

Convergence Almost Nowhere: Employment Volatility and the Family Channel

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¹Disclaimer: The views expressed here do not necessarily reflect those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.

Motivation

- ▶ As female labor force participation (FLFP) rises (over time and across countries), men and women look more similar on many dimensions (Goldin (2014), Albanesi(2020), Fukui et al.(2021), Blau and Kahn (2003), Blau et al.(2013), Olivetti and Petrongolo (2016)):
 - Income, wages
 - Employment
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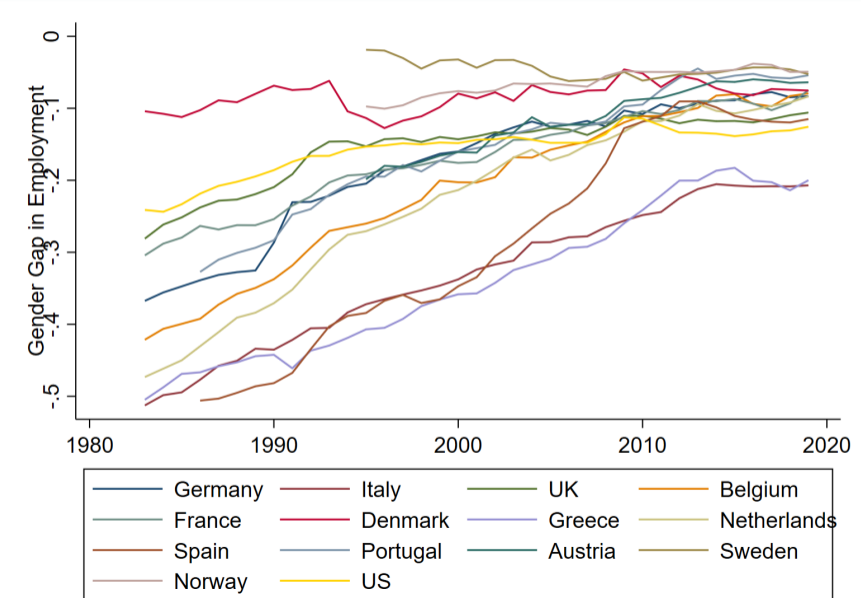
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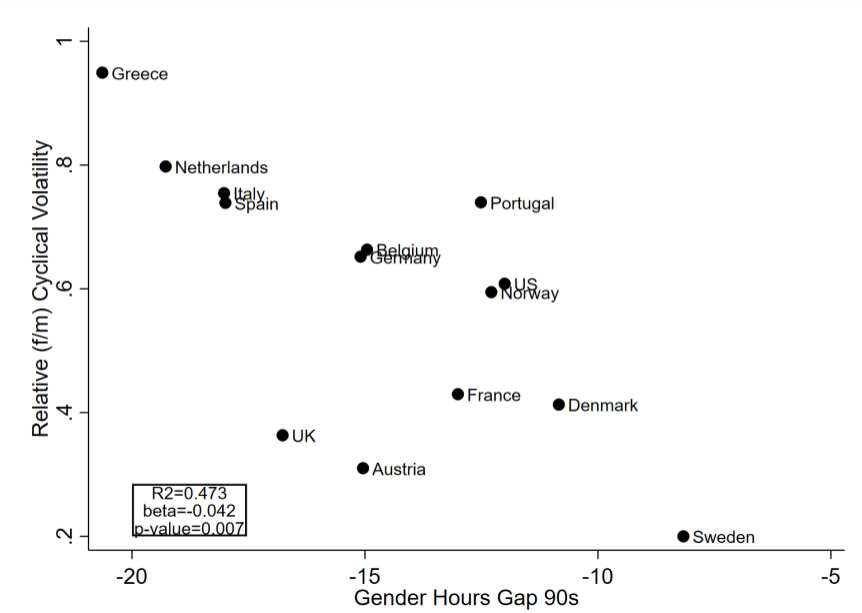
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- ▶ THIS PAPER: Difference in cyclical volatility of employment rises as FLFPR increases (over time, across countries)

