

EC555: Family Macroeconomics

Matthias Doepke (LSE)



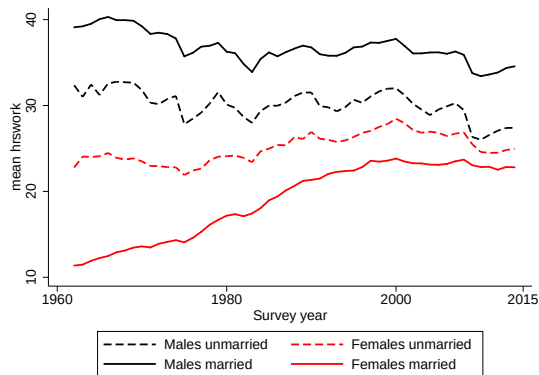
How does Family Labor Supply Affect the Transmission of Macro Shocks?

- Effects through changing composition of family types
- Effects through gender-tilt of macro shocks
(e.g., which industries are affected by a downturn)
- Effects through different reactions to shocks across gender and family types

Household Composition and Aggregate Labor Supply in the US

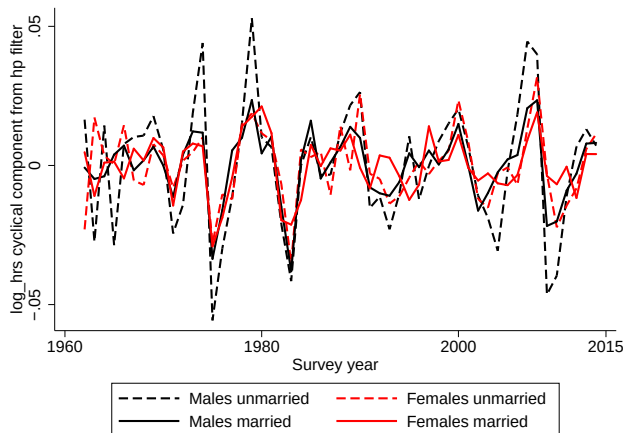
Doepke and Tertilt, "Families in Macroeconomics," 2016 Handbook Chapter

Average Weekly Work Hours by Gender and Marital Status over Time, United States



Household Composition and Aggregate Labor Supply in the US

Cyclical Component of Average Weekly Work Hours by Gender and Marital Status over Time, United States



Volatility of Hours Worked in the United States

	All			Married		Single	
	Total	Women	Men	Women	Men	Women	Men
1962–2014							
Total	1.25	1.04	1.46	1.04	1.25	1.33	2.33
Cyclical	0.99	0.72	1.18	0.67	1.01	0.74	1.68
Hours Share		38.09	61.91	23.90	47.71	14.19	14.20
Vol. Share		27.22	72.78	16.20	48.98	10.64	24.17
1962–1988							
Total	1.35	1.19	1.48	1.26	1.36	1.37	2.44
Cyclical	1.08	0.87	1.19	0.87	1.09	0.79	1.65
Hours Share		33.71	66.29	21.99	55.29	11.72	11.00
Vol. Share		27.14	72.86	18.02	56.29	8.67	17.02
1989–2014							
Total	1.15	0.87	1.47	0.79	1.16	1.30	2.25
Cyclical	0.91	0.51	1.23	0.38	0.95	0.70	1.82
Hours Share		42.64	57.36	25.89	39.83	16.75	17.53
Vol. Share		23.68	76.32	10.80	41.51	12.88	34.81

Key Observation: Women's Labor Supply Is Less Cyclical

	Married		Single	
	Women	Men	Women	Men
Cyclical volatility	0.38	0.95	0.70	1.82
Share of cyclical hours vol.	10.8%	41.5%	12.9%	34.8%

CPS 1989–2014; HP-filtered hours

- **Sectoral composition:** More men in cyclical sectors (manufacturing, construction), more women in counter-cyclical sectors (government, health)
- **Within-family insurance:** married women raise labor supply when husbands lose jobs

Note: Women's employment less volatile in the aggregate, even though it is more volatile and responsive at the micro level

However: When Women Do Lose Jobs, the Effect Is More Persistent

- Non-reentry $\Rightarrow$ extra fraction NILF 12 months after a job separation, vs. similar workers who kept their job

