

This Time It's Different: The Role of Women's Employment in the Great Lockdown

Titan Alon, Matthias Doepke, Jane Olmstead-Rumsey, and Michèle Tertilt



*"I can't remember—do I work at home or
do I live at work?"*

Why Gender?

COVID-19 kills more men than women . . .

. . . but Great Lockdown recession has big economic impact on women.

→ **Matters for welfare.**

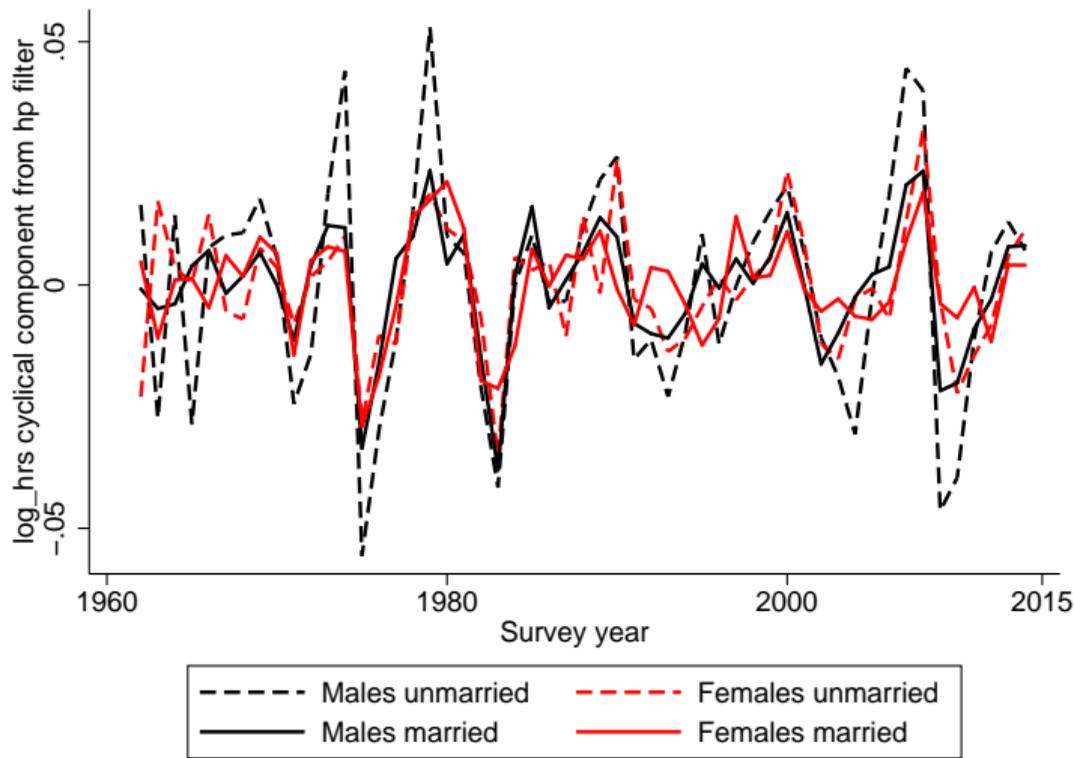
→ **Matters for policy.**

→ **Matters for macroeconomic repercussions.**

An Evolving Project

- ▶ **Step 1:** Paper in *Covid Economics: Vetted and Real-Time Papers*, April 2020:
“The Impact of COVID-19 on Gender Equality”
→ Assess likely impacts and consequences based on pre-crisis data.
- ▶ **Step 2:** Data gathering on actual impacts during the crisis in various countries.
- ▶ **Step 3:** Macro model with rich household heterogeneity:
“This Time It’s Different: The Role of Women’s Employment in the Great Lockdown”
→ Assess macro implications.
→ Assess long-run impacts.
→ Assess policy options.

Regular Recessions are “Mancessions”



76% of hours volatility due to men!

This Time It's Different ...

... for two reasons:

- ▶ Usual recessions are concentrated in sectors where many men work, such as construction and manufacturing. **Not so this time.**
- ▶ People's ability to work also affected by increased childcare needs during school and daycare closures. **Affects women more than men.**

Consequences of the Large Impact on Women's Employment

- ▶ **Welfare:** Big impact on single parents and couples with little work flexibility.
- ▶ **Amplification:** Diminished scope for intra-household insurance magnifies transmission of income shocks to consumption.
- ▶ **Gender gap:** Employment losses combined with returns to experience imply widening of the gender gap in the medium term.
- ▶ **Social norms:** Greater work flexibility and shifting social norms in response to men's greater involvement in childcare will benefit working mothers in the long term.

