

# Between work and the family: a choice of modern couples

Hosny Zoabi

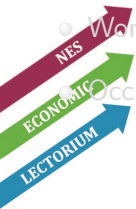


# WHAT IS ECONOMICS?



# Some Topics

- **Do men and women differ?**
  - Production?
  - Preferences?
  - Behavior?
- Legislation
- Women empowerment and development.
- Occupations.



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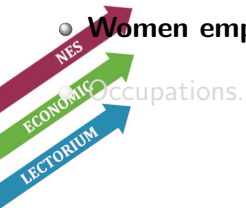
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**Occupations.**



# Households' choices

- **Men and women form households.**

- Is there a market?
- What type of household?
- Who marry whom?
- How do they take decisions?



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# Households' choices

- **What are the main decisions**

- Resource allocation.
- Female labor.
- Child labor.
- Fertility.
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**Income (and education) and fertility are negatively correlated.**

- Across countries.
- Over time within countries and regions
- Across individuals in developing and developed countries.
- Across cohorts of American women born between 1826 and 1960.



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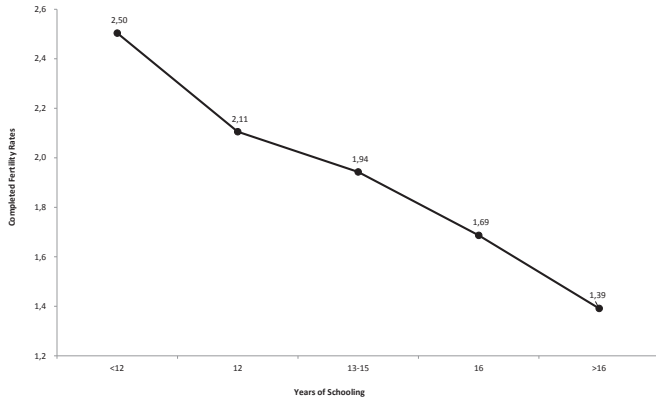
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# Completed Fertility Rate by Education- cohort 1946-50



# A theoretical Approach

- **Women's resources.**

- have the same time endowment
- differ in their education (income)

- Each woman

- forms a household
- works
- chooses consumption
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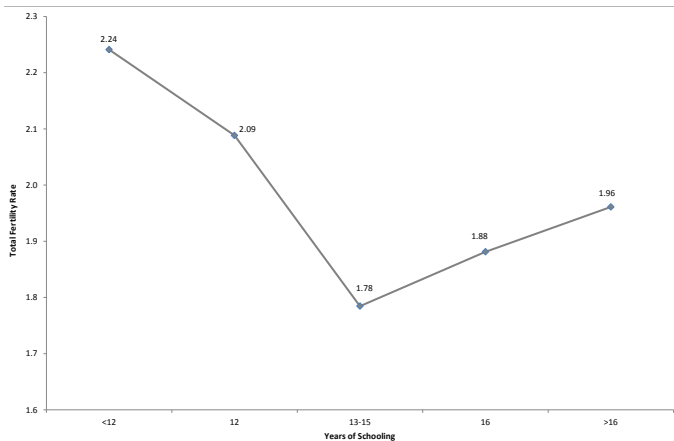


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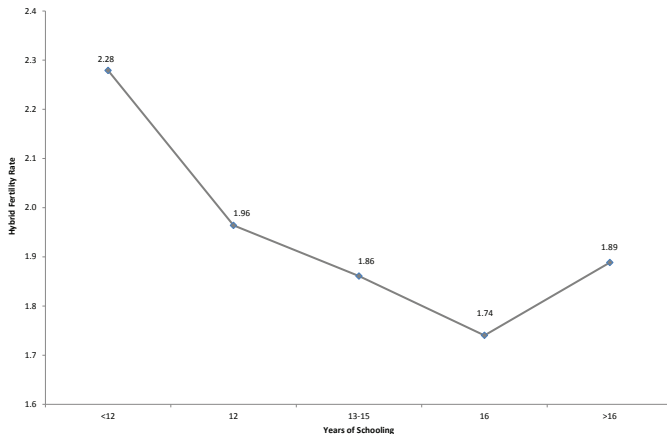
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# Total Fertility Rate by Education in the U.S., 2001-11



# Hybrid Fertility Rate by Education in the U.S., 2001-11



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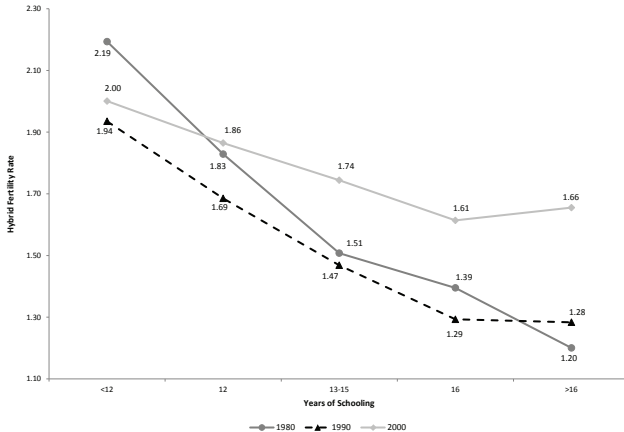