	NILF (Base)	NILF (Job Loss)	Non-Reentry Diff.	Gender Gap
Men	1.9%	19.7%	17.8pp	12.9pp
Women	4.2%	35.0%	30.8pp	

- Among married couples, the gap widens with children:

	No kids	Small kids	Big kids
Men's non-reentry	18.9pp	12.2pp	12.2pp
Women's non-reentry	31.7pp	36.5pp	32.8pp
Gender gap (DiD)	12.8pp	24.3pp	20.6pp

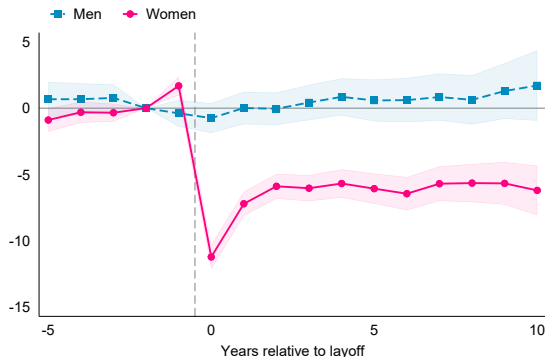
Persistent Effect on Women Linked to Reallocation of Housework

Ucciolli and Di Tella, "Gender Norms and Household Responses to Economic Shocks," 2026 Working Paper

- Look at response of within-couple time allocation to layoffs in UK data.
- Also consider role of social norms.
- Interpret results with a structural model.

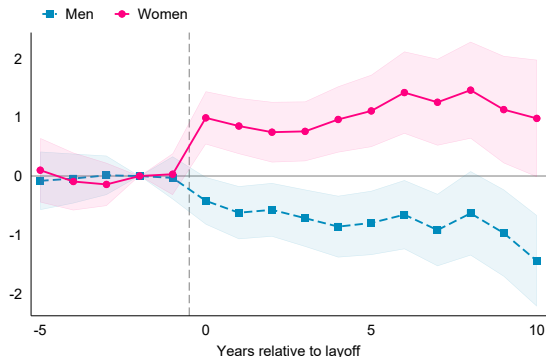
Employment and Housework If Woman Is Laid Off

Weekly hours in paid employment



Event: Woman is laid off.

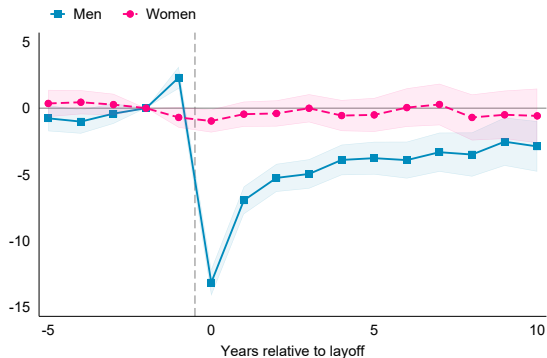
Weekly hours in housework



Event: Woman is laid off.

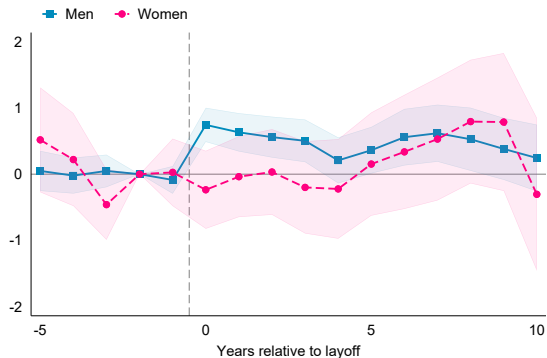
Employment and Housework If Man Is Laid Off

Weekly hours in paid employment



Event: Man is laid off.

Weekly hours in housework



Event: Man is laid off.