Outline

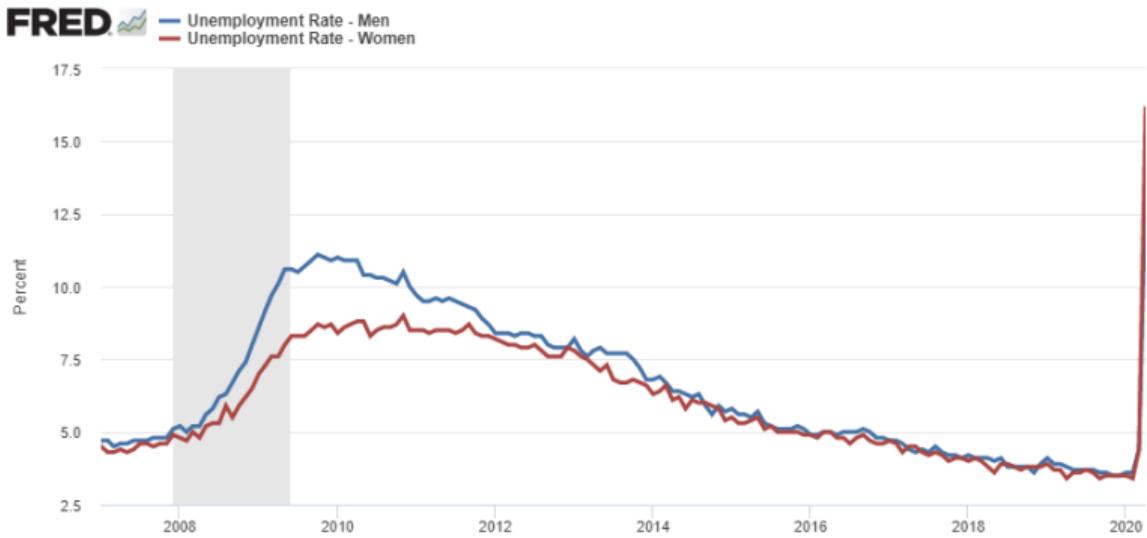
1. Facts from pre-crisis data.
2. Evidence on actual impact so far.
3. Macro model with heterogeneity in gender, marital status, occupation, and childcare needs.
4. Short-run, medium-run, and long-run implications (preliminary).

Expected Effects based on Pre-Crisis Data

1. Women work less in critical (17%) and in telecommutable (22%) occupations than men (24% and 28%) → making female job loss likely.
2. Even in those 44% of couples where both work full time, mothers do about 60% more childcare → unequal division likely to continue as childcare needs increase during crisis.
3. Job Flexibility important for distribution of childcare: Men who can telecommute provide 50% more childcare compared to men who cannot. → Great lockdown causes increase in ability to telecommute → likely leading to more equal division of childcare in the long run.
4. We estimate that in 9-12% of couples, husband primary childcare provider during crisis (as wife works in critical sector and he does not) → could lead to changing norms. (like WWII and Daddy Months)

The Actual Impact So Far

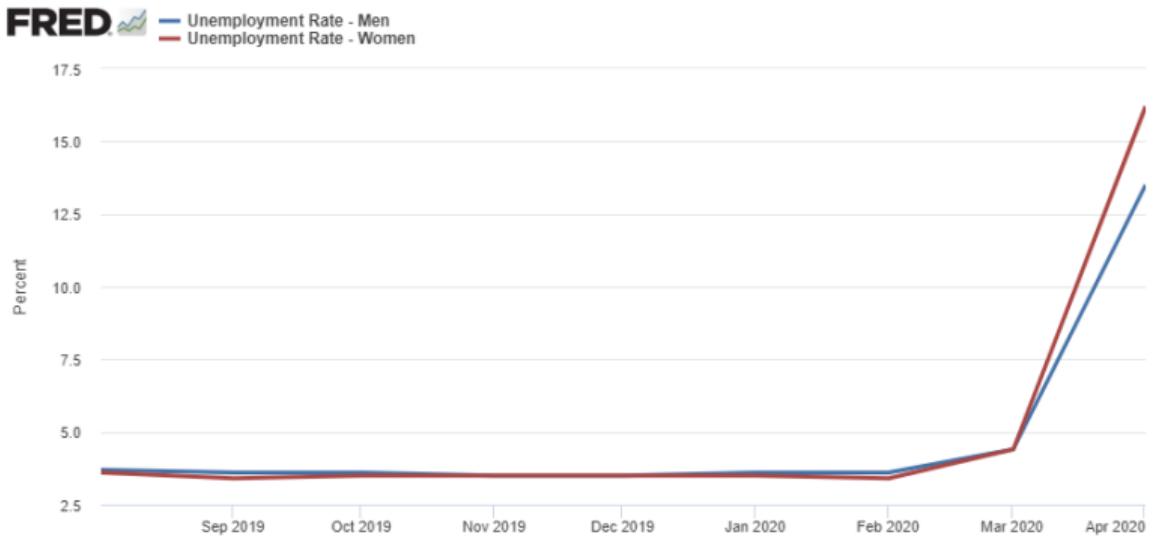
This Time It's Different



Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org

This Time It's Different



Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org

This Time It's Different Everywhere

Employment:

- ▶ United Kingdom: **More women than men** lose employment (Adams-Prassl et al).
- ▶ Netherlands: in March women's hours dropped by **17%**, men's by **10%** (Gaudecker et al).