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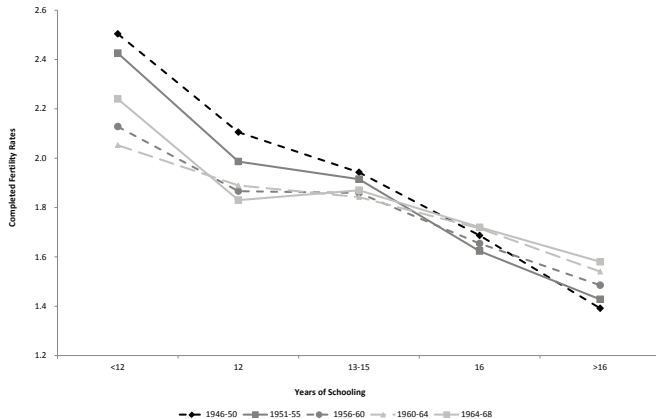


# Hybrid Fertility Rate by Education 1980, 1990 & 2000





# Completed Fertility Rate by Education



# Some Hypotheses and a Proposed Theory

## Hypotheses:

- **Does the increase in fertility come at the cost of labor supply?**
- Do partners participate more in raising children?
- Does Marriage play a role in this emerging pattern?
- Medical technology
- Marketization (outsourcing). Are educated women purchasing more time from the market?



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- **What if mothers have the opportunity to outsource?**
- Raising children becomes less expensive.
- What if parents invest their time to educate their children?
- Outsourcing allows women to:
  - Develop their careers and work more?
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This means that the market is providing more time for rich parents!!!

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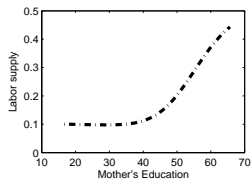
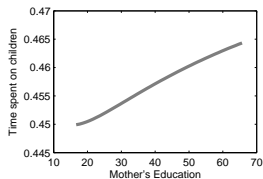
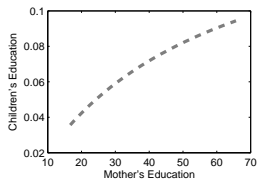
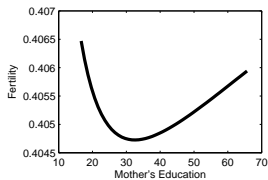
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# Numerical Example



# Summing up

Highly educated women:

- ➊ **Provide each of their children with more education**
- ➋ Have larger families than women with intermediate level of education
- ➌ Allocate less time to child raising (and to home production) and more time for educating their children.
- ➍ Work more in the labor market
- ➎ This is possible because they buy more babysitting (and housekeeping) services



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- **Why haven't we seen a U-shaped fertility pattern before the 2000s?**
- Clearly, baby-sitting and housekeeping services were available before the 2000s and women did purchase them when the relationship between fertility and education was monotonically decreasing.
- So what have changed over time?



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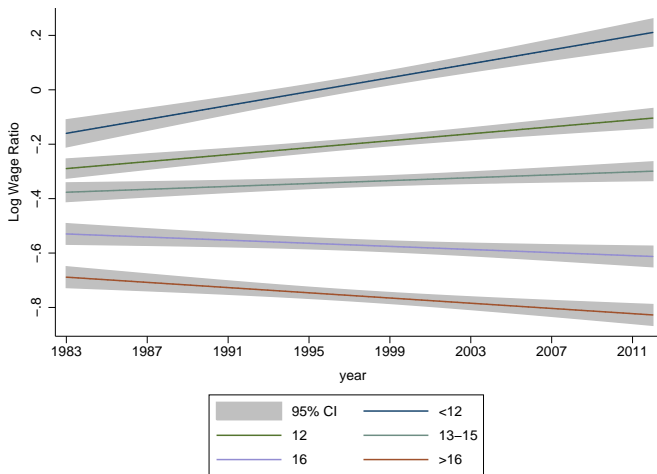
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# Relative Cost of Child-Care



NES  
ECONOMIC  
LECTORIUM

## Relative Cost of Child-Care?

- **Childcare has become relatively more expensive for women with less than a college degree but relatively cheaper for women with a college or an advanced degree**
  - It has increased by 33% for women with no high-school diploma.
  - It has increased by 16% for women with a high-school degree.
  - It has increased by 5% for women with some college education.
  - It has decreased by 9% for women with a college degree.
  - It has decreased by 16% for women with an advanced degree.



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# The partial association between fertility and child-care cost

- **Quantitatively:**
  - **Assuming the same impact for all women: A one percent decrease in the relative cost of childcare increases the average probability by 3 percentage points**
  - Assuming different impact across educational groups
    - for the first 3 groups, a one percent decrease in the relative cost of childcare increases the average probability by 2 percentage points.
    - for group 4, a one percent decrease in the relative cost of childcare increases the average probability by 3.5 percentage points.
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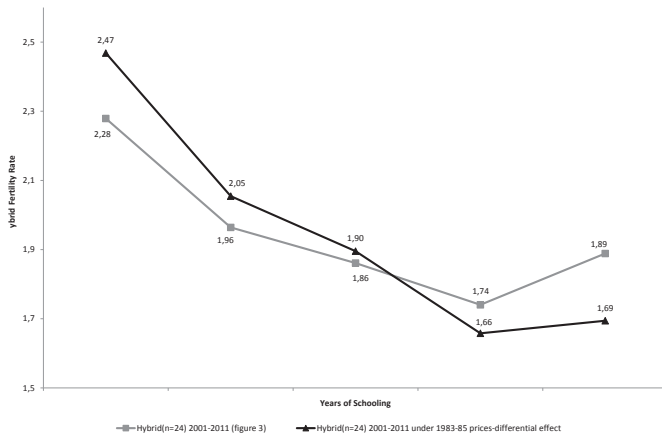