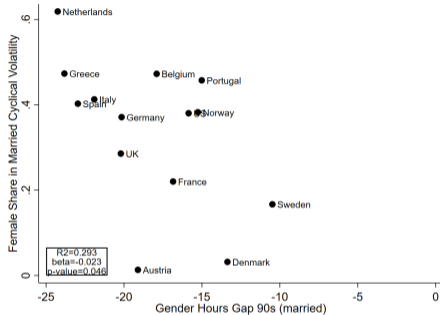
Countries differ



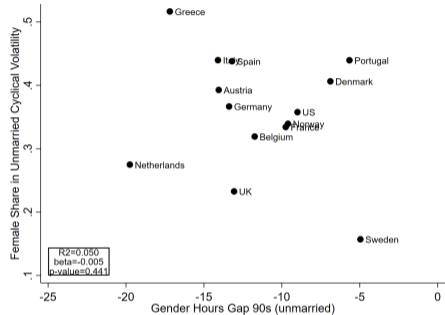
Relative employment volatility across countries



Volatility Share of Women



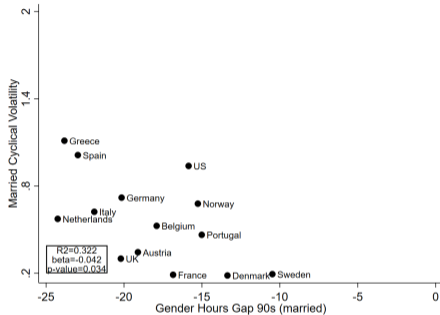
(a) Married Women's Volatility



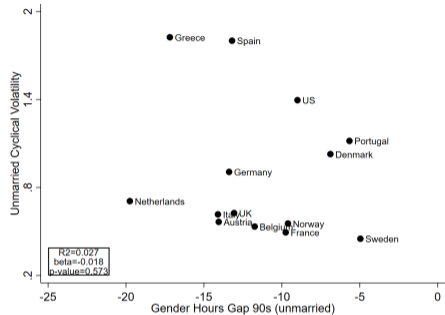
(b) Unmarried Women's Volatility

- ▶ In high gender gap countries, married women's volatility share is higher
- ▶ Female share in unmarried volatility is not correlated with the gender gap

Volatility by Marital Status



(a) Married Volatility



(b) Unmarried Volatility

- ▶ Married people have lower cyclical volatility
- ▶ Cyclical volatility of married people is correlated with the gender gap, where the one unmarried is not

Summary of Facts and Mechanism

- ▶ In low gender gap countries, women have much lower cyclical volatility of employment than men
- ▶ This is driven by married women
- ▶ → Married people have lower cyclical volatility of employment in high participation countries

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- ▶ Insurance Mechanism:
 - Added worker effect (more relevant when flfpr is low)
 - THIS PAPER: Job choice (more important as flfpr rises)
 - ★ → Women are more sorted in safer jobs

Job Choices vs Industry Cyclicity

- ▶ Women's sorting in jobs with low cyclicity is different across countries OR
- ▶ Industries' cyclicity is different across countries?
- ▶ We can write total hours by gender as the sum of all industry specific hours in a country

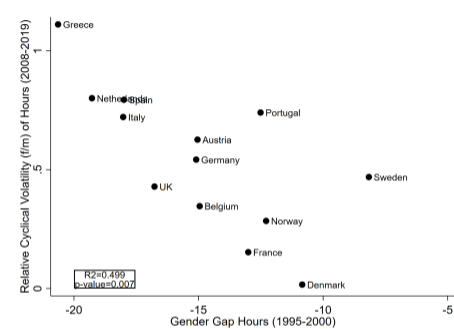
$$Hours_{gc} = \sum_{i=1}^n \omega_{gic} Hours_{ic}$$

where g is gender, c is country and i is industry

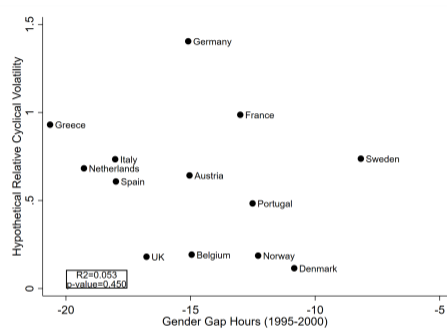
- ▶ Remove the effect of industry gender share and leave the industry cyclicity

$$Hours_{gc}^{HYP} = \sum_{i=1}^n \omega_{gi}^{EU} Hours_{ic}$$

Role of Industry Gender Shares



(a) Data



(b) Composition Adjusted Data

- ▶ Differences in industry gender shares accounts for differences in cyclical volatility of employment

