

Allocating Time As A Couple: Effects of Relative Wages and Gender Role Bias

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Motivation

- Gender gaps in labor market
 - Gaps in wages, labor force participation, labor hours
 - Reducing gaps \rightarrow equality (Jayachandran, 2019), efficiency (Hsieh et al. 2019)
- Focus on gender gaps in time allocations
 - Paid work: male - female = 1.7 hr/day (OECD*)
 - Unpaid work: male - female = -2.1 hr/day (OECD*)
- Intra-household gender gap for working couples: Female relative wage \uparrow & relative labor \downarrow , home production (HP) \uparrow
 - Not explained by: education, age, income levels, children
 - This paper : + Gender role bias

*OECD Statistics Time Use (2006-2018).

Research questions

- How does gender role bias affect working couples' time allocation?
 - Gender role bias: preference on sex of breadwinner
 - Hours in labor, HP
- Given gender role bias exists, how effective are fiscal gender empowerment policies on labor hours and welfare?
 - e.g. Marginal tax rate benefits to secondary earners (mostly female)
 - Effective wage gaps $\downarrow \Rightarrow$ labor gaps \downarrow ?

This paper

1. Empirical analysis

- Document how couples allocate time in response to intra-household wage differences
 - Longitudinal data from Mexico, UK
- Pattern 1. Elasticity of relative labor — , HP + to relative wage
 - Even after accounting for many factors
 - income, education, children, age
 - Different from conventional household model predictions (Cherchye et al. (2012), Lise et al. (2018))
- Pattern 2. If more biased, relative earnings increase are less elastic to relative wages increase.

This paper

2. Structural model

- Construct a household model with gender role bias
 - Collective model with time use, heterogeneous preferences, exogenous wages
 - New channel: gender role bias
 - Core tradeoff: gender role bias vs opportunity cost
- Show the model fits the data patterns

This paper

3. Counterfactual analysis (Work in Progress)

- Quantify effects of marginal labor tax benefits to secondary earners
 - Disproportionate effect on females: Most secondary earners are female
 - Effects on intensive labor supply and utility
 - Compare: When gender role bias is acknowledged vs overlooked

Related literature

- Gender role bias, labor, and family

Bertrand et al. (2015), Bursztyn et al. (2017), Fernández (2013), Fernández et al. (2004), Blau et al. (2020)

+ Document couples' joint responses to intra-household wage gaps, including in a developing country

- Household decision models with time allocations

Chiappori (1988), Blundell et al. (2005), Cherchye et al. (2012), Lise et al. (2018), Verriest (2019)

+ Incorporate gender role bias

- Fiscal policies with disproportionate effects on female

Kaygusuz (2010), Alesina et al. (2011), Gayle et al. (2019), Ichino et al. (2019)

+ Predict policy effects acknowledging gender role bias

Outline

1. Data
2. Empirical analysis
3. Structural household decision model
4. Identification idea and estimation strategy
5. Conclusion

Data

- Mexican Family Life Survey (2002-2009)
- British Household Panel Survey (1994-2004)
- Every member of a household is interviewed.
 - Individual's time allocations
 - Sleep → Leisure
 - Childcare → Home production
- Other observables: household characteristics (region, composition), individual characteristics (age, education, employment, wage)
- 1393 and 1952 households in Mexico and UK

time

summary

selection

count

Intra-household wage gaps and time gaps

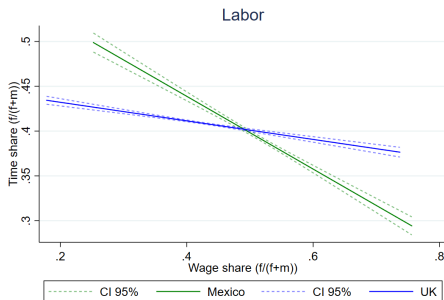
$$y_{cit} = \beta_0 + \beta_1 x_{cit} + \beta_2 x_{cit} \mathbb{I}(UK) + \beta' Z_{cit} + f_{ci} + f_{ct} + e_{cit} \quad (1)$$

- country c , household i , time t
- y_{cit} : female time share (female/(female + male)) of labor or HP
- x_{cit} : female wage share
- Z_{cit} : female and male education levels, number of kids, average kids' age, household income level
- $\mathbb{I}(UK)$: country dummy (= 1 if UK)
- f_{ci}, f_{ct} : household and time fixed effects

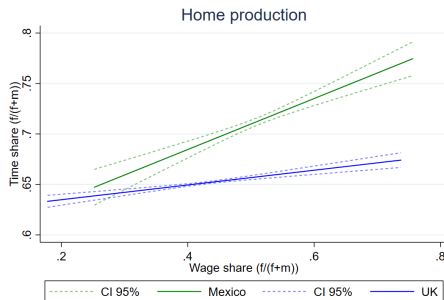
Intra-household wage gaps and time gaps

Results

Figure 1: Wage shares and time shares



Slopes: -.406 (Mexico), -.104 (UK). Values conditioned on controls, centered on mean values.