Childcare:

- ▶ United States: Daily increase in childcare plus homeschooling hours among parents working from home **4.7 hours** for men, **6.1 hours** for women (Adams-Prassl et al).
- ▶ Germany: In **20%** of couples father suddenly main childcare provider (Mannheimer Corona Studie).
- ▶ Netherlands: In **30%** of couples where only mother is in critical occupation father sole caregiver now (Gaudecker et al).

Family Macro Model

(Some) Literature We Build On

- ▶ **Role of female labor supply in business cycles:** Albanesi (2020), Albanesi and Sahin (2018), Bardoczy (2020), Fukui, Nakamura, and Steinsson (2019), Doepke and Tertilt (2016), Mankart and Oikonomou (2016, 2017).
- ▶ **Family risk sharing:** Blundell, Pistaferri, and Saporta-Eksten (2016), Ellieroth (2019), Guler, Guvenen, and Violante (2012), Ortigueira and Sassi (2013), Wu and Krueger (2018).
- ▶ **The Great Lockdown Recession:** Gregory, Menzio, and Wiczer (2020), ...

Overview of Ingredients

- ▶ Women and men, singles and couples, childcare needs.
- ▶ Labor supply on the extensive margin, part-time work possible.
- ▶ Occupations differ by telecommutability.
- ▶ Job destruction shocks and unemployment (search model).
- ▶ Endogenous accumulation of experience.
- ▶ Division of labor partly shaped by social norm.
- ▶ Choices: labor supply, childcare, consumption, savings

No infection model!

Great Lockdown: shock to **labor market** and **childcare needs**.

Setting

Continuum of three types of households: single women, single men, couples.

State variables:

- ▶ Assets a .
- ▶ Human capital h .
- ▶ Kids $k \in \{0, s, b\}$ (no kids, small kid, big kid).
- ▶ Employment $e \in \{E, U\}$ (employed, unemployed).
- ▶ Occupation $o \in \{TC, NT\}$ (can telecommute, cannot telecommute).
- ▶ Social norm $m \in \{0, 1\}$ (modern, traditional): utility penalty if he does more childcare $\psi(t^m - t^f)$.

Evolution of State Variables

- ▶ Household type and occupation are permanent types.
- ▶ Children are permanent types (later: arrive and leave according to probabilities $\pi^g(k'|k)$ for singles and $\Pi(k'|k)$ for couples).
- ▶ Employment opportunities arise and vanish according to probabilities $\pi^g(e'|e, k)$ for singles and $\Pi^g(e'|e, k)$ for couples. Offers can be rejected.
- ▶ Human capital accumulates and depreciates stochastically as a function of labor supply.
- ▶ Transition probabilities for social norm depend on fractions of couples with husband as equal or main primary childcare provider.

The Decision Problem for Unemployed Singles

$$v_U^g(a, h, k) = \max_{a', c, l, t} \{u^g(c, l) + \beta E [w_e^g(a', h', k', o')]\}$$

subject to:

$$c + a' = z + (1 + r)a,$$

$$t = \gamma(k),$$

$$l + t = T.$$

Childcare needs: $\gamma(s) > \gamma(b) > \gamma(0) = 0$.

The Decision Problem for Employed Singles

$$v_E^g(a, h, k, o) = \max_{a', c, l, n, t} \{u^g(c, l) + \beta E [w_e^g(a', h', k', o')]\}$$

subject to:

$$c + a' = w^g h n + (1 + r)a,$$

$$t + \phi(k) n l(o = TC) \geq \gamma(k),$$

$$l + n + t = T.$$

Decision Problem for Singles at Start of Period

Job offer:

$$w_E^g(a, h, k, o) = \max \{ v_E^g(a, h, k, o), v_U^g(a, h, k) \}.$$

No job offer:

$$w_U^g(a, h, k) = v_U^g(a, h, k).$$

Decision Problem for Dual-Earner Couples

$$V_{EE}(a, h^f, h^m, k, o^f, o^m, m) = \max \left\{ \lambda u^f(c^f, l^f) + (1 - \lambda) u^m(c^m, l^m) \right. \\ \left. - m\psi(t^m - t^f) + \beta E \left[W_{(e^f)', (e^m)', (a^f)', (h^f)', (h^m)', k, (o^f)', (o^m)', m} \right] \right\}$$

subject to:

$$c^f + c^m + a' = w^f h^f n^f + w^m h^m n^m + (1 + r)a, \\ t^f + t^m + \phi(k) n^f I(o^f = TC) + \phi(k) n^m I(o^m = TC) = \gamma(k), \\ l^f + n^f + t^f = T, \\ l^m + n^m + t^m = T.$$

Couples' Problem at Start of Period

Both have job offer:

$$W_{EE}(a, h^f, h^m, k, o^f, o^m, m) = \max \left\{ V_{EE}(a, h^f, h^m, k, o^f, o^m, m), \right. \\ \left. V_{EU}(a, h^f, h^m, k, o^f, m), V_{UE}(a, h^f, h^m, k, o^m, m), V_{UU}(a, h^f, h^m, k, m) \right\}.$$

... and so on.

Evolution of Human Capital and Social Norm

Human capital h is on a skill ladder H , probability of moving up and down depends on labor supply, gender, and kids.