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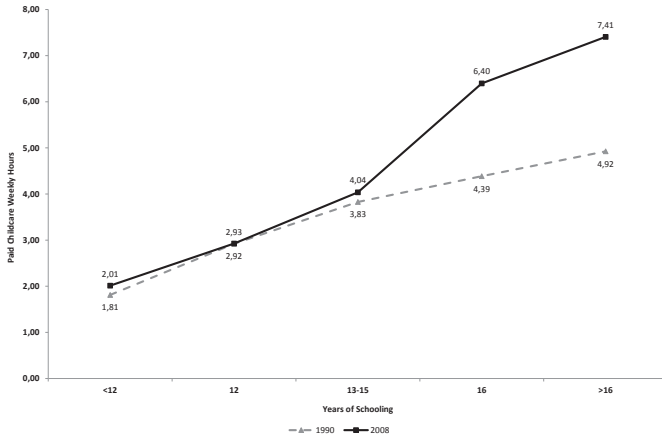
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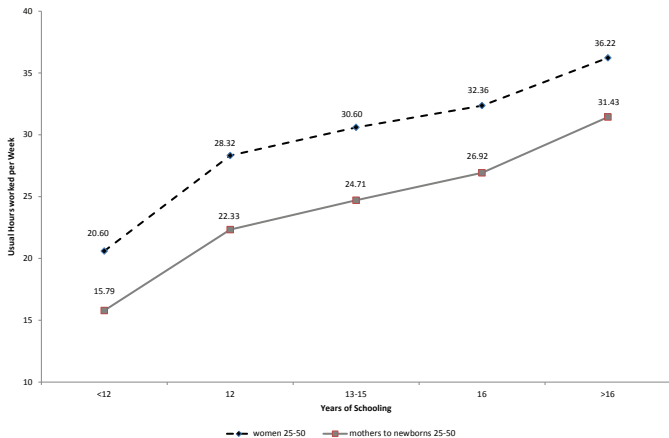
# Counterfactual Hybrid Fertility



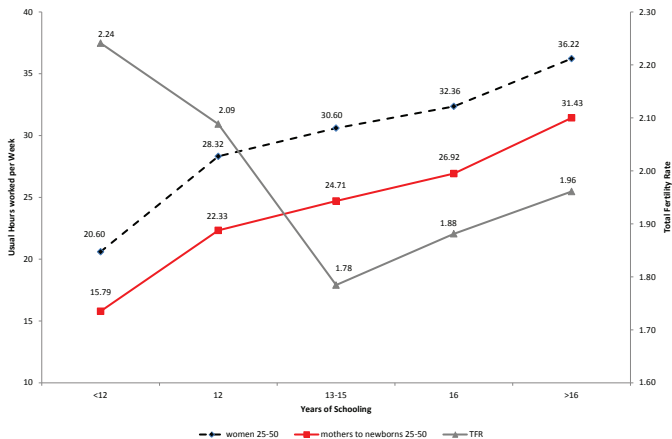
# Paid Child-Care Weekly Hours per Woman aged 25-50



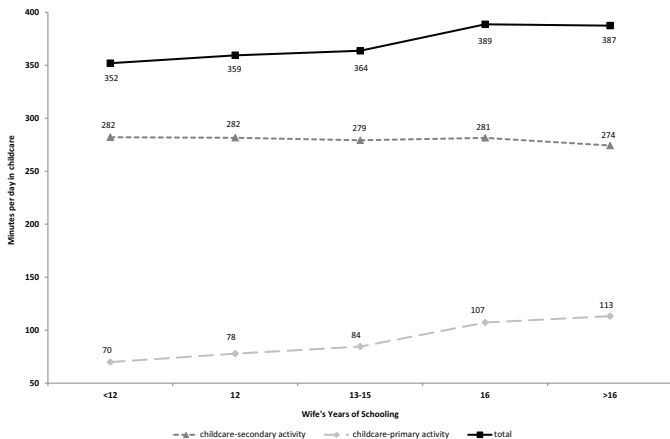
## Usual hours worked by women aged 25-50 and women with newborns, 2001-2011



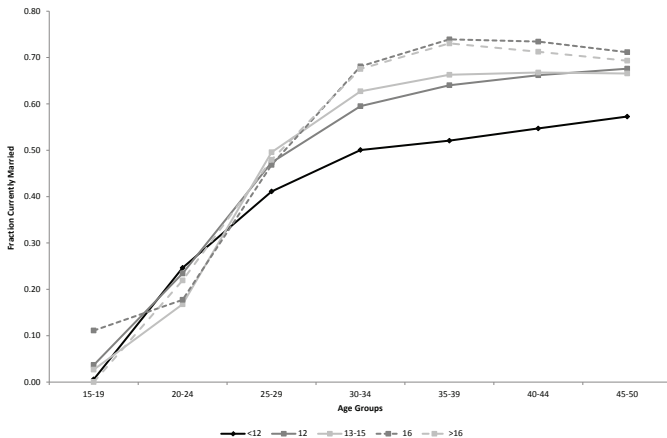
# TFR & Labor Supply by Education in the U.S., 2001-11