Slopes: .253 (Mexico), .073 (UK). Values conditioned on controls, centered on mean values.

- Female opportunity cost \uparrow & Labor \downarrow , Home production \uparrow
- Relations stronger in Mexico than UK gsni

[table](#) [inter](#)

Note: Mexican Family Life Survey (2002-2009). British Household Panel Survey (1994-2004). The sample consists of nuclear households with positive time allocated to each activity, including households with missing wage information. Wage is imputed if missing.

Role of gender role bias

Gender Bias Index (GBI)

- Gender Bias Index (GBI): Measure of bias for each household
 - UK households
 - Survey questions on gender roles + Principal component analysis GBI
 - High GBI, more biased
- Do more biased households behave differently from less biased households?

$$y_{it} = \beta_0 + \beta_1 x_{it} + \beta_2 x_{it} GBI_i + \beta' Z_{it} + f_i + f_t + e_{it} \quad (2)$$

- y_{it} : female labor earning share (female/(female + male))
- x_{cit} : female wage share

Role of gender role bias

Heterogeneity of elasticity by Gender Bias Index (GBI)

Table 1: Wage shares and labor earning shares

| | Labor earning share | |
|-------------------------|------------------------|-----------------------|
| | (1) Panel | (2) Pooled |
| Wage share | 0.9368*** (0.0333) | 1.0906*** (0.0231) |
| Wage share \times GBI | -0.0383*** (0.0107) | -0.0227** (0.0075) |
| Controls | Yes | Yes |
| Individual FE | Yes | No |
| Time FE | Yes | Yes |
| N | 6259 | 6259 |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

- Females more reluctant to earn more in more biased households

Note: British Household Panel Survey (1994-2004). Higher GBI indicates more biased. The sample consists of nuclear households with positive time allocated to each activity, including households with missing wage information. Wage is imputed if missing.

Summary of empirical patterns

- ① Elasticity of relative labor — , HP + to relative wage
 - Cannot be explained by: education, income, region
 - More elastic in Mexico (more biased*) than UK (less biased*)
 - Differs from conventional household model predictions
 - ② Higher GBI, relative earnings less elastic to relative wages.
 - Gender role bias affects couples' time allocations
- ⇒ Household model + Gender role bias: quantify effects of policies reducing wage gaps

*Source: Gender Social Norms Index from World Values Survey (2005-2014). 

Model

Setting

- Time t , household k , individual $i \in \{f, m\}$, endowed with total time 1
- Utility function of ki : $U_{ki}(c_{tki}, l_{tki}, H_{tk})$
 - Invariant across time
 - c_{tki} : private consumption (price normalized to 1)
 - l_{tki} : leisure
 - H_{tk} : family consumption of home produced good
- Home production technology: $H_{tk} = g_{tk}(h_{tkf}, h_{tkm})$
 - h_{tkf}, h_{tkm} : home production time of female and male
- μ_{tk} : Pareto weights on female's utility

Model

Gender role bias

- Disutility from gender role bias: $d_k(w_{tkf}q_{tkf}, w_{tkm}q_{tkm}) \leq 0$
 - q_{tki} : labor
 - w_{tki} : individual wage
 - The more female earns relative to male, the more a household suffers:
$$\frac{\partial d_k}{\partial (w_{tkf}q_{tkf})} \leq 0, \frac{\partial d_k}{\partial (w_{tkm}q_{tkm})} \geq 0$$