→ **Returns to experience, skill loss when not employed**

Transition probabilities for social norm taken as given by couple, depend on aggregate fraction of couples where man is primary childcare provider.

→ **Social externalities**

Calibration

Choose initial parameters to match:

- ▶ Labor market flows by marital status, gender, and kids.
- ▶ Distribution of couples (with and w/o kids) among combinations of full-time work, part-time work, no work.
- ▶ Impact of occupation type (TC, NT) on time allocation.
- ▶ Estimates of returns to experience and skill loss in unemployment.

The Great Lockdown in the Model:
Short-, Medium-, and Long-Run Effects

Recessions in the Model

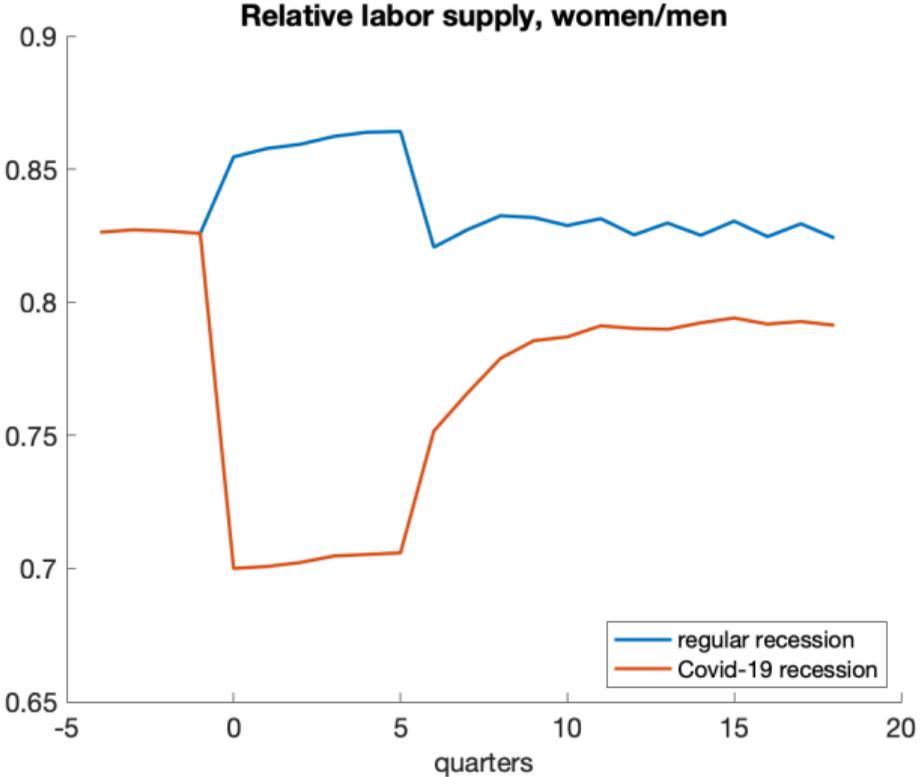
Regular recession (6 quarters):

1. Large change in men's job destruction and job finding rates.
2. Smaller change in women's job destruction and job finding rates.

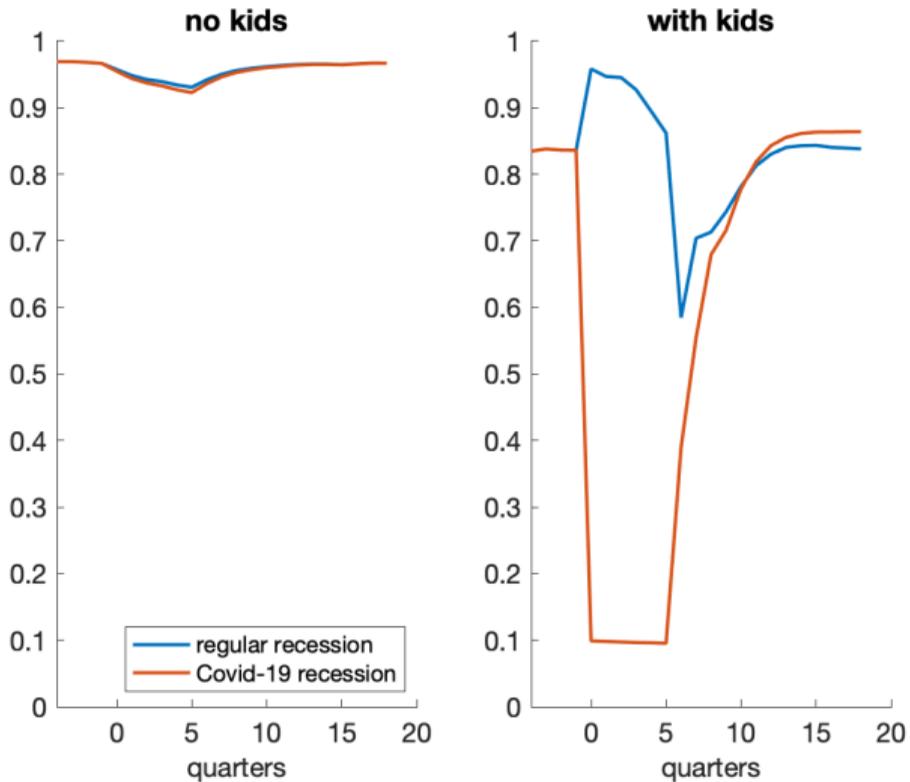
Great Lockdown recession (6 quarters):

1. Large change in men's job destruction and job finding rates.
2. Equally large change in women's job destruction and job finding rates.
3. Rise in childcare needs.
4. (Shift in telecommuting ability and social norms starting in quarter 7.)