In this paper

- ▶ As FLFPR rises
- ▶ Availability of insurance through secondary earner breaks down
- ▶ Spouses choose different sectors → Diversify sector-specific shocks
- ▶ Women are more sorted in safer (less cyclical) jobs to provide insurance
 - Higher female income share in the family → Incentive for stability

Simple Model

- ▶ Households with a man and a woman
- ▶ Two sectors: safe and risky
- ▶ Households are born with a gender specific human capital (iid, same across sectors, genders are inherently the same)
- ▶ Static decision on consumption, labor force participation and sector of employment

Simple Model

$$V(h^m, h^f) = \max_{\ell^g, s^g, c^g} \mathbb{E} \left[(1 - \lambda)u(c^m) + \lambda u(c^f) - \phi \ell^f \right] \quad (1)$$

subject to:

$$\begin{aligned} c^f + c^m &= y(h^m, \ell^m, s^m) + y(h^f, \ell^f, s^f) \\ y(h^g, \ell^g, s^g) &= \ell^g \cdot (\omega^g h^g \epsilon_s) \\ \ell^g &\in \{0, 1\} \\ s^g &\in \{S, R\} \end{aligned}$$

► Parameters

Simple Model

$$V(h^m, h^f) = \max_{\ell^g, s^g, c^g} \mathbb{E} \left[(1 - \lambda)u(c^m) + \lambda u(c^f) - \phi \ell^f \right] \quad (2)$$

subject to:

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► Parameters

Simple Model

- ▶ Assume CRRA preferences:

$$u(c) = \frac{c^{1-\rho} - 1}{1-\rho}$$

- ▶ Sectoral shocks are multivariate lognormal
- ▶ $\mathbb{E}(\epsilon_s) = 1$ and $\text{Var}(\epsilon_s) = \sigma_s^2$
- ▶ The risky sector has greater variance of earnings shocks, $\sigma_R > \sigma_S$.

Simple Model Mechanism/Intuition

- ▶ Couples prefer to segregate:
 - Even if it is "individually" optimal to choose safe sector
 - One goes to the risky sector to avoid covariance across shocks (if the incremental increase in individual volatility is less than the incremental increase in covariance)

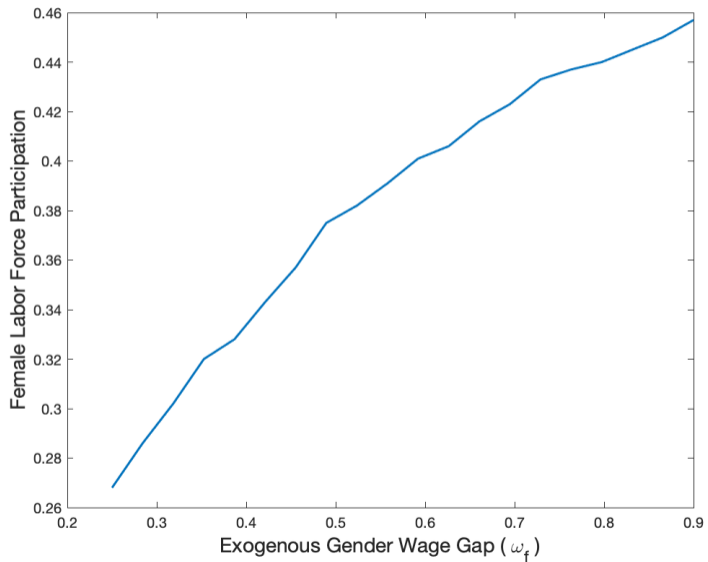
- ▶ But who goes to the risky sector?
 - The spouse who adds less earnings volatility to household income by joining risky sector

- ▶ In the toy model, this is the person who has lower earnings
 - Because of female participation cost, HIGH human capital women select into employment