Model

Household decision problem

- At each time t , a household k solves

$$\begin{aligned} \text{Max}_{c_{tkf}, l_{tkf}, h_{tkf}, c_{tkm}, l_{tkm}, h_{tkm}} \quad & \mu_{tk} U_{kf}(c_{tkf}, l_{tkf}, H_{tk}) + (1 - \mu_{tk}) U_{km}(c_{tkm}, l_{tkm}, H_{tk}) \\ & + d_k(w_{tkf} q_{tkf}, w_{tkm} q_{tkm}) \end{aligned} \quad (3)$$

$$\text{s.t.} \quad c_{tkf} + c_{tkm} = w_{tkf} q_{tkf} + w_{tkm} q_{tkm} \quad (4)$$

$$l_{tki} + h_{tki} + q_{tki} = 1 \quad (5)$$

$$c_{tki}, l_{tki}, h_{tki}, q_{tki} \geq 0 \quad \forall i \in \{f, m\} \quad (6)$$

$$H_{tk} = g_{tk}(h_{tkf}, h_{tkm}) \quad (7)$$

Model implication

Role of gender role bias

- From first order conditions,

$$MRS_l \equiv \frac{MU_{l_m}}{MU_{l_f}} \geq \frac{w_m}{w_f} \quad (8)$$

$$MRS_h \equiv \frac{MU_{h_m}}{MU_{h_f}} \geq \frac{w_m}{w_f} \quad (9)$$

where MU_x : couple's marginal utility from x

⇒ With bias, a household over-consumes female HP and under-consumes female labor than without bias.

Parametric specifications

Preference and disutility from bias

$$\begin{aligned} U_{ki}(c_{tki}, l_{tki}, H_{tk}) \\ = \alpha_{ki1} \log(c_{tki}) + \alpha_{ki2} \log(l_{tki}) + \alpha_{ki3} \log(H_{tk}) \end{aligned} \quad (10)$$

$$\begin{aligned} d_k(w_{tkf}, q_{tkf}, w_{tkm}, q_{tkm}) \\ = -\mathbb{I} \left(\frac{w_{tkf} q_{tkf}}{w_{tkf} q_{tkf} + w_{tkm} q_{tkm}} > \delta_k \right) \left(\frac{w_{tkf} q_{tkf}}{w_{tkf} q_{tkf} + w_{tkm} q_{tkm}} - \delta_k \right)^2 \end{aligned} \quad (11)$$

- Heterogeneous preference across individuals
 - i.e. random $\alpha_{ki1}, \alpha_{ki2}, \alpha_{ki3}$
- Gender role bias parameter : $\delta_k \in [0, 1]$
 - No bias: $\delta_k = 1$
 - $\delta_k = \gamma GBI_k$ (for UK)

Parametric specifications

Home production technology

- Home production technology of household k at time t

$$H_{tk} = [s_{tk} h_{tkf}^{\epsilon} + (1 - s_{tk}) h_{tkm}^{\epsilon}]^{\frac{1}{\epsilon}} \quad (12)$$

- $0 < s_{tk} < 1$: weight on female's time

$$s_{tk} = \frac{\exp(s'z)}{1 + \exp(s'z)} \quad (13)$$

- z : mean kid's age, number of kids, female and male education
- $\frac{1}{1-\epsilon} > 0$: elasticity of substitution

Parametric specifications

Pareto weights

- Pareto weights μ_{tk} are exogenous.

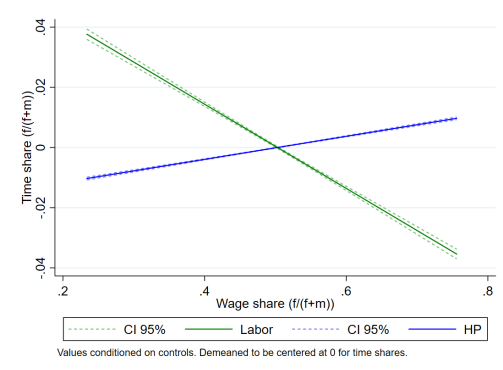
$$\mu_{tk} = \frac{\exp(\mu_0 + \mu_1 \text{agedif}_k + \mu_2 \text{edudif}_k + \mu_3 e_{tk})}{1 + \exp(\mu_0 + \mu_1 \text{agedif}_k + \mu_2 \text{edudif}_k + \mu_3 e_{tk})} \quad (14)$$

- agedif = female's age - male's age
- edudif = female's education - male's education
- $e_{tk} \sim N(0, 1)$, iid across k and t