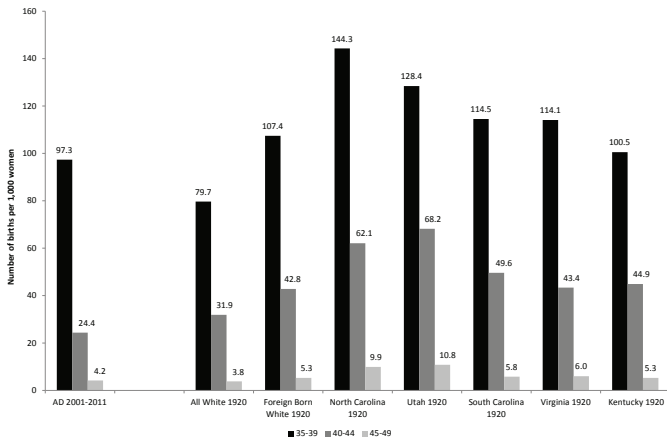
## Minutes per day spent on child-care activity 2003-2011: Married Men by the Educational group of their Wives



## Fraction of currently married women by age and education, 2001-2011



## Number of Births per 1,000 White Women in the U.S.: Women with Advanced Degrees 2001-2011 and Historical Rates





# Education versus income

- **Is it education or income?**
- Our theory suggests income.

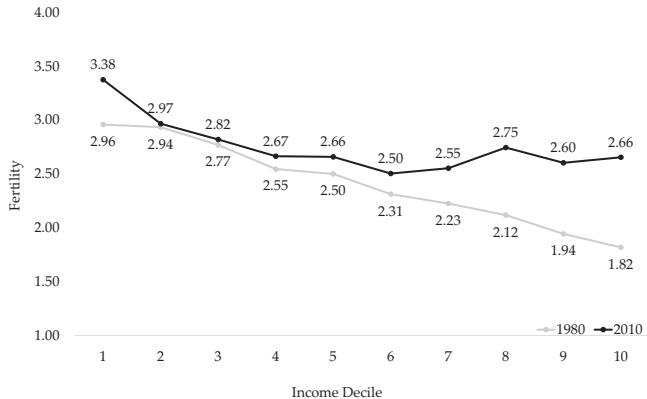


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# Closing of Differential Fertility



# Background

- **Differential Fertility – the gap between fertility of the rich and poor.**
  - **Historically, a negative relationship (1980)**
  - **Today, a U-shape or flat.**
- How does income inequality affect economic growth?

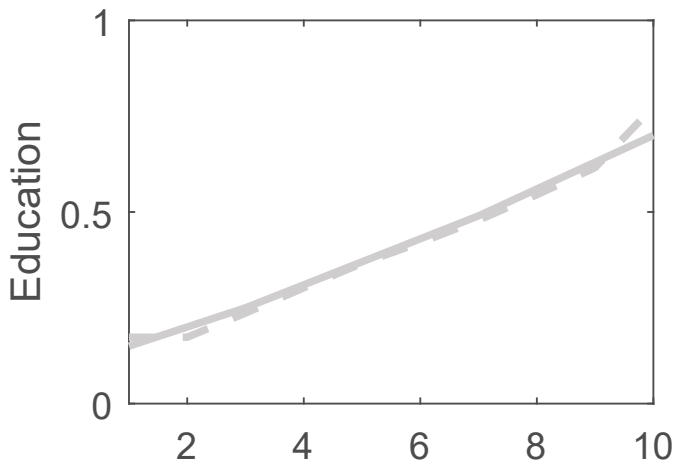


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# Education by Deciles



# Questions, Hypothesis and Methodology

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- **Our hypothesis highlights the role of marketization (outsourcing)**
- **Marketization is affected by prices which depend on inequality.**

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- We build a model that can replicate the data.



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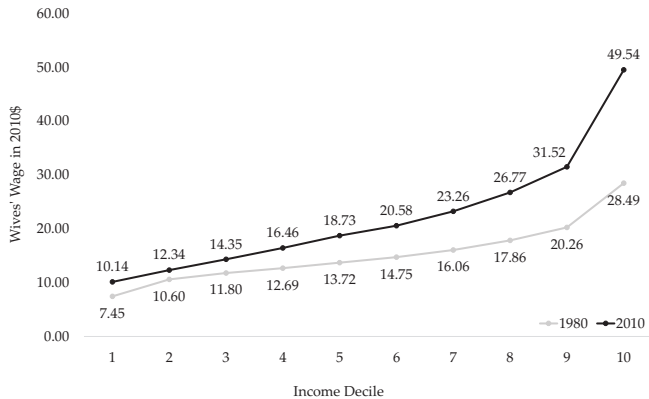
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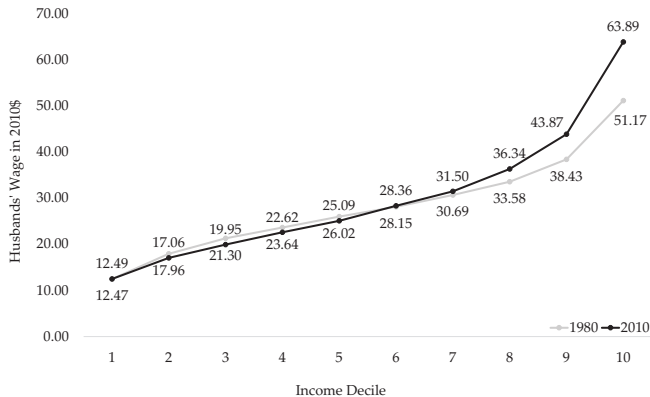




