# Family Matters: Gender Discrimination in Economic Development*

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**Abstract**

This paper models gender discrimination in the labor market as originating from bargaining between husbands and wives within the family. The husband-wife household bargains over resource distribution, with each spouse's bargaining power determined by his/her market income. Men are reluctant to grant women easy access to the labor market as, despite the obvious income drag on family income, gender discrimination allows the male to benefit from higher bargaining power. In a model with endogenous savings, fertility, labor force participation, and gender wage discrimination, we demonstrate how economic development, which increases the financial cost of discrimination, gives rise to a positive cycle of higher female participation, lower fertility and higher income. We use data from the World Value Survey and the International Social Survey Program and show that economic development is negatively related to males "preference for discrimination". For low levels of development, a majority of men have discriminatory views; at around annual per capita incomes of $15000 there is a turning point and non-discriminatory men become the majority. We then exploit the National Longitudinal Survey of Youth in the U.S. to examine how male individuals change their discriminatory views over time. Other things equal, men with high-income spouses are more likely to change their views on women toward less discrimination, while the exact opposite holds for men with low-income spouses. Our model and empirical findings strongly suggest that discriminatory views are indeed endogenous and lose strength over the course of economic development.

JEL Codes: D13, J7, J13, J16, 015

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# 1 Introduction

Economic development is a complex process which may impact, among other variables, social perceptions as to the role and the rights of women in society. Men have been historically dominant in politics and business, and their discriminatory views on gender issues may have been a major factor hindering female participation in economic and political life. On the other hand, economic development is empirically associated with higher levels of female labor force participation and lower gender wage gaps. Our paper takes the latter association and the former hypothesis seriously and models gender discrimination as the resultant of two forces: on the one hand, the benefit men obtain from gender discrimination in intra-household bargaining; and, on the other hand, the income cost men incur by discriminating against female participation in the labor market. We then examine, for the first time in the literature, the empirical relation between discriminatory views by males, country income, and female wages.

We use three different datasets and find unequivocal evidence that indeed male views on gender discrimination change with income and in the direction predicted by theory: as females market opportunities rise, males become less discriminatory. That is, the percentage of males in favor of discrimination decrease more strongly than that of females and it decreases more the higher the market income that females can access.

Galor and Weil (1996) offers a theory of economic development that hinges on rising female labor force participation, declining gender wage gaps, and fertility. Capital accumulation is a complement to skilled labor so that development increases the cost of gender discrimination and promotes female participation in the labor market. However, the literature documents that, although declining, the gender wage gap remains sizable even in advanced economies[1]. We take gender bias in the workplace as a fact, suggest that this bias is rooted in intra-household bargaining over the allocation of resources.[2] We then model and test, within that framework, the hypothesis that rising income per capita decreases the tendency for males to adopt discriminatory views. Essential to our analysis is the assumption that the husband loses bargaining power when the wife's contribution to family income increases. This is the basis for the reluctance of men to grant women equal access to labour markets despite the fact that this hurts total family income to be distributed. For low levels of development (and low overall wages) men are willing to forgo market income from their wives participation in the labor market in exchange for higher bargaining power at home.[3] Capital

[1] According to O'Neill (2003), at least 10% of the gender wage gap in the U.S. is unaccounted for by differences in schooling, tenure and occupational choice. See also Cavalcanti and Tavares (2008b)

[2] Alternatively, and of no consequence to our model, bargaining could be over the execution of domestic tasks, including, possibly, child care.

[3] In Becker (1985), the division of labor within the family attributes effort-intensive tasks, such as childcare and household chores, to women, which forces them to spend less effort than men in the market place and select into less demanding occupations. Along the

accumulation, and the associated rise in productivity and wages, increases the cost for men to discriminate against women and therefore male support for gender discrimination wanes, initiating a positive cycle of higher female participation, low fertility and high income.[4]

There is a growing literature on the extension of voting and legal rights to women. Bertocchi (2007) attribute the extension of voting rights to women as the consequence of a falling gender wage gap, which reduces the divergence between men and women on the size and scope of government.[5] Geddes and Lueck (2002) claim that, when the returns to human capital are sufficiently high, it is in the interest of men to loosen control over women as an incentive for the latter to invest more in education. The authors support their claim by showing that the cross-state variations in the timing at which property rights were granted to women in the 19th century in the U.S. are related to differences in female human capital. Doepke and Tertilt (2009) offer a model where men are torn between being decisive at home and the welfare of their daughters. An important implication is that, when fertility falls and wealth is accumulated, men are faced with an increasing welfare gap between their sons and daughters as financial transfers made to daughters are captured by sons-in-laws. This compels men to commit to a higher level of women rights in the future, to the benefit of their daughters. Fernández (2009) supports this claim by showing that states that had lower levels of fertility reformed earlier in the U.S.