Model implications

Wage shares and simulated time shares

Figure 2: Simulated result

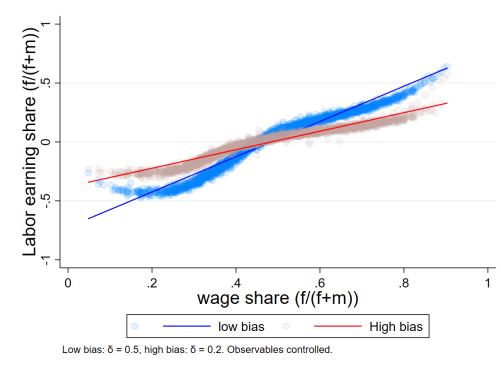


- Panel fit, other observables controlled, $\delta_k = 0.2$ for all k
- wage share \uparrow & labor share \downarrow , HP share \uparrow

Model implications

Wage shares and simulated labor earning shares

Figure 3: Simulation result: Low vs High bias



- Less biased, more responsive to relative wage changes

param

Semiparametric, panel fit of labor earning shares. Other observables residualized.

Sketch of identification idea

- Preference (α_{ki})
 - Use cross-sectional variations in absolute leisure and HP
- Home production technology (s_{tk}, ϵ)
 - s_{tk} same for observationally same households, ϵ same for all
 - Use cross-sectional variations in relative HP
- Pareto weights (μ_{tk})
 - Use longitudinal variations in relative leisure
- Gender role bias (δ_k)
 - Time invariant
 - Use GBI information to estimate (UK): $\delta_k = \gamma GBI_k$
 - Exogenously given (Mexico): $\delta_k = 0.5$ for all k

Estimation

- Simulated Method of Moments
- Still converging...

Conclusion

- Document how couples allocate their time as relative wages change and relevance to gender role bias
- Propose a structural model with gender role bias: qualitatively consistent with data patterns
- Work in progress
 - Estimation using Simulated Method of Moments
 - Counterfactual exercises
 - Implications of labor tax reform

Appendix

Gender role bias: preference on sex of breadwinner

Q: Problem if women have more income than husband?

| | Response rate | | |
|-------------------------|---------------|--------|------|
| | Total | Mexico | US |
| Agree | 20.4 | 43.3 | 12.4 |
| Neither | 34.3 | 14.1 | 30.7 |
| Disagree | 36.4 | 42.1 | 56.1 |
| Don't know or No answer | 8.8 | 0.5 | 0.8 |

World Values Survey wave 6 (2010 - 2014).

◀ go back

Degree of bias across countries

| | Gender Social Norms Index | | |
|--------|---------------------------|-------|---------|
| | GSNI1 | GSNI2 | No bias |
| Mexico | 87.7 | 51 | 12.3 |
| UK | 54.6 | 25.5 | 45.4 |
| US | 57.31 | 30.07 | 42.69 |

World Values Survey wave 5,6 (2005-2014).

- GSNI: percentage of people with at least one bias among seven indicators
- GSNI2: percentage of people with at least two biases among seven indicators
- No bias: share of people with no bias

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Relative wages and relative time

| | time share ($f/(f + m)$) | | |
|--|----------------------------|------------------------|------------------------|
| | (1) Home production | (2) labor | (3) leisure |
| Wage share ($f/(f + m)$) | 0.2526*** (0.0327) | -0.4059*** (0.0232) | 0.0919*** (0.0088) |
| UK \times Wage share ($f/(f + m)$) | -0.1796*** (0.0365) | 0.3023*** (0.0260) | -0.0586*** (0.0098) |
| Constant | 0.7481*** (0.0249) | 0.4445*** (0.0177) | 0.4773*** (0.0067) |
| Fixed effects | Yes | Yes | Yes |
| Controls | Yes | Yes | Yes |
| N | 7484 | 7484 | 7484 |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Note: Mexican Family Life Survey (2020-2009). British Household Panel Survey (1994-2004). The sample consists of nuclear households with positive time allocated to each activity, including households with missing wage information. Wage is imputed if missing.