Progressive Women Have the Same Labor Market Behavior as Men



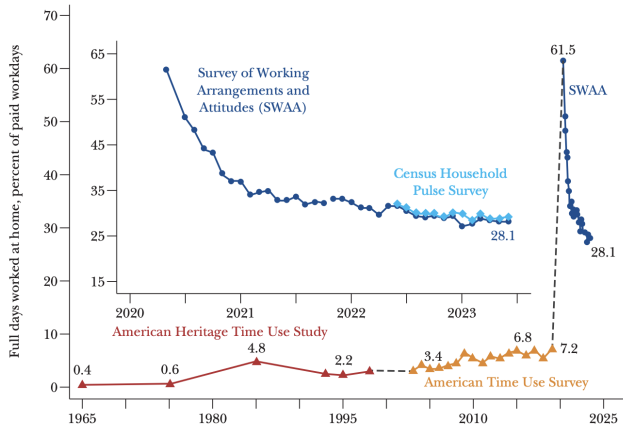
Social Norms Also Impact the Level of Labor Supply

- 22% of US couples hold **traditional** norms: agree/strongly agree with “children suffer when mothers work”.

	Share	Employment		Hours	
		Husband	Wife	Husband	Wife
Modern	78%	94%	77%	0.92	0.70
Traditional	22%	95%	58%	0.91	0.52
Ratio (T/M)		101%	76%	99%	73%

- Social norm employment gap driven entirely by women.

A New Factor: Persistent Shift to Telework



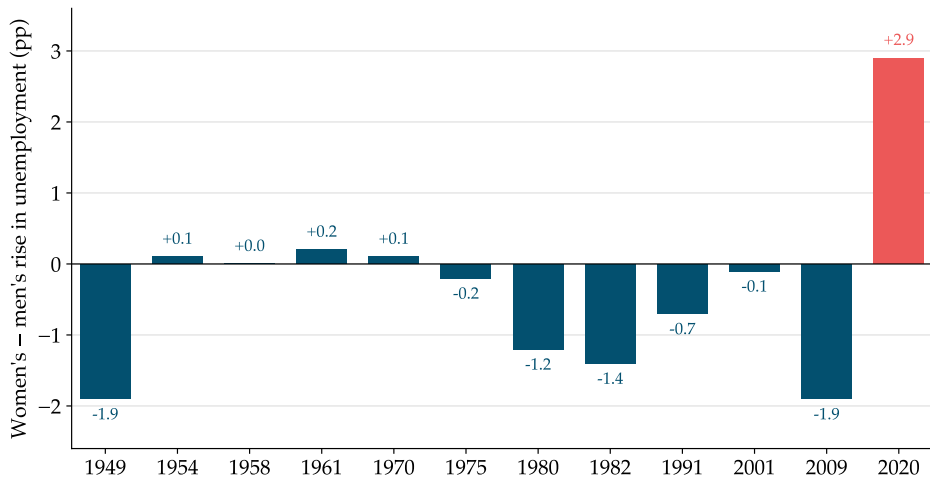
- Large and persistent increase in telework since the pandemic.
- Telework lets parents do more childcare: conditional on non-teleworking spouse, **+50%** for men and **+14%** for women.

How Do These Channels Matter in a Macro Model of the Household Sector?

Alon, Doepke, Olmstead-Rumsey, Symons-Hicks, Tertilt, “This Time It’s Different: The Role of Women’s Employment in Recessions,” 2026 Working Paper

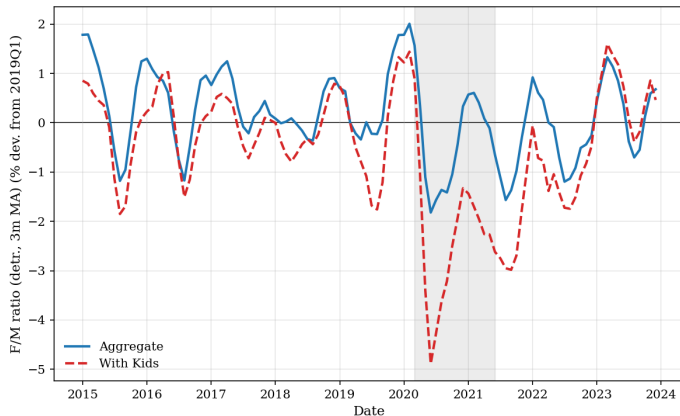
1. **Facts on women’s vs. men’s employment in recessions**
2. **Quantitative model of household decision-making**
 - Calibrated model with occupational dynamics, endogenous labor supply, and childcare allocations.
3. **Recession dynamics of he-cessions vs she-cessions**
 - Effects on depth of the downturn, within-family insurance, and aggregate income.
4. **Pandemic recession**
 - She-cession *plus* a surge in childcare needs from school and daycare closures.
5. **Post-pandemic new normal**
 - More telework and more gender-equal norms reshape household labor supply and future recessions.