Chiappori and Oreffice (2008) model the impact of technological improvements in birth control on the empowerment of women and on female market participation, while Akerlof, Yellen, and Katz (1996) and Oreffice (2007) assess on the impact of legalization of abortion on married women's bargaining position. There is also a rising interest in the role of culture. In Fernández, Fogli, and Olivetti (2004), intergenerational transmission of values is key to understanding changes in gender bias: men who grew up with working mothers have more progressive attitudes towards FLP and house-

same lines, Albanesi and Olivetti (2006) present a model with division of labor at home associated with a utility cost of work that increases in home hours. The authors show that, under imperfect information about effort, employers pay women less as they expect women to exert less effort than men at work, which further reinforces the household division of labor and gender discrimination. Employers' expectations are, in this case, self-fulfilling. Economic development improves the relative return to market work and may break this cycle.

[4]Others emphasize technological improvements in home production as key to an increase in female labor force participation. Greenwood, Seshadri, and Yorukoglu (2005) focus on the expansion of time-saving durable goods used in home production, Goldin and Katz (2002) considers the role of contraceptive methods in the decision of women to join the labor market, and Albanesi and Olivetti (2007) examines the importance of medical improvements in childbearing on market participation by women. Cavalcanti and Tavares (2008a) uncover an empirical relation between the relative cost of household appliances and female participation in a sample of OECD countries.

[5]There is a parallel literature on the consequences of the extension of voting rights to women on government size and public policy. See Lott and Kenny (1999), Aidt, Dutta, and Loukoianova (2006), Funk and Gathmann (2006), and Cavalcanti and Tavares (2010), who show how increasing female labor force participation favors a larger government.

work. Our paper builds on this literature but instead of legal or property rights focuses on 'equal pay'. In the wake of Doepke and Tertilt (2009) and Fernández (2009), where there a discrete shift from a 'patriarchal' regime to an 'egalitarian' regime, in our approach changes in household bargaining are a gradual, continuous process.

The idea that the level of discrimination is "chosen" by males is not as shocking once we concede that historically, male views have been coordinated in discriminating "no females welcome" environments such as political and religious hierarchies, and even at gathering places such as bars, clubs, and communal gatherings. Of course, once dominant groups can choose to give up their privileges for purely altrusitic considerations, and in a variety of contexts. Possible instances of such behavior may include the abolition of slavery (Wright 2006), the spread of public education to the masses (Galor and Moav 2006) or the extension of voting rights (Acemoglu and Robinson 2000, Lizzeri and Persico 2004). However, as even the discussion of these breakthrough social changes illustrates, there may be selfish reasons for change, behind or just concurrent with the altruistic reasons. In this paper we take the assumption of male determination of discrimination based on selfish reasons to the extreme, and then test the empirical consequences of that assumption.

The current paper is organized as follows. Section 2 presents the benchmark model, and Section 3 the empirical investigation. Section 4 concludes.

# 2 Model

In this section, we develop a model of endogenous labor market discrimination as a function of the preferences of males and income per capita.

## 2.1 Production Technology

Consider the following production function with three factors of production, physical capital ($K$), mental labor ($L^m$) and physical labor ($L^p$), where mental labor is complementary to physical capital while physical labor is neither a complement nor a substitute to physical capital, as in Galor and Weil (1996).

$$Y_t = K_t^{\alpha} \left(A_t L_t^m\right)^{1-\alpha} + B A_t L_t^p \tag{1}$$

where $A_t = (1+\mu)^t, B > 0$

The returns to the factors of production are then computed as

$$\begin{aligned} w_t^p &= A_t B & (2)\\ w_t^m &= (1-\alpha) A_t k_t^{\alpha} m_t^{-\alpha} & (3)\\ r_t &= \alpha k_t^{\alpha-1} m_t^{1-\alpha} & (4) \end{aligned}$$

where $k_t = K_t/(A_t L_t^p)$ and $m_t = L_t^m/L_t^p$

As in Galor and Weil (1996), it is assumed that men are endowed with both physical and mental labor while women are endowed with mental labor

only. The return to mental labor is increasing in physical capital. Since the wage of physical labor is independent of capital accumulation, for this reason alone, the gender wage gap decreases over time. However, the presence of gender discrimination leads producers to pay women a fraction $\phi_t$ of the mental wage paid to male, discouraging female labor force participation.