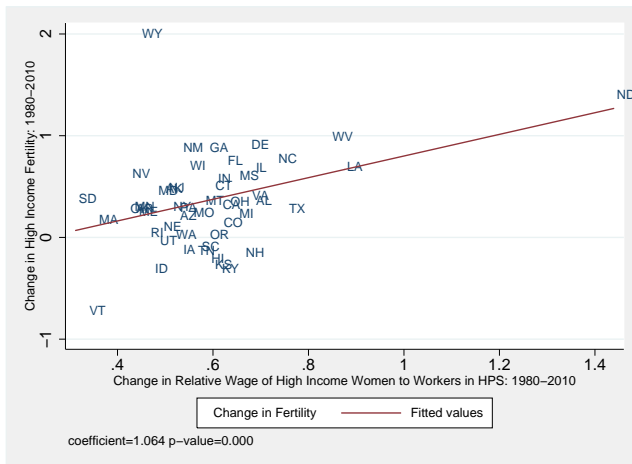
# Rising Inequality



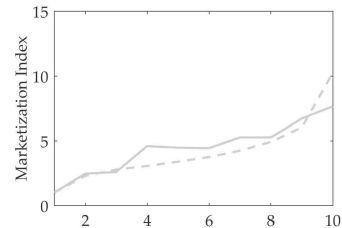
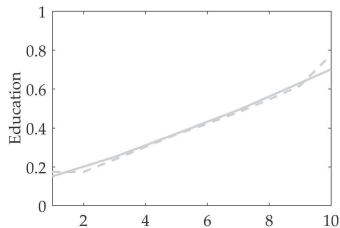
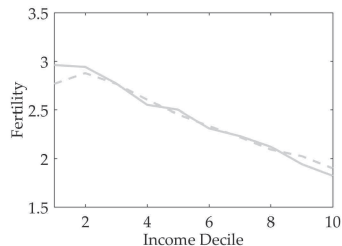
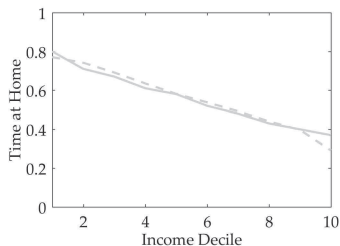
# Rising Inequality: Male Wages



# Inequality and High Income Fertility (top 2 deciles)



# Model – Fit

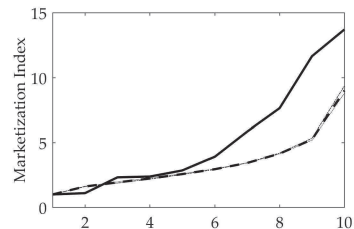
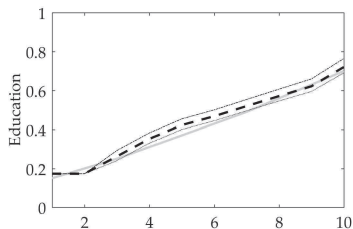
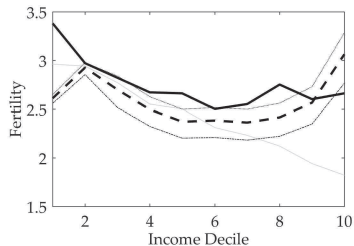
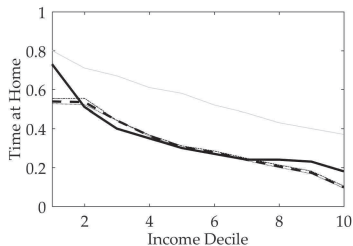


-- Model, 1980

— Data, 1980



# Model – Fit



# Conclusions

- **Rich women increase their fertility and labor supply when their ability to marketize increases.**
- Thus, an increase in unskilled migration lowers wages in the childcare services sector, and increases both fertility and labor supply
- The effect to be differential. Women with a graduate degree increase their labor supply and fertility much more than women with just a college degree.
- Increased marketization of household work allows women both to enter occupations that demand high levels of effort, and lowers the earnings gap in those occupations.




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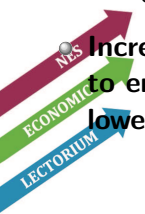


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- **The model suggests that 31% of household lifetime resources are dedicated towards children.**
- The average fraction of household income spent on market substitutes is 4.7%.
- **Human Capital** depends not only on education but also **basic skills**
  - basic skills = 2.06, which is 10% of the average income.
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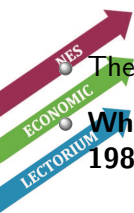
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# Policy: Minimum Wage

Minimum wage affects the price of home production substitutes. Increases in the minimum wage:

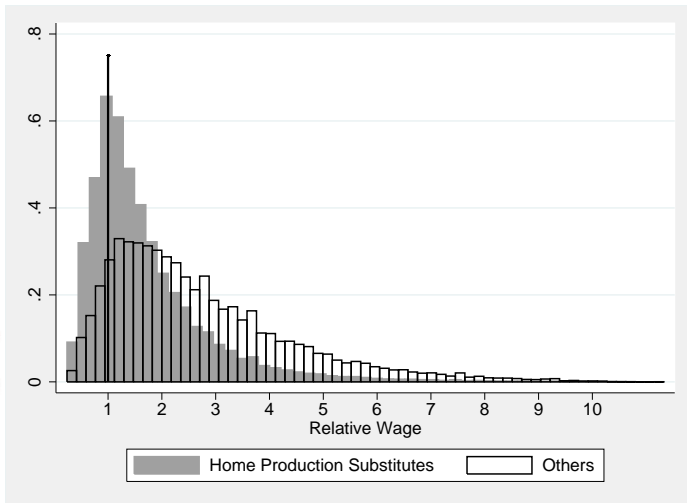
We find that a 1 \$ increase in minimum wage increases the wage in HPS sector by 0.58.

- ↓ labor supply, especially when fertility cannot adjust.
- ↓ fertility.

Effects are differential across the income distribution.

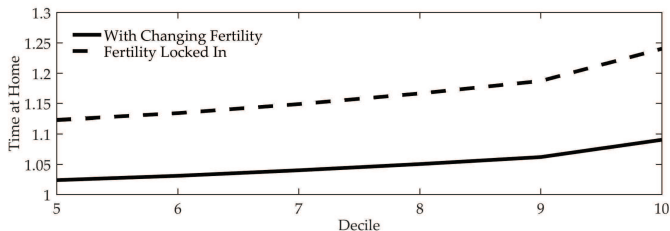
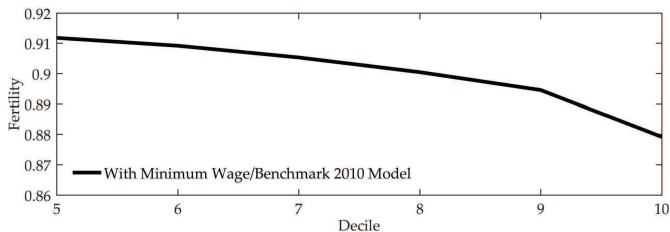


# Minimum Wage – Affects HPS Sector Workers



NES  
ECONOMIC  
LECTORIUM

# Minimum Wage – Quantitative Results



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- **A 10<sup>th</sup> (5<sup>th</sup>) decile household decreases fertility by 12.1% (8.8%), while the mother spends 9% (2.4%) more time at home.**
- Notice that these numbers are for women under the assumption that they can adjust fertility.
- What about those who are “locked in” their fertility choice?
- A 10<sup>th</sup> decile mother increases time at home by 24%, while a 5<sup>th</sup> decile mother increases it by 12.3%. These numbers are larger as the family has not had a chance to scale back fertility.

The short run effect on labor supply is also very large. The average reduction in labor supply by women in the 9<sup>th</sup> and 10<sup>th</sup> deciles is 3.25%.



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- **Research finds that highly educated women have relatively high rates of childlessness.**
- Childlessness rates among married women with a college degree or less: between 6 to 10 percent
- Childlessness rates among married women with Master degrees and Doctoral degrees are 13.7 and 19.1 percent, respectively.
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# Marital Sorting

- **We argue that marketization can help explain the rise in marital sorting.**
- Higher female income, and female labor force participation lead to, among other things, a rise in sorting.
- The intuition is as follows. When the gender gap is narrow, women's wages are relatively more important for the household, increasing the desire for men to marry higher wage women.
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# Spouse Education by own Education, Ages 30-40, US 1970-79.



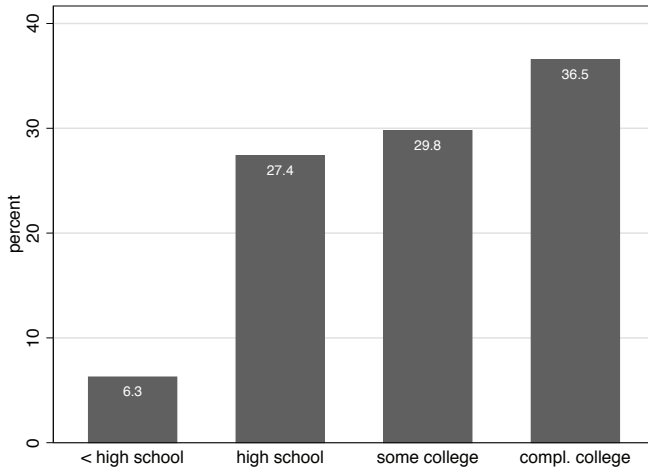
# Spouse Education by own Education, Ages 30-40, US 1996-2005.