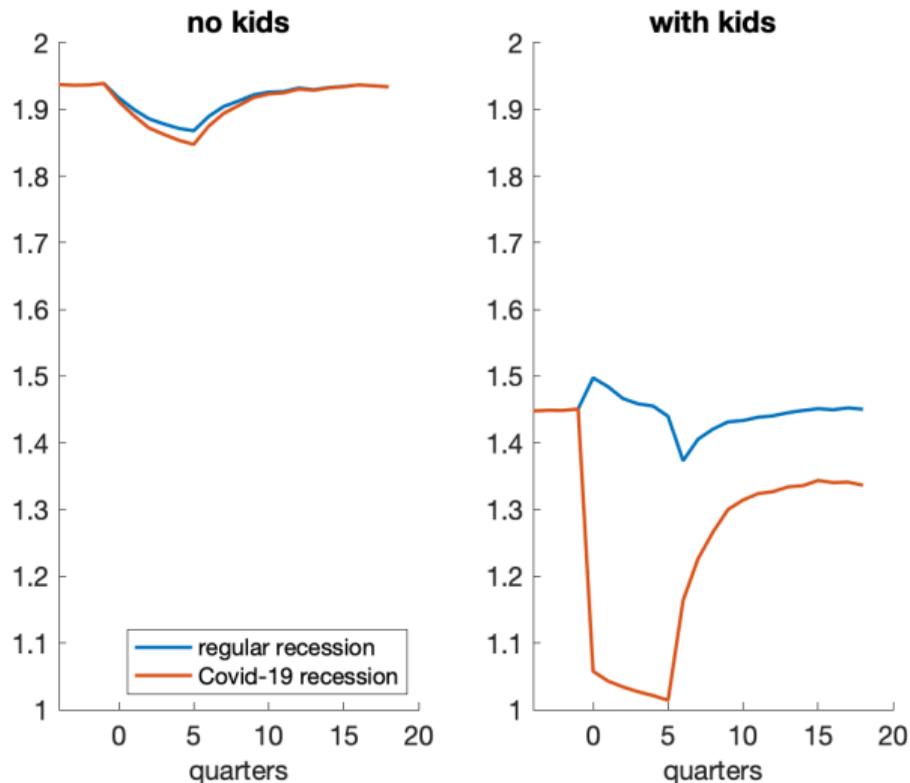
Women's vs. Men's Labor Supply, Great Lockdown vs. Regular Recession