Relative wages and relative time: with interacted controls

| | Mexico | | UK | |
|-----------------------------------|---------------------|----------------------|-----------------------|-----------------------|
| | (1) Labor share | (2) HP share | (3) Labor share | (4) HP share |
| Wage share | -0.4388 (0.3236) | -0.0388 (0.4829) | -0.1802** (0.0581) | 0.1810* (0.0767) |
| Wage share \times female educ | 0.0722 (0.0600) | 0.1746 (0.0896) | -0.0056 (0.0044) | 0.0101 (0.0058) |
| Wage share \times male educ | 0.0593 (0.0526) | -0.1559* (0.0785) | 0.0187*** (0.0040) | -0.0142** (0.0053) |
| Wage share \times Female age | -0.7555 (0.5852) | 0.5602 (0.8734) | 0.0006 (0.0023) | 0.0020 (0.0030) |
| Wage share \times male age | 0.6505 (0.5815) | -0.9535 (0.8680) | -0.0014 (0.0023) | -0.0032 (0.0030) |
| Wage share \times No. kids | 0.0124 (0.0631) | -0.0067 (0.0942) | 0.0130 (0.0095) | -0.0077 (0.0126) |
| Wage share \times Ave. kids age | -0.5978 (1.7061) | 5.2180* (2.5463) | -0.0060* (0.0024) | -0.0004 (0.0031) |
| Wage share \times HH income | -0.0042 (0.0035) | -0.0049 (0.0052) | 0.0000*** (0.0000) | -0.0000 (0.0000) |
| fixed effects | Yes | Yes | Yes | Yes |
| N | 1140 | 1140 | 6344 | 6344 |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Principal Component Analysis for Gender Bias Index

Factor loadings and survey questions

Table 2: Gender Bias Index

| Survey questions | Loading |
|--|---------|
| Pre-school child suffers if mother works | -0.307 |
| Family suffers if mother works full-time | -0.328 |
| Woman and family happier if she works | 0.229 |
| Husband and wife should both contribute | 0.176 |
| Full-time job makes woman independent | 0.155 |
| Husband should earn, wife stay at home | -0.269 |
| Children need father as much as mother | -0.050 |

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Note: Answers to questions range from 1 to 5 with 1 meaning strongly agree and 5 meaning strongly disagree. According to the signs of the factor loadings, GBI is high if the couple exhibits gender role bias.

Categories of time in MxFLS

- Home production categories: Cook/prepare food, Wash clothes/clean house, Take care of elderly or sick and/or children, Help member(s) study, Carry firewood, Carry water, Agricultural activity.
- Leisure categories : participate in sports, cultural, or entertainment activities outside household, watch TV, Read, Use internet.

◀ go back

Data summary statistics

Mexico

| | Mean (Standard Deviation) | | |
|--|---------------------------|---------------------|------------------|
| | Female | Male | Household |
| <i>Time use per week, Share of own time:</i> | | | |
| Leisure (including sleep) | 0.475 (0.12) | 0.529 (0.11) | |
| Market work (including commute) | 0.254 (0.13) | 0.391 (0.11) | |
| Home production (including childcare) | 0.271 (0.15) | 0.0801 (0.10) | |
| <i>Other observables:</i> | | | |
| Age | 35.23 (10.21) | 37.02 (10.78) | |
| Education (levels) | 2.150 (1.16) | 2.130 (1.16) | |
| Hourly wage (MXN/GBP) | 3164.0 (3050.86) | 2680.5 (2283.84) | |
| Average kids age | | | 5.740 (4.19) |
| Number of kids | | | 1.728 (1.20) |
| HH income (1000 MXN/GBP) | | | 9.843 (12.91) |

Data summary statistics

UK

| | Mean (Standard Deviation) | | |
|--|---------------------------|------------------|---------------------|
| | Female | Male | Household |
| <i>Time use per week, Share of own time:</i> | | | |
| Leisure (including sleep) | 0.623 (0.04) | 0.615 (0.04) | |
| Market work (including commute) | 0.210 (0.07) | 0.298 (0.05) | |
| Home production (including childcare) | 0.167 (0.06) | 0.0870 (0.03) | |
| <i>Other observables:</i> | | | |
| Age | 38.03 (9.28) | 40.02 (9.41) | |
| Education (levels) | 5.635 (2.61) | 5.889 (2.71) | |
| Hourly wage (MXN/GBP) | 7.515 (3.76) | 10.11 (4.84) | |
| Average kids age | | | 3.111 (4.04) |
| Number of kids | | | 1.048 (1.05) |
| HH income (1000 MXN/GBP) | | | 2987.8 (1195.92) |

Number of households satisfying each standard

| | Mexico | UK |
|---------------------------------------|--------|------|
| Original sample | 10732 | 8141 |
| Nuclear | 5729 | 8141 |
| Demographics | 5528 | 6727 |
| Time use | 4737 | 3692 |
| Positive male labor, female housework | 4274 | 2705 |
| Positive, nonmissing wage | 1393 | 1908 |
| Two years | 270 | 1372 |
| Observations | 577 | 5854 |