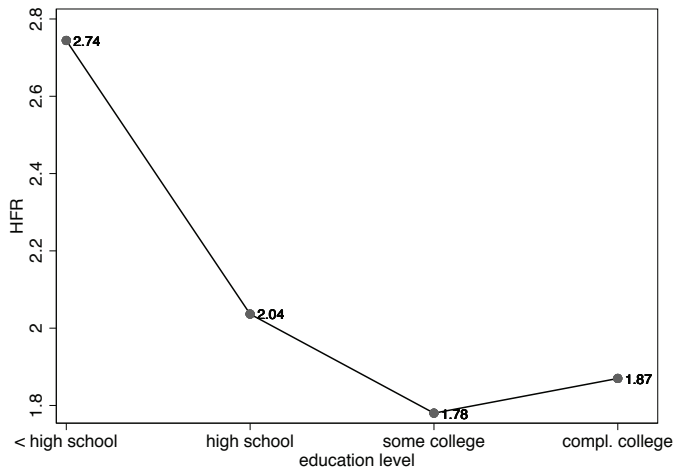
# GENERALIZATION



# Education of Married Women, Ages 25-50

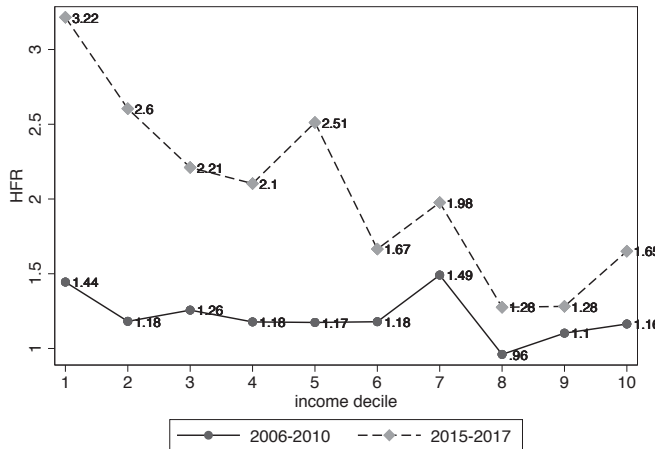


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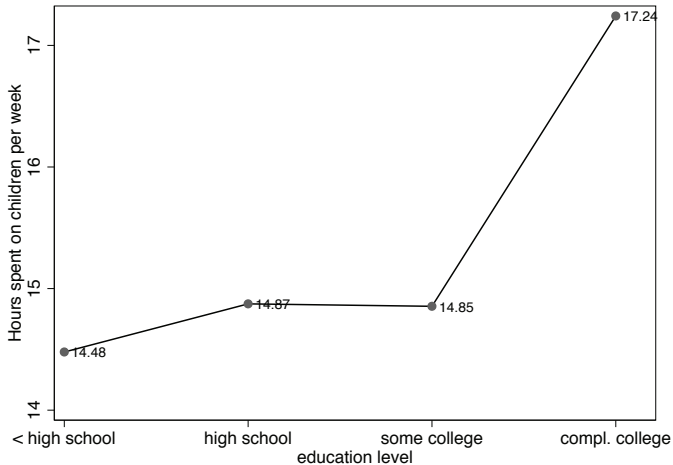




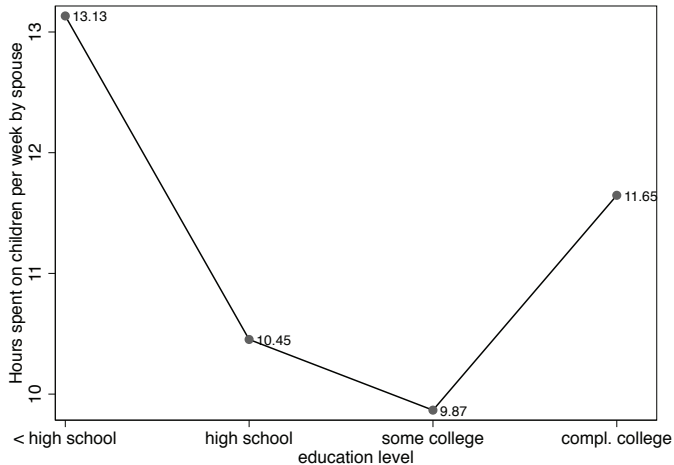
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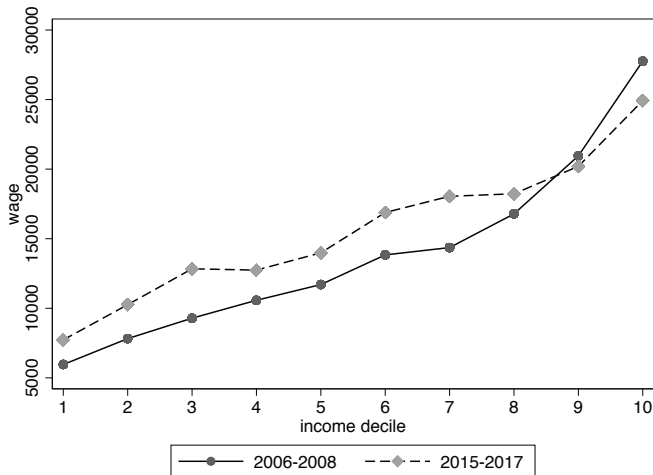
# Childcare by mothers, Ages 25-50, Married Russians



