0014)
Panel C: Individual Controls × Year						
2022–2024	0.0016**	0.0029***	−0.0003	0.0016**	0.0050***	0.0076***
	(0.0007)	(0.0007)	(0.0009)	(0.0007)	(0.0013)	(0.0013)
Panel D: MSA Controls						
2022–2024	0.0031***	0.0037***	0.0008	0.0021***	0.0065***	0.0084***
	(0.0008)	(0.0007)	(0.0009)	(0.0007)	(0.0014)	(0.0015)
Panel E: MSA Controls × Year						
2022–2024	0.0024**	0.0024**	0.0019	0.0017	−0.0023	−0.0030*
	(0.0011)	(0.0011)	(0.0013)	(0.0012)	(0.0015)	(0.0016)
Panel F: MSA Controls × Year (excl. income)						
2022–2024	0.0031***	0.0033***	0.0016*	0.0020**	0.0054***	0.0067***
	(0.0008)	(0.0008)	(0.0009)	(0.0008)	(0.0014)	(0.0015)
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Control Mean	0.8690	0.8813	0.8295	0.8520	0.7184	0.7361
N	2,477,570	1,754,457	2,477,570	1,754,457	2,222,120	1,599,723

Notes: Stable and transition effects for mothers under alternative sets of individual and MSA controls, including controls interacted with year. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Back

Appendix: Additional Robustness Checks

	Labor Force		Employment		Full-Time	
	(1)	(2)	(3)	(4)	(5)	(6)
	Mothers	College Mothers	Mothers	College Mothers	Mothers	College Mothers
Panel A: Controlling for Pre-existing Linear Trends						
2022–2024	0.0026***	0.0025***	0.0023**	0.0029***	0.0044***	0.0057***
	(0.0008)	(0.0009)	(0.0009)	(0.0008)	(0.0010)	(0.0010)
Panel B: Controlling for COVID-19 Severity						
2022–2024	0.0030***	0.0036***	0.0004	0.0019***	0.0064***	0.0083***
	(0.0007)	(0.0007)	(0.0009)	(0.0007)	(0.0013)	(0.0014)
Panel C: Controlling for School/Childcare Closure						
2022–2024	0.0030***	0.0036***	0.0004	0.0019***	0.0065***	0.0083***
	(0.0007)	(0.0007)	(0.0009)	(0.0007)	(0.0013)	(0.0014)
Panel D: Controlling for COVID-19 Severity and School/Childcare Closure						
2022–2024	0.0030***	0.0036***	0.0004	0.0019***	0.0065***	0.0083***
	(0.0007)	(0.0007)	(0.0009)	(0.0007)	(0.0013)	(0.0014)
Panel E: Industry-Based WFH Index (Dingel-Neiman NAICS Scores)						
2022–2024	0.0019***	0.0023***	-0.0003	0.0008	0.0055***	0.0070***
	(0.0006)	(0.0007)	(0.0008)	(0.0007)	(0.0015)	(0.0014)
Panel F: WFH Index Based on Prior-Year Residence						
2022–2024	0.0033***	0.0046***	0.0016	0.0033***	0.0036***	0.0053***
	(0.0009)	(0.0009)	(0.0010)	(0.0010)	(0.0011)	(0.0012)
Panel G: Excluding Older Workers (Ages 25–54 Only)						
2022–2024	0.0031***	0.0038***	0.0006	0.0021***	0.0064***	0.0082***
	(0.0007)	(0.0007)	(0.0008)	(0.0007)	(0.0014)	(0.0014)
Panel H: Shorter Pre-Period WFH Index (2017–2019)						
2022–2024	0.0030***	0.0037***	0.0004	0.0020***	0.0066***	0.0085***
	(0.0007)	(0.0007)	(0.0009)	(0.0007)	(0.0013)	(0.0014)
Panel I: Triple-Difference						
2022–2024	0.0020***	0.0023***	0.0018**	0.0019**	0.0056***	0.0065***
	(0.0008)	(0.0008)	(0.0008)	(0.0008)	(0.0013)	(0.0015)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Control Mean	0.8690	0.8813	0.8295	0.8520	0.7184	0.7361

Notes: Each panel augments or modifies the baseline specification as labeled. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Back

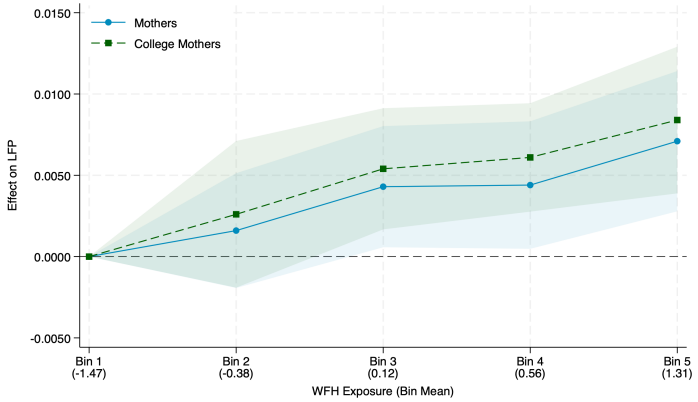
Appendix: Continuous vs. Binary Treatment