Not All Recessions Are the Same



A She-Cession, Especially for Mothers

Female/Male Employment Ratio - Detrended



(Broader overview in Alon, Coskun, Doepke, Koll, and Tertilt, “From Mancession to Shecession: Women’s Employment in Regular and Pandemic Recessions,” NBER Macro Annual 2021)

Model Overview

- Partial-equilibrium household decision-making with **search frictions**: shocks hit through job-finding and job-loss probabilities.
- Three permanent household types: **single women, single men, couples**.

Household state variables:

- assets a , human capital h , children $k \in \{0, s, b\}$;
- employment offers $e \in \{E, U\}$, occupation $o \in \{TC, NT\}$, last period's work status n_{-1} ;
- couples also carry a social norm $m \in \{0, 1\}$ (traditional / modern).
- **Timing**: receive offers $\rightarrow$ accept / reject $\rightarrow$ full- or part-time $\rightarrow$ consume, save, allocate childcare.

The Singles' Problem

Value function for a single household of gender g with an offer:

$$v_E^g(a, h, k, o, X) = \max_{a', c, \ell, n, t, t_w} \left\{ u^g(c, \ell) - \alpha_w^g(t_w)^\phi + \omega\beta \mathbb{E}[\tilde{v}_{e'}^g(\cdot')] \right\},$$

with $u^g(c, \ell) = \log c + \alpha_\ell^g \log \ell$, subject to:

$$c + a' = w^g h n^{\theta_g} + (1 + r)a \quad (\text{budget})$$

$$t + t_w = \gamma(k, X) \quad (\text{childcare need})$$

$$t_w \leq \mathbb{I}(o = TC) n \quad (\text{multitasking})$$

$$\ell + n + t = T \quad (\text{time})$$

- Choose savings a' , consumption c , hours $n \in \{0, 0.5, 1\}$, dedicated childcare t , and **multitasking time** t_w .
- θ_g : returns to PT work; $\alpha_w^g(t_w)^\phi$: utility curvature of multitasking.

The Couples' Problem – Preferences

Couples solve a joint problem (with bargaining, joint childcare production, and social norm):

$$V_{EE}(\cdot) = \max \left\{ \lambda \left(u^f(c^f, \ell^f) - \alpha_w^f(t_w^f)^\phi \right) + (1 - \lambda) \left(u^m(c^m, \ell^m) - \alpha_w^m(t_w^m)^\phi \right) \right. \\ \left. - (1 - m) \psi \left(t^m + t_w^m - t^f - t_w^f \right) \right. \\ \left. + \omega \beta \mathbb{E} \left[\tilde{V}_{(e^f)', (e^m)' }(\cdot) \right] \right\}$$

- Bargaining weights λ (wife) / $1 - \lambda$ (husband).
- $(1 - m) \psi (t^m + t_w^m - t^f - t_w^f)$: **social-norm** penalty if the father does more childcare than the mother (traditional couples, $m = 0$).

The Couples' Problem – Constraints

Couples face a joint budget, a shared childcare technology, and a time constraint for each spouse:

$$c^f + c^m + a' = w^f h^f (n^f)^{\theta_f} + w^m h^m (n^m)^{\theta_m} + (1 + r)a \quad (\text{budget})$$

$$\left((t^f + t_w^f)^\nu + (t^m + t_w^m)^\nu \right)^{1/\nu} = \gamma(k, X) \quad (\text{childcare})$$

$$t_w^g \leq \mathbb{I}(o^g = TC) n^g \quad (\text{multitasking})$$

$$\ell^g + n^g + t^g = T \quad (\text{time, each } g)$$

- The two parents' time enters a **shared CES technology** (curvature ν): spouses substitute for each other in childcare.
- **Multitasking time** t_w^g lets a parent provide childcare while working, up to hours n^g (teleworkers only).