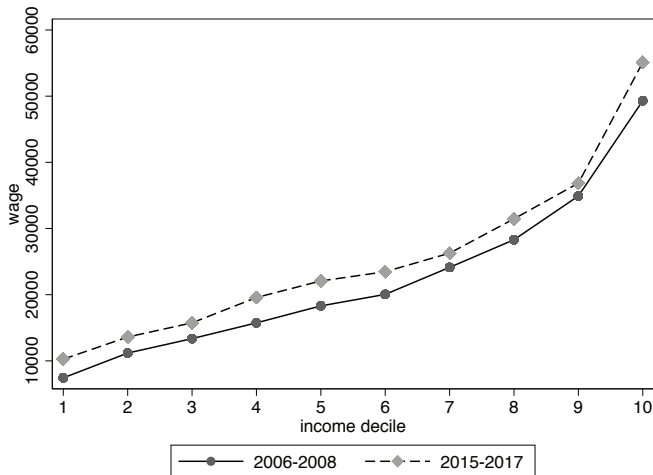
# Childcare by spouses, Married Russians, Ages 25-50



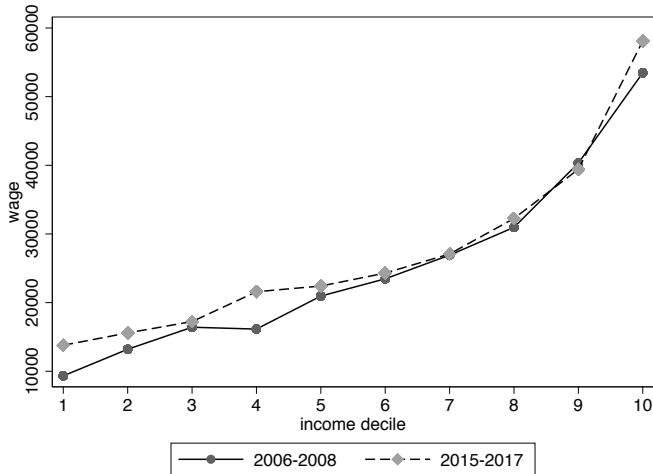
# Wage Growth, Women in Poor Regions, Ages 25-50



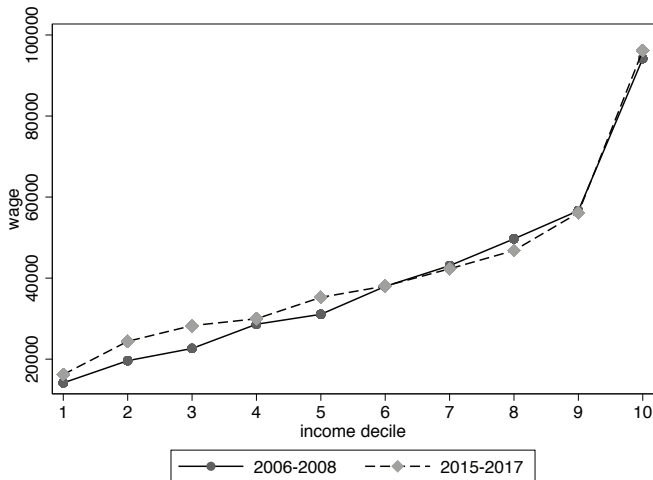
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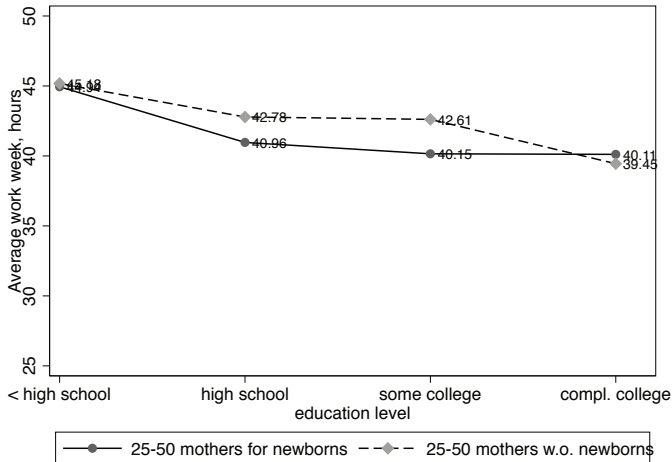
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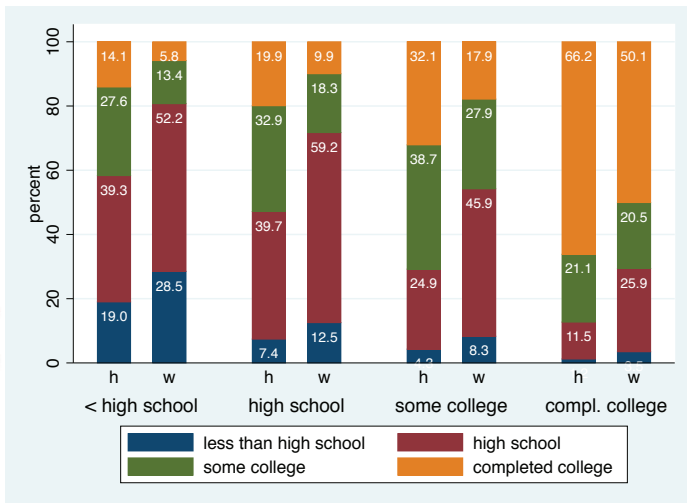


# Labor Supply, Ages 25-50, Married Russians





# Spouse Education by own Education, Married Russians, Ages 25-50



## Conclusion

- The role of women in economics.
- Household choices.
- Fertility - educated (rich) women opt for larger families.
- Far reaching impact on education
- Policies: immigration, child support . . .



# THANK YOU

I thank the Russian Science Foundation for the financial support, grant  
#18-18-00466