Single Parents' Labor Supply falls dramatically

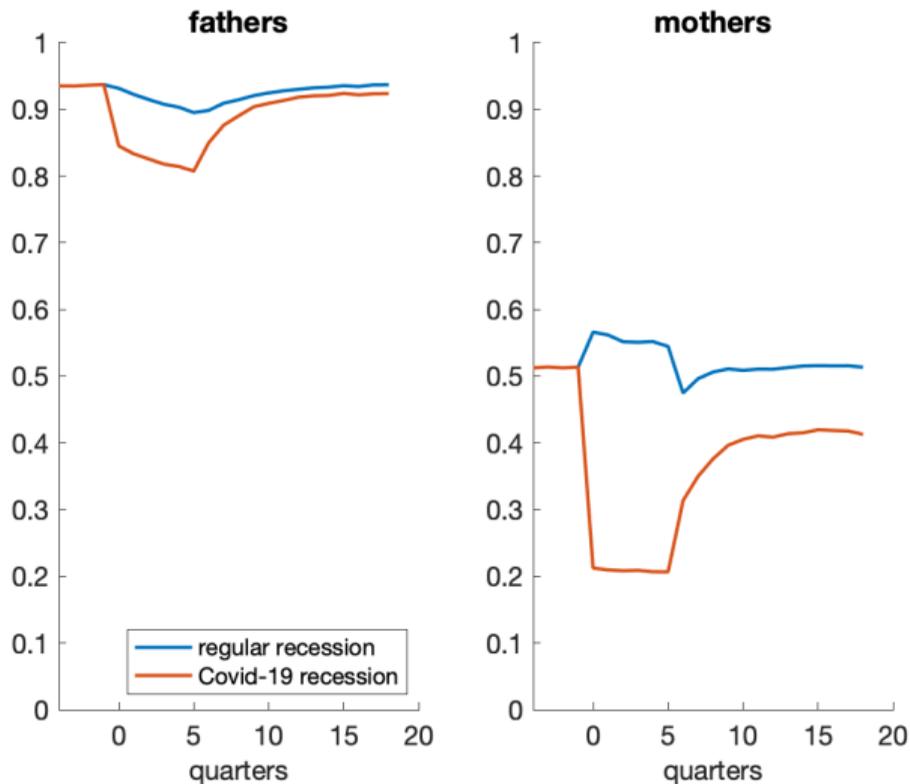


Labor Supply of Parents vs. Childless Married Couples



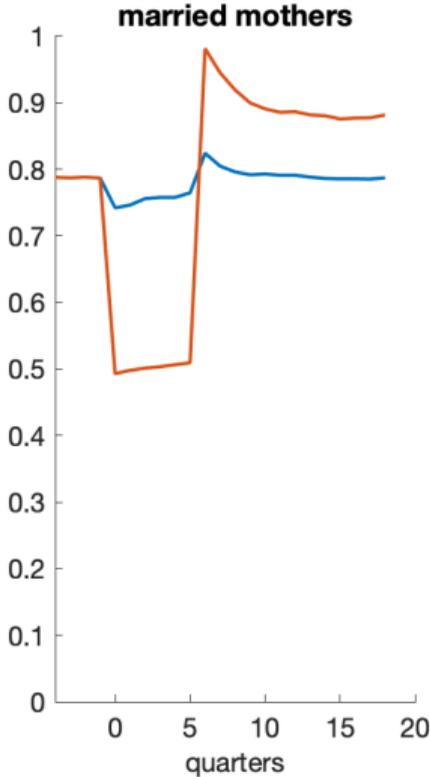
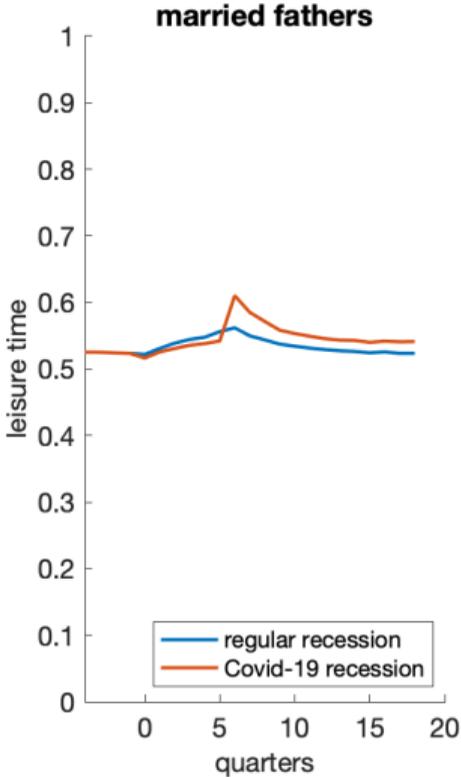
⇒ Second earner effect disappears during the COVID19 recession.

Labor Supply of Fathers and Mothers in Married Couple Households

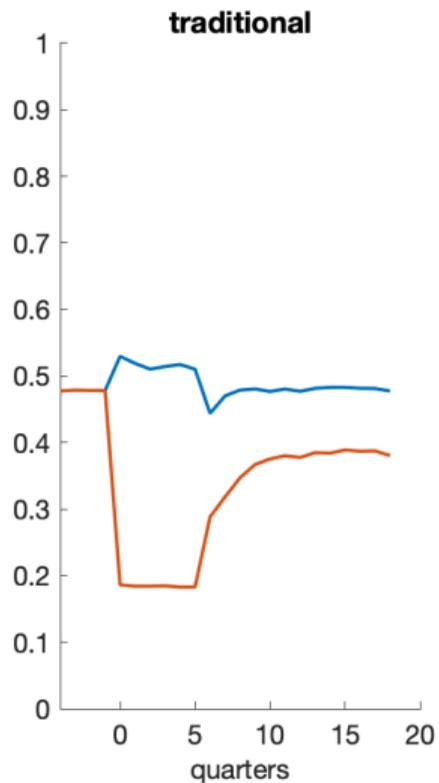
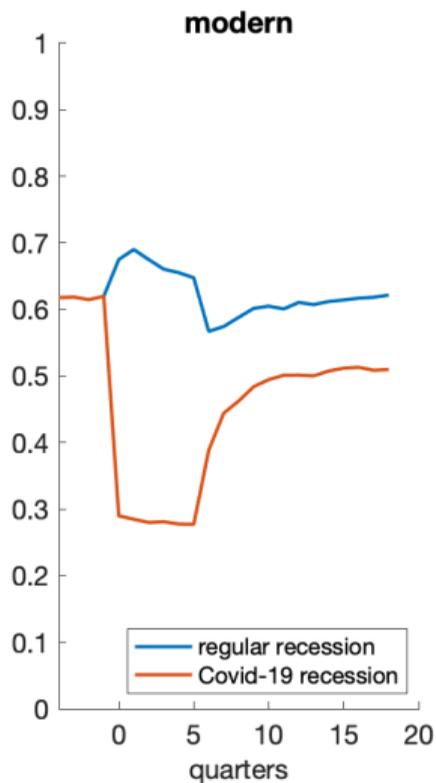


Second earner effect disappears during the COVID19 recession.

