

# Housing and Fertility

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## Summary

- ▶ **Research question:** What is the effect of housing access on fertility rates?
- ▶ **Setting:** Housing consortia in Brazil that randomize the timing of access to mortgages
- ▶ **Methodology:** IV analysis using simulated lottery wins
- ▶ **Main findings:** probability of having children ↑, the lifetime **completed fertility** increase for a 20-year-old is **twice as large** from immediately obtaining housing rather than at age 30
- ▶ **Mechanisms:**
  - ▶ Housing quality ✓: larger treatment effects for households with poor initial housing conditions
  - ▶ Income ✗: renters and non-renters show similar fertility responses
- ▶ **Policy implication:** **provide adequate and affordable housing, particularly for younger people**

## Broader context

- ▶ **The economics of fertility** (Doepke et al, 2023)
  - ▶ Negative income-fertility relationship: quantity and quality tradeoff (Becker, 1960)
  - ▶ Negative women's labor participation and fertility relationship: the opportunity costs of mother's time (Galor and Weil 1996)
  - ▶ Weakened/disappeared old relationships: career + family → fertility (Goldin, 2021)
- ▶ **What role does housing play in this context?**
  - ▶ Complementarity between housing and children
  - ▶ Constraints
- ▶ **This paper:** consider the classic quantity-quality tradeoff in a static model
  - ▶  $u(c, h, n, e) = \log(c) + \beta \cdot \log(h) + \delta \cdot \log(n) + \delta \cdot \gamma \cdot \log(e + \theta)$
  - ▶ Budget constraint:  $c + p_h \cdot h + p \cdot e \cdot n \leq (1 - \phi \cdot n) \cdot w$
  - ▶ Housing service constraint:  $\frac{n}{h} \leq s$

# Discussion

- ▶ **Important policy implication**
  - ▶ “The global fertility crisis is worse than you think” – Jesus Fernandez-Villaverde
  - ▶ Large and fast decline in fertility rate is concerning (Solow, 1956, Cutler, 1990; Jones 2002, Bloom et al, 2003; Liang et al, 2018; Bloom et al, 2020)
  - ▶ Pronatalist policies are expensive and have limited/modest impact on boosting fertility rate
- ▶ **Causal evidence on access to housing and fertility is rare**
  - ▶ Unique empirical setting: Lottery-based assignment is the dream scenario for identification!
- ▶ **What do we already know?**
  - ▶ **Dettling and Kearney, JPubE 2013:** Housing supply elasticity as IV for housing price increase → more babies, home equity effect dominates
  - ▶ **Hacamo, RFS 2020:** U.S. financial deregulation → eased access to mortgages → more babies, access to space is relevant
- ▶ **My comments:** channels & tradeoffs

## Comment 1: Channels

- ▶ Conceptual framework
  - ▶ Housing services  $h$  limit the number of children a household can have
- ▶ Empirical analysis
  - ▶ Treatment effect stronger for households residing in areas with low-quality housing
- ▶ **Questions:**
  - ▶ What are housing services ( $h$ )?
  - ▶ Are households in the sample subject to constraints imposed by their housing services? Or is housing the main constraint for them to have a baby?
  - ▶ In what ways do housing services influence fertility decisions **beyond** the provision of space?

## What are housing services?

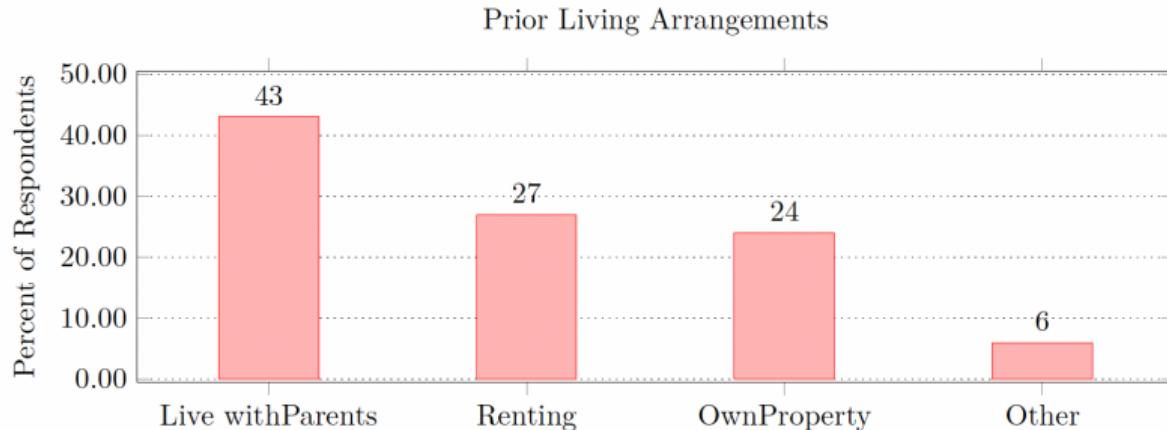
- ▶ Conceptual framework: “we mainly interpret as how **spacious** each unit of housing is”
- ▶ Empirical analysis: wood walls or exposed brick walls, average number of people in the household per bedroom at the zip code level (**not ideal**)
  - ▶ Consortia participants are not an average household
  - ▶ Huge heterogeneity within a zip code (city)
- ▶ Housing services represent the consumption utility from living in a home, which can include
  - ▶ Residential stability
  - ▶ Space, location, heating/cooling, water, security
  - ▶ Family-friendly amenities, e.g. daycare, school, park
- ▶ What housing services are essential for raising a child?
  - ▶ Space, but it is not a hard constraint like a car seat
  - ▶ Stability, desirable
  - ▶ Amenities, yes