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Note: Mexican Family Life Survey (2020-2009). British Household Panel Survey (1994-2004). The number of households after several selection criteria are reported in this table. Nuclear excludes extended households where more than 1 female and 1 male adults are present in the household. Demographics excludes households where observables such as age, education, number of kids, total expenditure, and region are missing. Time use excludes households where time use is unobserved. Positive malelabor, female housework excludes households if male is not working or if female spends zero time in home production. Finally, two years excludes households if a household is observed only once across waves. The final row reports the number of total observations aggregated across time given the number of selected sample households.

Observations by corner

| | Mexico | UK |
|------------------------------------|--------|------|
| Female labor > 0 , Male HP > 0 | 637 | 5949 |
| Female labor $= 0$, Male HP $= 0$ | 0 | 0 |
| Female labor $= 0$, Male HP > 0 | 0 | 38 |
| Female labor > 0 , Male HP $= 0$ | 296 | 0 |
| Observations | 933 | 5988 |

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Parametric specifications

Preference and disutility from bias

$$\begin{aligned} U_{ki}(c_{tki}, l_{tki}, H_{tk}) \\ = \alpha_{ki1} \log(c_{tki}) + \alpha_{ki2} \log(l_{tki}) + \alpha_{ki3} \log(H_{tk}) \end{aligned} \quad (15)$$

$$\begin{aligned} d_k(w_{tkf}, q_{tkf}, w_{tkm}, q_{tkm}) \\ = -\delta_k \exp(w_{tkf} q_{tkf} - w_{tkm} q_{tkm}) \end{aligned} \quad (16)$$

- Heterogeneous preference across individuals
 - i.e. random $\alpha_{ki1}, \alpha_{ki2}, \alpha_{ki3}$
- Gender role bias parameter : $\delta_k > 0$
 - $\delta_k = \gamma GBI_k$ (for UK)

Parametric specification of disutility

Mexican data

Figure 4: Labor share

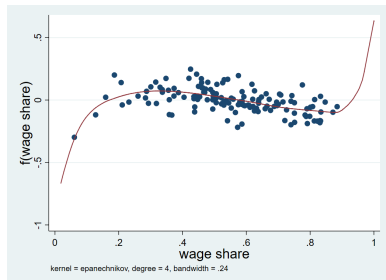
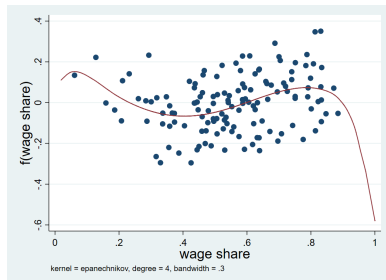


Figure 5: HP share



Parameter values for the simulation

| <i>Preference:</i> | Mean | Std |
|---|-------|------|
| α_{f1} | 0.23 | 0.29 |
| α_{f2} | 0.43 | 0.16 |
| α_{m1} | 0.45 | 0.21 |
| α_{m2} | 0.43 | 0.21 |
| $\text{Corr}(\alpha_{f1}, \alpha_{f2})$ | 0.16 | |
| $\text{Corr}(\alpha_{f1}, \alpha_{m1})$ | 0.28 | |
| $\text{Corr}(\alpha_{f1}, \alpha_{m2})$ | 0.21 | |
| $\text{Corr}(\alpha_{f2}, \alpha_{m1})$ | 0.06 | |
| $\text{Corr}(\alpha_{f2}, \alpha_{m2})$ | 0.29 | |
| $\text{Corr}(\alpha_{m1}, \alpha_{m2})$ | -0.07 | |
| <i>HP Technology:</i> | | |
| s_0 | 0.2 | |
| s_1 | 0.015 | |
| s_2 | 0.01 | |
| ϵ | 0.05 | |
| <i>Pareto weight:</i> | | |
| μ_0 | -0.1 | |
| μ_1 | 0.25 | |
| μ_2 | 0.13 | |
| μ_3 | 0.08 | |