	Female		Mothers		College Mothers	
	Continuous	Binary	Continuous	Binary	Continuous	Binary
Transition (2020–2021)	0.0003	0.0001	0.0021***	0.0026*	0.0031***	0.0033***
	(0.0005)	(0.0009)	(0.0008)	(0.0013)	(0.0007)	(0.0011)
Stable (2022–2024)	0.0008*	0.0002	0.0030***	0.0031***	0.0036***	0.0033***
	(0.0005)	(0.0008)	(0.0007)	(0.0009)	(0.0007)	(0.0010)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Control Mean	0.8722	0.8722	0.8690	0.8690	0.8813	0.8813
N	6579056	6579056	2477570	2477570	1754457	1754457

Notes: Binary coefficients are scaled by the difference in mean WFH exposure between above- and below-median MSAs (1.526). * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Back

Appendix: LFP Effects by Binned WFH Exposure



Notes: WFH exposure divided into quintiles; Bin 1 (lowest exposure) is the reference category. Coefficients are post-COVID LFP effects relative to Bin 1.

Back

Appendix: Alternative WFH Measure (Hansen et al., 2023)

	Labor Force		Employment		Full-Time	
	(1)	(2)	(3)	(4)	(5)	(6)
	Mothers	College Mothers	Mothers	College Mothers	Mothers	College Mothers
Panel A: Main Results						
Transition Effects	0.0012*	0.0023***	0.0003	0.0021**	0.0027***	0.0051***
(2020–2021)	(0.0006)	(0.0007)	(0.0009)	(0.0009)	(0.0010)	(0.0011)
Stable Effects	0.0023***	0.0030***	0.0004	0.0017**	0.0048***	0.0072***
(2022–2024)	(0.0006)	(0.0006)	(0.0008)	(0.0007)	(0.0011)	(0.0013)
Panel B: Pseudo First Stage						
2022–2024	0.0191***	0.0202***	0.0191***	0.0202***	0.0191***	0.0202***
	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0014)	(0.0014)
F-statistic	153.29	204.43	153.29	204.43	153.29	204.43
Panel C: Wald Estimator						
2022–2024	0.1204	0.1485	0.0209	0.0842	0.2513	0.3564
Relative effect (%)	13.83	16.81	2.51	9.86	34.39	47.70
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Control Mean	0.8704	0.8833	0.8326	0.8543	0.7308	0.7472
N	3358185	2245432	3358185	2245432	3010150	2047497

Notes: WFH exposure index built from the job-posting-based occupational WFH score of Hansen et al. (2023), capturing both hybrid and fully remote work. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Back

Appendix: Pre- and Post-Period WFH Exposure

	Pool	Male	Female
Stable (2022–2024)	0.928***	1.073***	0.928***
	(0.021)	(0.021)	(0.030)
R^2	0.915	0.917	0.799
F-statistic	2577.8	2648.7	951.6
Pooled (2020–2024)	1.041***	1.070***	0.946***
	(0.019)	(0.019)	(0.027)
R^2	0.926	0.932	0.840
F-statistic	3012.1	3266.2	1258.2
N	242	242	242

Notes: Post-period WFH index regressed on the pre-period index across 242 MSAs. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Back

Appendix: Geographic Units

	Labor Force		Employment		Full-Time	
	(1)	(2)	(3)	(4)	(5)	(6)
	Mothers	College Mothers	Mothers	College Mothers	Mothers	College Mothers
Panel A: Metropolitan Statistical Areas						
2020–2021	0.0021***	0.0031***	0.0007	0.0026**	0.0044***	0.0065***
	(0.0008)	(0.0007)	(0.0013)	(0.0011)	(0.0011)	(0.0011)
2022–2024	0.0030***	0.0036***	0.0004	0.0019***	0.0064***	0.0083***
	(0.0007)	(0.0007)	(0.0009)	(0.0007)	(0.0013)	(0.0014)
Control Mean	0.8690	0.8813	0.8295	0.8520	0.7184	0.7361
N	2477570	1754457	2477570	1754457	2222120	1599723
Panel B: Commuting Zones 1990						
2020–2021	0.0001	0.0012**	-0.0028***	-0.0011	0.0007	0.0033***
	(0.0005)	(0.0005)	(0.0009)	(0.0008)	(0.0009)	(0.0010)
2022–2024	0.0022***	0.0031***	-0.0003	0.0015***	0.0048***	0.0073***
	(0.0004)	(0.0004)	(0.0005)	(0.0005)	(0.0010)	(0.0011)
Control Mean	0.8634	0.8827	0.8260	0.8562	0.7230	0.7443
N	6200811	4188522	6200811	4188522	5561545	3839649
Panel C: Commuting Zones 2020						
2020–2021	0.0001	0.0013**	-0.0025***	-0.0006	0.0008	0.0036***
	(0.0005)	(0.0006)	(0.0009)	(0.0008)	(0.0010)	(0.0010)
2022–2024	0.0026***	0.0031***	0.0006	0.0018***	0.0049***	0.0074***
	(0.0005)	(0.0005)	(0.0005)	(0.0006)	(0.0012)	(0.0013)
Control Mean	0.8641	0.8827	0.8260	0.8558	0.7207	0.7424
N	4931424	3339758	4931424	3339758	4420858	3058300
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: MSA vs. commuting zones (1990 and 2020 definitions), using PUMA-to-CZ crosswalks. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Back