## Are households constrained by space?

Panel B: Individual Characteristics (means)	Consórcio	Working-Age	Mortgage	MCMV
Formal Employment	0.22	0.37	0.94	-
Salary (R\$)	2,480	1,715	2,098	907
Age	40.5	33.20	36.3	38.1
Male	0.67	0.51	0.55	-
P[Children]	0.26	0.49	0.39	0.28
N Children	0.44	1.06	0.69	0.61

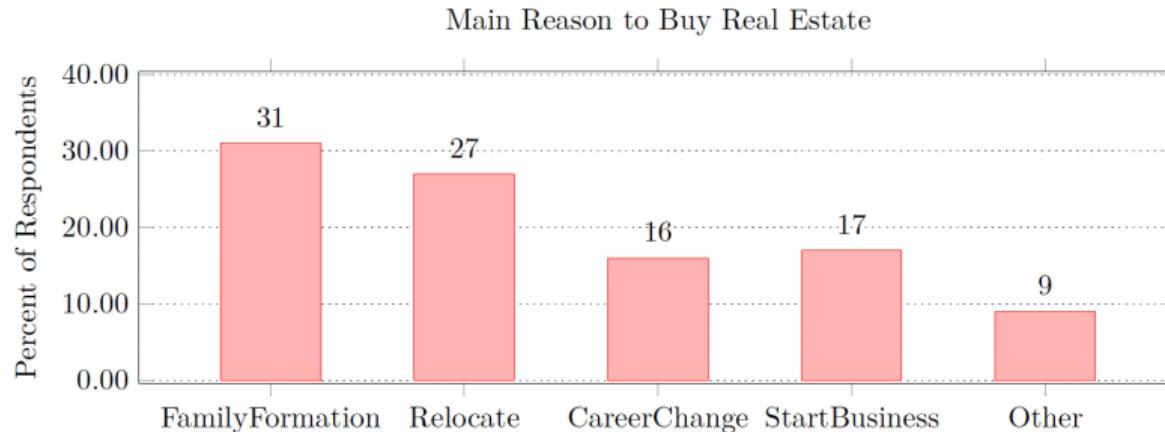
- ▶ Less formal employment, but with the highest salary
- ▶ On average, they are older but have fewer children

# Are households constrained by space?



- ▶ 43% live with parents
  - ▶ Their parents' house might be more spacious than the condo they plan to buy

# Are households constrained by space?

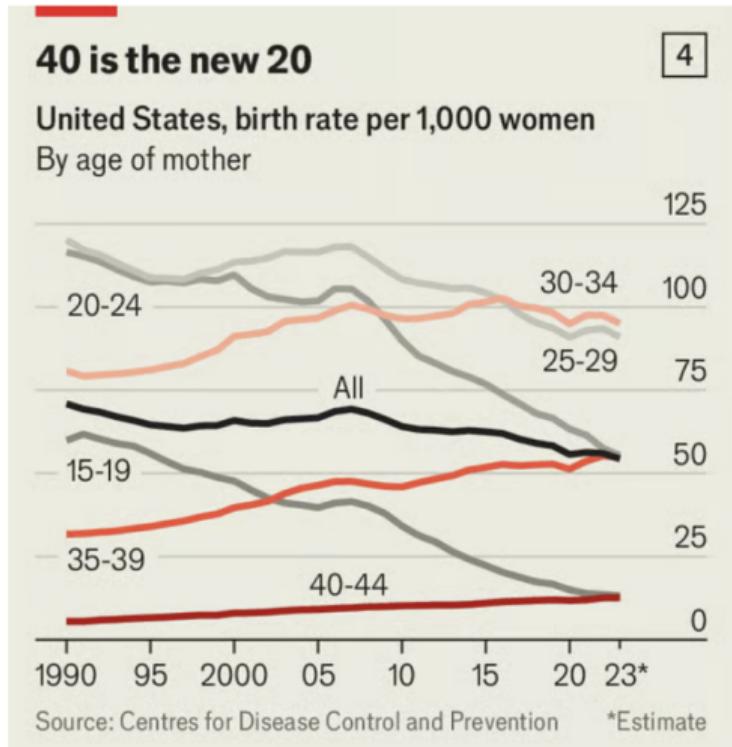


- ▶ After getting the funding from lottery, some households may not improve their “living condition”

# Suggestions

- ▶ **Constrained by space/quality**
  - ▶ Heterogeneous treatment effect based on sqft and number of rooms
  - ▶ Urban vs. rural & amount of the letter of credit
  - ▶ Track the funding usage
- ▶ **Constrained by family-friendly infrastructure**
  - ▶ Create housing services measure based on amenities
  - ▶ Are these amenities somewhat exclusive to homeowners?
- ▶ **Constrained by willingness to have babies**
  - ▶ Peer effects in producing babies → survey evidence
- ▶ **Constrained by intrahousehold conflicts**
  - ▶ Heterogeneity tests based on prior living arrangements

## Comment 2: Tradeoffs?



*“ Each year a woman goes without childbearing, her expected lifetime earnings increase. A first-time American mother in her mid-30s will earn more than twice what she would have earned had she had her first child aged 22.*

### ► Suggestion

- Discuss the tradeoffs: the timing of fertility matters for welfare
- Employment information and wages are observable in the RAIS data

## Other comments

- ▶ Conceiving and delivering babies take time. Do we expect a significant effect in year 0 of winning?
- ▶ Does the income channel also apply to auction winners? Auction winners can bid for the upfront payment and choose to reduce the number of payment periods or reduce the per-period payment.
- ▶ How does the magnitude compared to the estimated values from Hacamo's paper?
- ▶ Selection and external validity: what else can we learn about characteristics of consortia participants?

## Conclusion

- ▶ Important policy discussion
- ▶ Interesting read and I have learned a lot
- ▶ Recommend to anyone who is interested in **housing and fertility!**