Re-entry Costs & Stochastic Processes

Re-entry cost. A worker not employed last period pays a stochastic cost to return:

$$\kappa^g(n_{-1}, n, k, o) = \begin{cases} \kappa_L^g(\cdot), & \text{w.p. } p, \\ \kappa_H^g(\cdot), & \text{w.p. } 1 - p. \end{cases}$$

- Value for couple with both offers *after* deciding n is:

$$V_{EE}(\cdot) - \kappa^m(n_{-1}, n, k, o) - \kappa^f(n_{-1}, n, k, o)$$

Human capital accumulation:

- Increases to next gridpoint w.p. η with full-time work ($\frac{\eta}{2}$ for PT); falls w.p. δ in non-employment.

Children $k \in \{0, s, b\}$ arrive and age stochastically, with transitions that differ for singles (by gender) and couples.

Aggregate States & Shocks

- Two absorbing steady states:
 - **Normal** (N): pre-pandemic economy.
 - **New normal** (NN):
 - more telework offers (7% $\rightarrow$ 28%)
 - fewer traditional couples (22% $\rightarrow$ 11%)
- Recessions arrive as **MIT shocks**: lower job-finding, higher job-loss probabilities; expected to persist w.p. $\rho = \frac{5}{6}$ ($\approx$ six quarters).
- Stylized shocks isolate the gender margin:
 - **Recession** (R): men's offer rates fall more than women's.
 - **He-cession** (H): only men's offer rates fall.
 - **She-cession** (S): only women's offer rates fall.
 - **Pandemic** (P): higher incidence on *women*, a surge in childcare needs, a one-off jump in telework, and transition to the *new normal*.

Calibration: Fit Model to Pre-Pandemic Target Moments

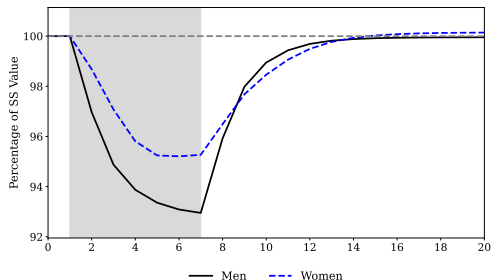
Moment	Data	Model
<i>Labor supply (hours)</i>		
Labor supply, single men	0.66	0.66
Labor supply, married men	0.9	0.83
Labor supply, single women	0.68	0.71
Labor supply, married women	0.64	0.66
<i>Job flows</i>		
Male E-to-E rate	0.93	0.91
Male U-to-U rate	0.62	0.66
Female E-to-E rate	0.9	0.87
Female U-to-U rate	0.77	0.73
<i>Wage gap</i>		
Gender wage gap (conditional on working)	0.19	0.21
<i>Re-entry moments</i>		
Non-reentry gap (F-M), married, no kids	0.13	0.13
Non-reentry gap (F-M), married, small kids	0.24	0.23
Non-reentry gap (F-M), married, big kids	0.21	0.19
<i>Telecommuting</i>		
Telecommute share	0.07	0.07
<i>Childcare</i>		
Fraction of childcare done by men, full-time couples	0.39	0.41
Childcare ratio (TC/NT): men, small kids, NT wife	1.5	1.42
Childcare ratio (TC/NT): women, any kids, NT husband	1.14	1.06
<i>Social norms</i>		
Ratio of M/F labor supply, traditional vs. modern couples	1.36	1.13
<i>Part time moments</i>		
Share of married mothers working part-time	0.18	0.24
Share of married mothers working full-time	0.52	0.49
Share of males working full-time	0.92	0.87
Share of females working full-time	0.76	0.75
<i>MPCs</i>		
MPC, couples	0.25	0.25
MPC, singles	0.25	0.24
<i>Inequality</i>		
Gini index, consumption	0.35	0.32

Calibrating the Recession Shocks

Recession magnitudes are set to match Great-Recession **employment rate** drops (men -5.9pp , women -3.0pp peak to trough):