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Parameter values for the simulation

| <i>Wage Parameters:</i> | Female | Male |
|--------------------------|--------|--------|
| w_0 | 0.88 | 1 |
| w_1 | 0.06 | 0.09 |
| w_2 | 0.06 | 0.04 |
| w_3 | -0.001 | -0.001 |
| w_4 | -0.01 | -0.005 |
| w_5 | 0.02 | 0.025 |
| w_6 | 0.025 | 0.03 |
| Std | 0.68 | 0.47 |
| <i>Wage Correlation:</i> | | |
| $\text{Corr}(w_f, w_m)$ | 0.26 | |

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Model implications: comparison with data

Observed patterns in UK

Figure 6: Labor

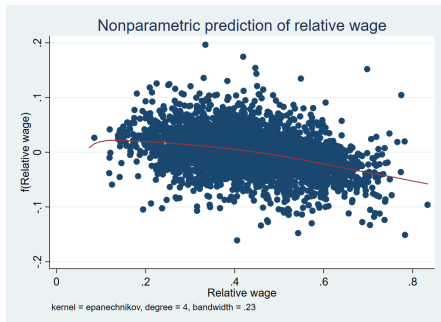
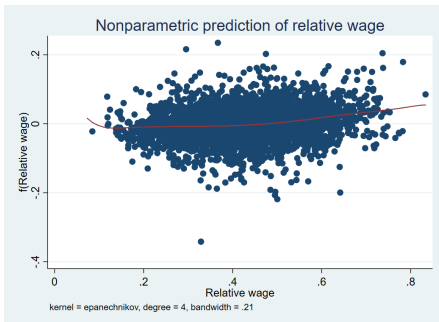


Figure 7: Home production



Nonlinearity

Quadratic regression

Table 3: Mexico

| | Time share ($f/(f + m)$) | | |
|-------------------------|----------------------------|------------------------|-----------------------|
| | (1) Labor | (2) Home production | (3) Leisure |
| Wage share | 0.2308 (0.1722) | -0.5700 (0.2921) | 0.1891 (0.1217) |
| Wage share ² | -0.6516*** (0.1679) | 0.8418** (0.2848) | -0.0995 (0.1187) |
| Constant | 0.4975*** (0.1129) | 0.7425*** (0.1915) | 0.3903*** (0.0798) |
| Observations | 1140 | 1140 | 1140 |
| R^2 | 0.371 | 0.159 | 0.072 |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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Note: Answers to questions range from 1 to 5 with 1 meaning strongly agree and 5 meaning strongly disagree. According to the signs of the factor loadings, GBI is high if the couple exhibits gender role bias.

Nonlinearity

Quadratic regression

Table 4: UK

| | Time share ($f/(f + m)$) | | |
|-------------------------|----------------------------|------------------------|-----------------------|
| | (1) Labor | (2) Home production | (3) Leisure |
| Wage share | 0.3618*** (0.0438) | -0.3532*** (0.0589) | -0.0378** (0.0115) |
| Wage share ² | -0.5482*** (0.0501) | 0.5021*** (0.0674) | 0.0837*** (0.0132) |
| Constant | 0.3305*** (0.0191) | 0.8488*** (0.0257) | 0.5057*** (0.0050) |
| Observations | 6344 | 6344 | 6344 |
| R^2 | 0.202 | 0.040 | 0.081 |

Standard errors in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

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Note: Answers to questions range from 1 to 5 with 1 meaning strongly agree and 5 meaning strongly disagree. According to the signs of the factor loadings, GBI is high if the couple exhibits gender role bias.

Simulation results for higher γ

Figure 8

Figure 9: $\delta = 0.5$, $\gamma = 1$.

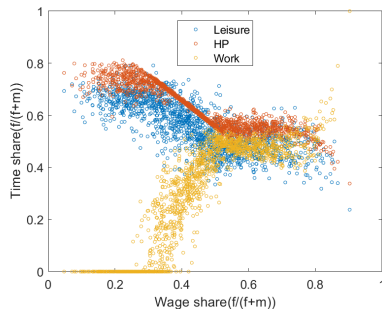
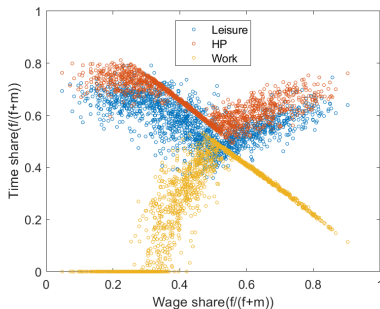


Figure 10: $\delta = 0.5$, $\gamma = 10$.



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