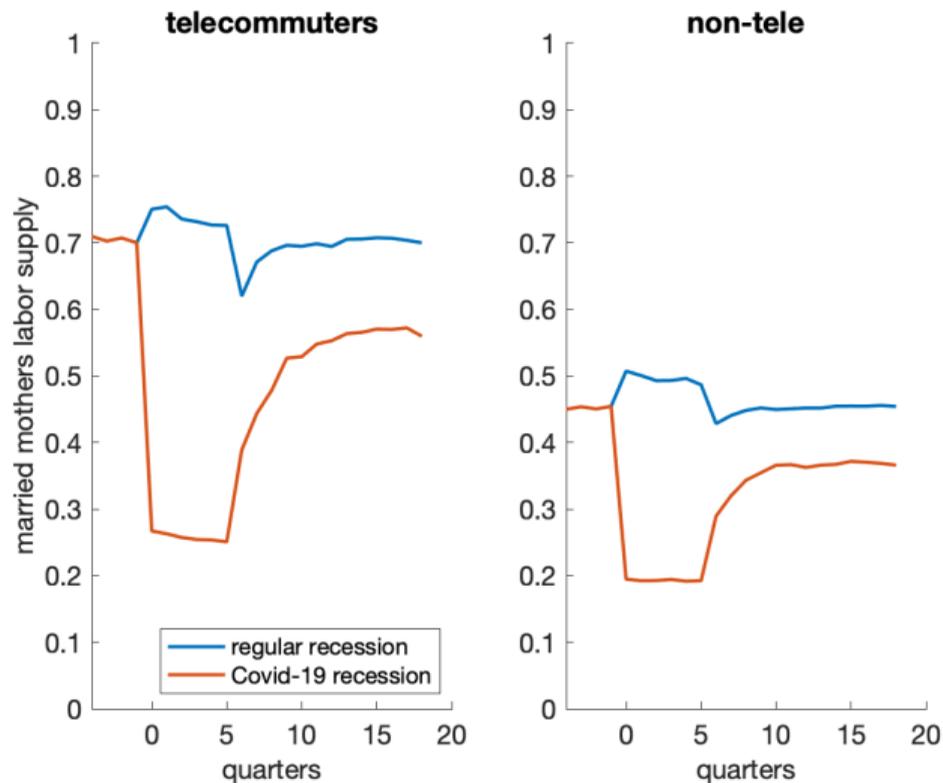
The Leisure Gap



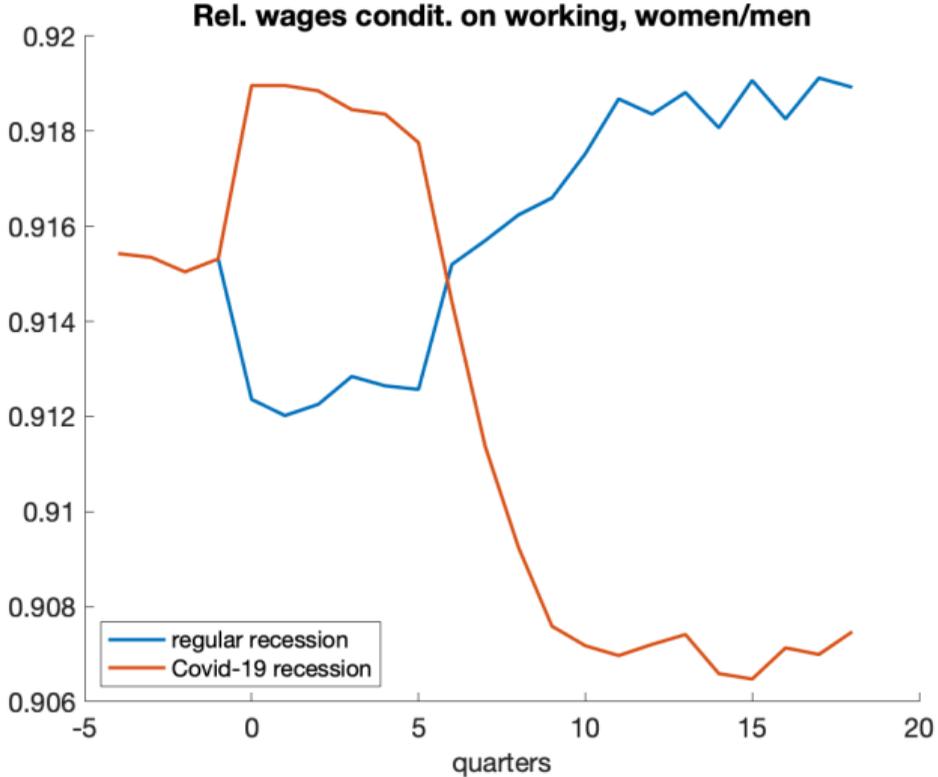
Modern vs. Traditional Couples: Mothers' Labor Supply