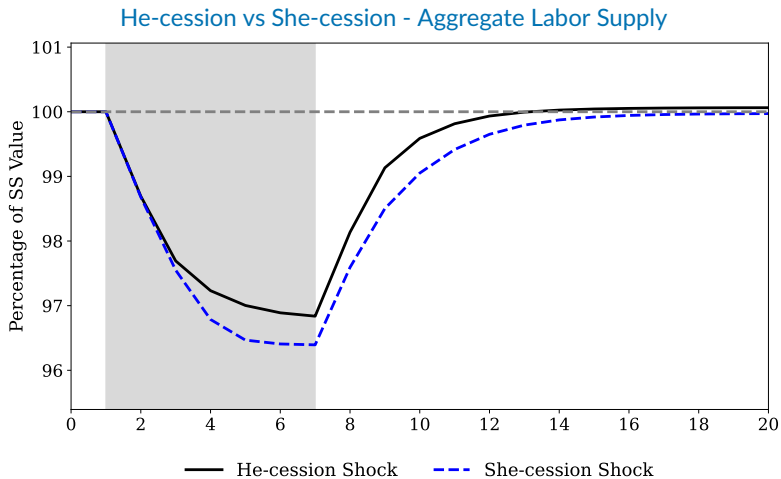
- Job offer (UE) and retention (EE) rates fall **2.9pp** (men) and **1.7pp** (women).

Recession: Male vs. Female Labor Supply

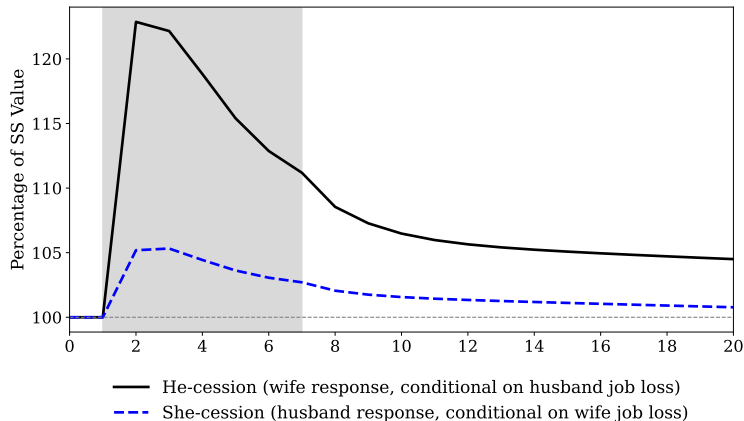


- A **he-cession** / **she-cession** applies the **same-size shock** (2.9pp) to one gender only.

(1) She-Cessions Are Deeper and Slower



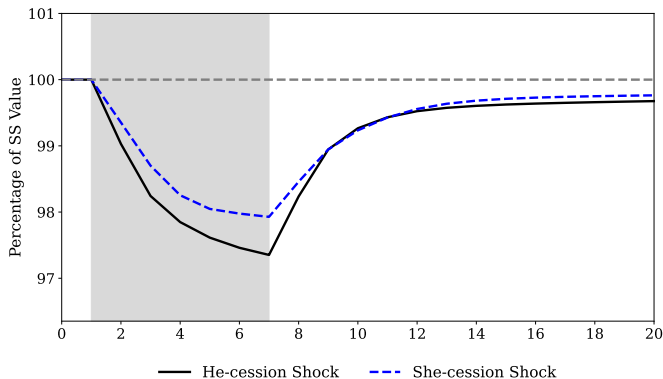
(2) The Added-Worker Effect Is Asymmetric



- In a he-cession, wives of unemployed men raise their labor supply (≈ 5.5 hours/week)
- The reverse is muted: married men are **already near-fully employed**.

(3) He-Cessions Cost More Income

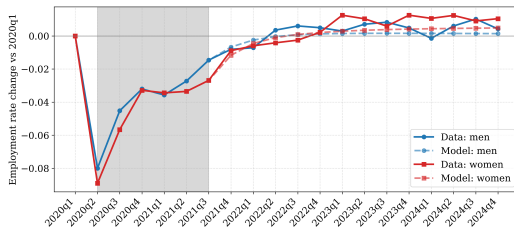
He-cession vs She-cession - Aggregate Household Income



- Men make up a larger share of the labor force, more often work full-time, and earn higher wages.