### 2.2 Preferences

Individuals have an equal probability of being born male or female and they live for three periods. During childhood, an agent is raised by father and mother. During adulthood, which also correspond to the productive years of the agent both in terms of production and fertility, two agents of opposite sexes form a couple, make choices regarding labour supply, fertility and savings. They also decide on the allocation of savings for old-age, when income saved during adulthood is consumed away.

Husband and wife have the following utility functions (respectively $u_t^H$ and $u_t^W$), valuing their own old-age consumption (respectively $d_{t+1}^H$ and $d_{t+1}^W$) and the number of children ($n_t$).

$$\begin{aligned} u_t^H &= \ln d_{t+1}^W + \gamma \ln n_t \\ u_t^W &= \ln d_{t+1}^W + \gamma \ln n_t \end{aligned}$$

where $\gamma \in (0,1)$

Household labor supply is given by $l_t$ and as in Greenwood, Seshadri, and Vandenbroucke (2005), children are assumed to be costly in terms of parental time only.

$$n_t = D(2 - l_t)^\theta \tag{5}$$

where $D > 0$; $\theta > 0$; $l_t \in (0,2)$

Following Chiappori (1988), we consider a collective utility function of the household which takes the following form

$$u_t = \eta(\phi_t) \ln d_{t+1}^H + (1 - \eta(\phi_t)) \ln d_{t+1}^W + \gamma \ln n_t \tag{6}$$

where $\eta(\phi_t)$ is the husband's Pareto weight; $\eta'(\cdot) < 0$

### 2.3 Household maximisation

**Budget Constraints:** We note that since the opportunity cost of raising children is always higher for the husband than for the wife, husbands only get involved in raising children if $l_t < 1$.

$$d_{t+1}^H + d_{t+1}^W \leq \begin{cases} (1 + r_{t+1})(w_t^p + w_t^m) l_t & \text{if } l_t \leq 1 \\ (1 + r_{t+1})(w_t^p + w_t^m + (l_t - 1)\phi_t w_t^m) & \text{if } l_t > 1 \end{cases} \tag{7}$$

Thus, the household problem reduces to choosing its collective labor supply, $l_t$ and the husband's old-age consumption, $d_{t+1}^H$.

In order to discuss the meaningful problem where women desire to participate in the labor force, we must assume that the utility from children is low enough and/or raising children is costly enough. We analyze the situation where the household chooses a fertility level compatible with the husband devoting all his time endowment to market work so that the margin in terms of labor force participation i associated with females:

**Assumption 1.** $\gamma\theta \leq 1$

The chosen level of FLP and male old-age consumption are given by

$$l_t = \max\left\{1, 2 - \frac{\gamma\theta}{1+\gamma\theta}\left(\frac{1+\phi_t}{\phi_t} + \frac{w_t^p}{\phi_t w_t^m}\right)\right\} \tag{8}$$

$$d_{t+1}^H = (1+r_{t+1}) \cdot \eta(\phi_t) \cdot s_t \tag{9}$$

$$s_t = \begin{cases} w_t^p + w_t^m & \text{if } l_t = 1 \\ \frac{1}{1+\gamma\theta} \cdot (w_t^p + (1+\phi_t) w_t^m) & \text{if } l_t > 1 \end{cases} \tag{10}$$

## 2.4 Endogenous discrimination

At a household level, gender wage discrimination is taken as given. It reduces the amount of time spent by women in the labor force (consequently increasing fertility) and it also increases the share of household savings that goes to the husband. At the economy-wide level, men are called upon to choose the coefficient $\phi_t$. For the sake of simplicity, they are given the choice between two 2 possible values: $\phi_l$ and $\phi_h$, where $\phi_h > \phi_l$. In effect, $\phi_l$ corresponds to a high level of gender discrimination.

Male utilities in the two possible configurations are

$$u_t^H = \begin{cases} \ln\eta(\phi_l) + \ln(1+r_{t+1}) + \ln s_t(\phi_l) + \gamma \ln D + \gamma\theta \ln(2 - l_t(\phi_l)) & \text{if } \phi = \phi_l \\ \ln\eta(\phi_h) + \ln(1+r_{t+1}) + \ln s_t(\phi_h) + \gamma \ln D + \gamma\theta \ln(2 - l_t(\phi_h)) & \text{if } \phi = \phi_h \end{cases}$$