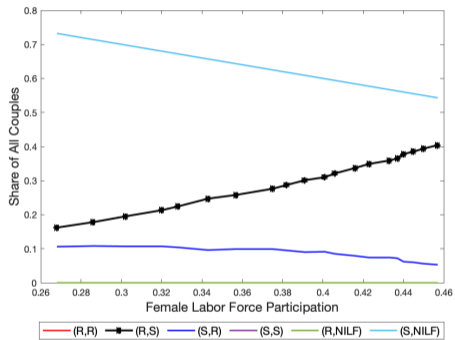
Simple Model Mechanism/Intuition

- ▶ Fall in exogeneous gender wage gap \rightarrow female labor force participation rate rises
 - Average woman has higher earnings and sort more into the safe sector
- ▶ This mechanism holds even if there are no inherent gender differences
 - Our mechanism will be stronger if
 - ★ If there are gender differences in risk attitudes
 - ★ If there is risk premium for the risky sector

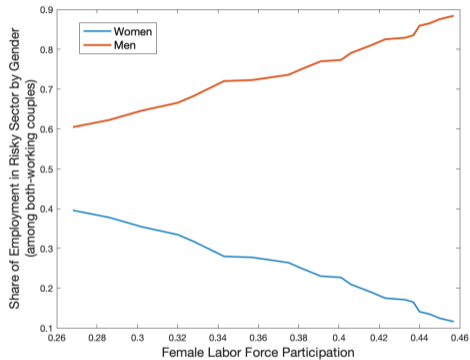
Results



Results

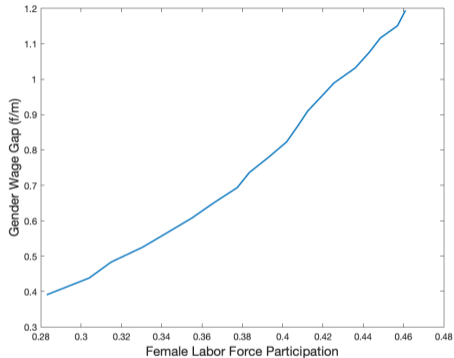


(a) All Couple Types

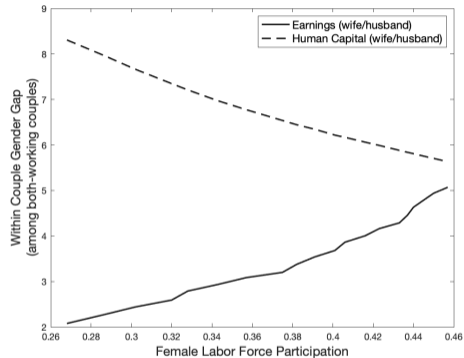


(b) Both Working

Results



(a) All Couples



(b) Both Working

► Alon, Coskun and Doepke (2017): Wives out-earn their husbands

Plan for CPS data

- ▶ Identify 2 groups of jobs (ind \times occ): “safe” and “risky”
- ▶ Measure composition of men, women, and couples across jobs
- ▶ Compare mean earnings and returns to experience for two job types
- ▶ *If* riskier jobs pay more, rising job segregation has implications for gender wage gap

Quantitative Dynamic Model (work-in-progress)

Why?

- ▶ There are three possible ways household can insure themselves;
 - Precautionary saving, human capital accumulation, job choice

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Ingredients:

- ▶ Idiosyncratic earnings volatility and aggregate recession risk
- ▶ Search frictions and job choice
- ▶ Other insurance channels: savings, gov't transfers, life-cycle human capital accumulation

Output:

1. What share of cross country differences in rel. cyc. volatility are due to this channel?
2. Quantify importance for consumption smoothing in diff. countries
3. Counterfactual: role of unemployment insurance for determining job mix of couples
4. Job choice \Rightarrow endog. gender wage gap due to pay differences/diff. returns to experience

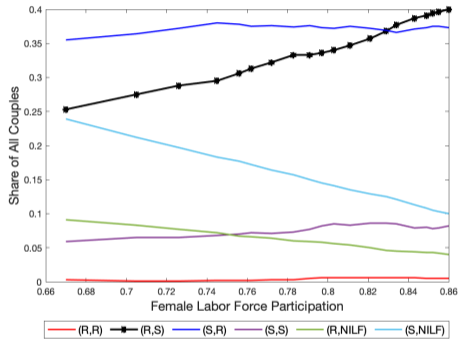
Conclusion

- ▶ We show a novel fact:
 - Women and men diverge from each other in terms of cyclical volatility as participation rises