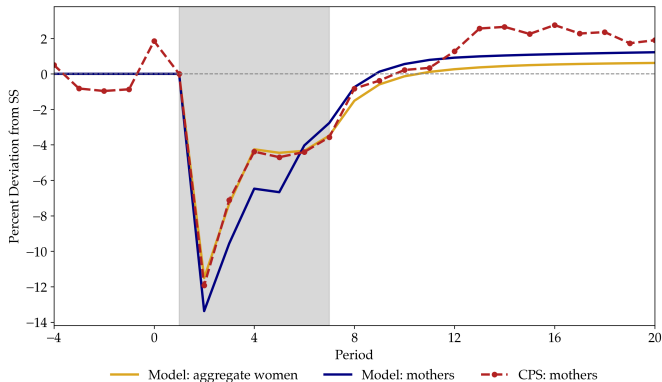
Application to Pandemic Recession

- **Childcare needs** rise 20% for the first year (4 quarters):
 - Small kids: $0.34 \rightarrow 0.41$ Big kids: $0.11 \rightarrow 0.13$
- **Telecommuting** status jumps to 28%.
- **Job offer rates** calibrated for the duration of the shock to match the percentage-point deviations from pre-pandemic employment rates.



- Economy transitions to the **New Normal** afterward.

Pandemic: Additional Decline for Mothers



1. Additional decline for mothers → labor force drop out due to childcare requirements.
2. Faster recovery for mothers → increased teleworking share.
3. Higher employment rate for mothers post pandemic.

Pandemic: Medium-Term Effects

16 Quarters After Start of Pandemic: Model vs Data

Moment	Data	Model
Fraction of childcare done by men, couples	+10.5%	+17.1%
Married women, hours	+3.0%	+1.5%
F/M employment rate ratio, couples with kids	+2.5%	+2.0%
Aggregate hours	+0.6%	+0.6%

Summary

- **He- vs. she-cessions:** She-cessions are deeper and slower for labor supply; the added-worker effect is asymmetric (wives respond, husbands barely do); he-cessions cost more income.
- **Pandemic:** A she-cession plus a childcare shock; the model matches the extra decline and faster recovery of mothers.
- **New normal:** More telework and more modern norms change who provides spousal insurance in future recessions.

Other Work on Family Labor Supply and the Macroeconomy

Mankart and Oikonomou, "Household Search and the Aggregate Labour Market," Review of Economic Studies 2017

Model:

- Two-member households with search frictions and incomplete markets.
- Households face unemployment risk; members adjust labor supply (search and participation) to insure each other.

Key insight:

- Explains why participation is only weakly correlated with the cycle, unlike neoclassical or one-member search models.
- Primary earners stay attached; secondary earners have mildly countercyclical participation and procyclical employment.

Women's Participation and Intra-family Insurance

Casella, "Women's Labor Force Participation and the Business Cycle," 2022 Working Paper

Model: Singles and couples with search frictions, an extensive participation margin, human capital, savings, and unemployment insurance.

Key insight:

- The added-worker effect is strongest for women close to the participation margin (recent work experience, higher past earnings).
- As the gender wage gap narrows, more women are marginal, so aggregate volatility first falls.
- Once women's labor supply looks like men's, the dampening effect fades: a U-shaped relation between the wage gap and aggregate volatility.

Women's Participation and Intra-family Insurance

Ellieroth and Michaud, "From Trend to Cycle: the Changing Careers of Married Women and Business Cycle Risk," 2024 Working Paper

Model: Married women choose careers (full-time, part-time, non-participation) with human capital from experience, costs of work that rise with children, and husbands' cyclical job loss.

Key insight:

- Across cohorts, more married women became "career women" with strong labor force attachment.
- Stronger attachment removes the margin for precautionary and added-worker labor supply.
- The forces that raised female participation also made married women's employment more cyclical.

Spousal Insurance in a HANK Model

Bardóczy, "Spousal Insurance and the Amplification of Business Cycles," 2022 Working Paper

Model: Heterogeneous-agent New Keynesian model with two-earner households, search frictions (job ladder), and an endogenous participation choice for secondary earners.

Key insight:

- Spousal insurance acts as an automatic stabilizer.
- The main beneficiaries from this stabilization are single households, as they are more exposed to cyclical variation in demand.

Summary for this Literature

1. Families are a key source of insurance for economic shocks
2. Women's and men's labor supply behavior is qualitatively different, in large part due to within-family decisions
3. This implies that he- vs. she-cessions are qualitatively different in terms of the transmission of shocks and the persistence of effects
4. Changes in the composition of family types, women's labor force participation, job flexibility, and the prevalence of conservative social norms all shape macro labor supply