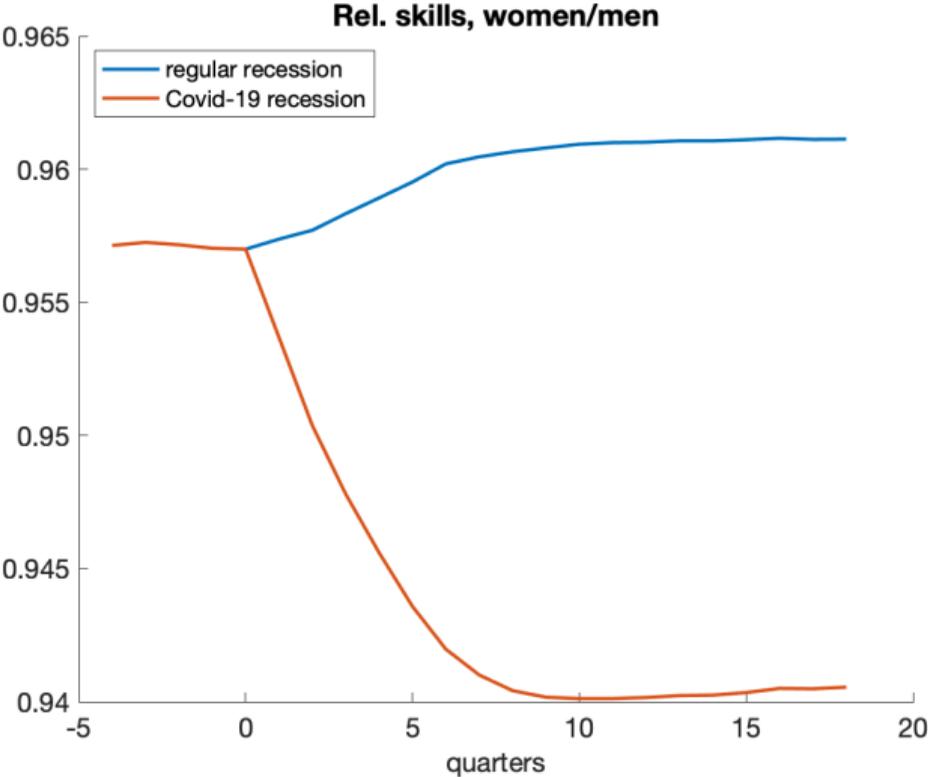
Importance of Ability to Telecommute: Married Mothers



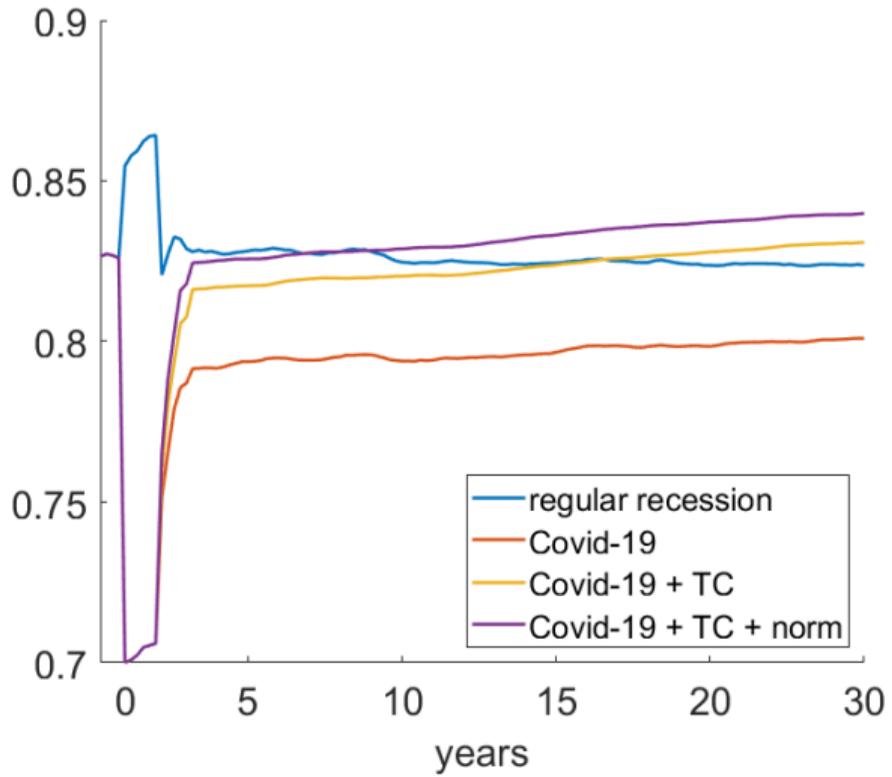
Gender Wage Gap, Great Lockdown vs. Regular Recession



Human Capital Gap, Great Lockdown vs. Regular Recession



The Long Run: Relative Labor Supply of Married Mothers vs. Fathers



Summary

Economically, impact on women and childcare needs is biggest distinction between Great Lockdown and regular recession.

- **Matters for short-run policy response.**
- **Matters for medium-run economic impact.**
- **Matters for long-run changes to social norms and gender equality.**