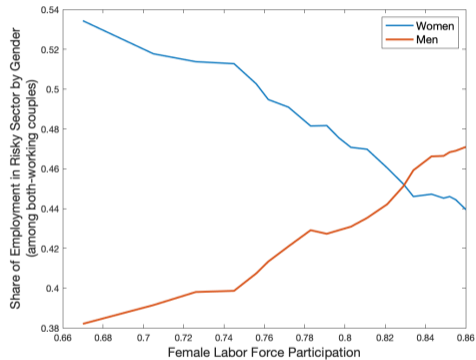
- ▶ We provide an explanation: Insurance mechanism
 - Couples insure each other through job segregation
 - As female earnings go up, they sort more into safe jobs

- ▶ We argue that this mechanism sheds light on the discussion about “gender convergence”
 - If women give up higher earnings to provide insurance → implications on gender wage gap
 - Cross-country variation in employment volatility can be explained “family insurance mechanism”
 - ★ When Italian women work as much as Swedish women, overall employment volatility in the country will decrease

Results



(a) All Couple Types



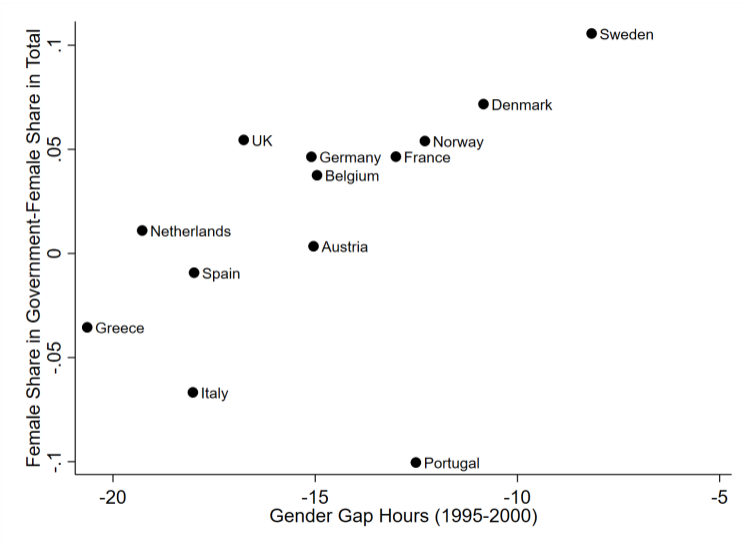
(b) Both Working

Parameters

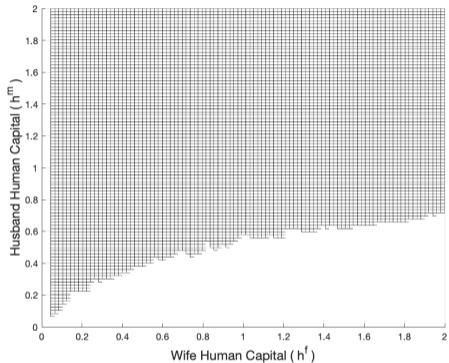
Table: Parameters for Simple Model Simulation

Parameter	Value
λ	0.50
ϕ	1.00
ρ	1.80
σ_R^2	0.25
σ_S^2	0.15
h^g	$\sim \text{LN}(-\frac{1}{2}\sigma_h^2, \sigma_h^2) \quad \sigma_h^2 = 1$
ω_f	$\in [0.25, 0.90]$

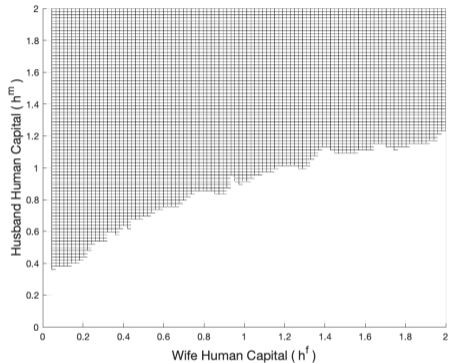
Sorting in Government Sector



Couples Distribution



(a) All Couple Types



(b) Both Working

Notes: White shaded corresponds to households where wives are participating in the labor market. Dark shaded areas are households where women are not in the labor force. The right panel captures changes in participation following a rise in the exogenous component of the gender wage gap.

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