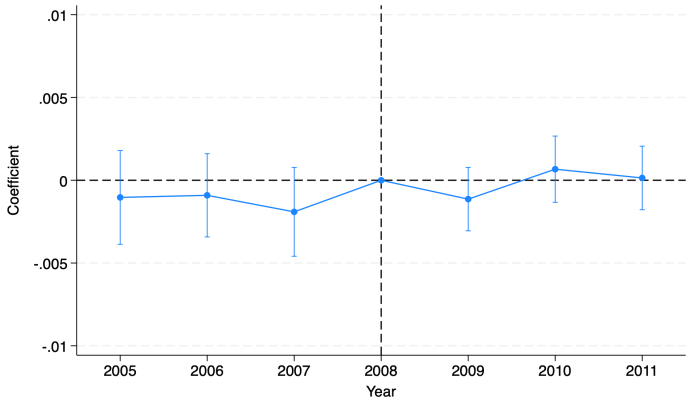
Appendix: Geographic Units (Weighted)

	Labor Force		Employment		Full-Time	
	(1)	(2)	(3)	(4)	(5)	(6)
	Mothers	College Mothers	Mothers	College Mothers	Mothers	College Mothers
Panel A: Metropolitan Statistical Areas						
2020–2021	0.0016	0.0035***	0.0004	0.0030**	0.0016	0.0037***
	(0.0010)	(0.0010)	(0.0017)	(0.0013)	(0.0014)	(0.0014)
2022–2024	0.0026***	0.0033***	-0.0000	0.0013	0.0047***	0.0073***
	(0.0009)	(0.0009)	(0.0012)	(0.0008)	(0.0015)	(0.0015)
Control Mean	0.8762	0.8878	0.8337	0.8565	0.7277	0.7472
N	2477570	1754457	2477570	1754457	2222120	1599723
Panel B: Commuting Zones 1990						
2020–2021	-0.0010	0.0009	-0.0046***	-0.0023**	-0.0003	0.0024**
	(0.0007)	(0.0007)	(0.0012)	(0.0010)	(0.0009)	(0.0010)
2022–2024	0.0014***	0.0025***	-0.0016**	0.0005	0.0032***	0.0059***
	(0.0005)	(0.0006)	(0.0007)	(0.0006)	(0.0011)	(0.0012)
Control Mean	0.8702	0.8874	0.8300	0.8586	0.7315	0.7525
N	6200811	4188522	6200811	4188522	5561545	3839649
Panel C: Commuting Zones 2020						
2020–2021	-0.0008	0.0011	-0.0041***	-0.0015	-0.0007	0.0023**
	(0.0008)	(0.0007)	(0.0012)	(0.0011)	(0.0010)	(0.0011)
2022–2024	0.0015**	0.0022***	-0.0011	0.0005	0.0029**	0.0057***
	(0.0006)	(0.0007)	(0.0008)	(0.0007)	(0.0013)	(0.0014)
Control Mean	0.8708	0.8874	0.8299	0.8581	0.7297	0.7510
N	4931424	3339758	4931424	3339758	4420858	3058300
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: Same as the unweighted comparison, using ACS person weights. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Back

Appendix: Falsification Test, 2008 Financial Crisis



Notes: Event study around the 2008 financial crisis for college-educated mothers, ACS 2005–2011. Outcome: LFP. MSA and year FE; SEs clustered at the MSA level.

Back

References I

Callaway, B., Goodman-Bacon, A., and Sant'Anna, P. H. (2024). Difference-in-differences with a continuous treatment. Technical report, National Bureau of Economic Research.

Dingel, J. I. and Neiman, B. (2020). How many jobs can be done at home? *Journal of Public Economics*, 189:104235.

Gupta, A., Mittal, V., Peeters, J., and Van Nieuwerburgh, S. (2022). Flattening the curve: pandemic-induced revaluation of urban real estate. *Journal of Financial Economics*, 146(2):594–636.

Hansen, S., Lambert, P. J., Bloom, N., Davis, S. J., Sadun, R., and Taska, B. (2023). Remote work across jobs, companies, and space. Working Paper 31007, National Bureau of Economic Research.