Men benefit from high discrimination as this increases their share of household resources. However, high discrimination is costly in terms of total earnings of the family. When FLP is zero, the cost of discrimination to men is also zero, meaning that they will vote always choose $\phi_l$. We therefore focus on the case where $l_t > 1$. Define $\tilde{u}_t^m$ as the utility difference for men between choosing low discrimination and choosing high discrimination:

$$\tilde{u}_t^H = u_t^H(\phi_h) - u_t^H(\phi_l) = \ln\left(\frac{(1+(1+\phi_h)\omega_t)^{1+\gamma\theta}\,\phi_l^{\gamma\theta}\eta_h}{(1+(1+\phi_l)\,\omega_t)^{1+\gamma\theta}\phi_h^{\gamma\theta}\eta_l}\right)$$

where $\omega_t = w_t^m / w_t^p$

Note that

$$\frac{\partial \tilde{u}^H}{\partial \omega_t} = \left(\frac{(1+\gamma\theta)(\phi_h - \phi_l)}{(1+(1+\phi_l)\omega_t)(1+(1+\phi_h)\omega_t)}\right) > 0$$

Denote the ratio mental wage - physical wage for which men are indifferent between high and low discrimination as $\tilde{\omega}$:

$$\tilde{\omega} = \frac{\left(\frac{\phi_h^{\gamma\theta}\eta_l}{\phi_l^{\gamma\theta}\eta_h}\right)^{1/(1+\gamma\theta)} - 1}{1+\phi_h - \left(\frac{\phi_h^{\gamma\theta}\eta_l}{\phi_l^{\gamma\theta}\eta_h}\right)^{1/(1+\gamma\theta)}(1+\phi_l)}$$

## 2.5 Equilibrium

In the market for mental labor, we have, in equilibrium, that $L_t^m = L_t^p l_t$. Using this equilibrium condition, replacing equations 2 and 3 into 8 yields

$$l(k_t) = \max\left\{1, 2 - \frac{\gamma\theta}{1+\gamma\theta}\left(\frac{1+\phi(k_t)}{\phi(k_t)} + \frac{B}{\phi(k_t)(1-\alpha)k_t^\alpha l(k_t)^{-\alpha}}\right)\right\} \quad (11)$$

where

$$\phi(k_t) = \begin{cases} \phi_l & \text{for } B^{-1}(1-\alpha)k_t^\alpha l(k_t)^{-\alpha} \leq \tilde{\omega} \\ \phi_h & \text{for } B^{-1}(1-\alpha)k_t^\alpha l(k_t)^{-\alpha} \geq \tilde{\omega} \end{cases} \quad (12)$$

**Proposition 1.** *$l_t$ is increasing with $k_t$. There exists $\tilde{k}$ such that*

$$\phi(k_t) = \begin{cases} \phi_l & \text{for } k_t \leq \tilde{k} \\ \phi_h & \text{for } k_t \geq \tilde{k} \end{cases}$$

*Proof.* See Appendix A □

In addition, the condition that equilibrates the capital market is

$$K_{t+1} = L_t^p s_t \quad (13)$$

This gives us

$$k_{t+1} = \frac{s_t}{(1+\mu)A_t h_t^\theta D}$$

Where we identify the value of $k_t$ above which female participation in the labor market is positive as

$$\bar{k} = \left(\frac{B\gamma\theta}{(1-\alpha)(\phi_l - \gamma\theta)}\right)^{1/\alpha}$$

We can show that for $\bar{k} < \tilde{k}$,

$$k_{t+1} = \begin{cases} \frac{B+(1-\alpha)k_t^\alpha}{(1+\mu)D} & \text{if } k_t \leq \bar{k} \\ \frac{\left(\phi_l(1-\alpha)k_t^\alpha l(k_t)^{-\alpha}\right)^\theta\left((1+\phi_l)(1-\alpha)k_t^\alpha l(k_t)^{-\alpha}+B\right)^{1-\theta}}{D(1+\mu)(\gamma\theta)^\theta(1+\gamma\theta)^{1-\theta}} & \text{if } \bar{k} < k_t < \tilde{k} \\ \frac{\left(\phi_h(1-\alpha)k_t^\alpha l(k_t)^{-\alpha}\right)^\theta\left((1+\phi_h)(1-\alpha)k_t^\alpha l(k_t)^{-\alpha}+B\right)^{1-\theta}}{D(1+\mu)(\gamma\theta)^\theta(1+\gamma\theta)^{1-\theta}} & \text{if } k_t > \tilde{k} \end{cases} \quad (14)$$

As detailed above, female participation in the labor market is zero for low levels of capital per head, that is when $k_t$ is below $\bar{k}$. For values of $k_t$ above $\bar{k}$, women face a high level of gender discrimination since the mental wage is relatively low, until further accumulation of $\tilde{k}$ leads to a point at which the economy switches to a low gender discrimination regime. It is possible that $\tilde{k}$ is reached before $\bar{k}$, in which case the dynamics of $k_t$ is given by

$$k_{t+1} = \begin{cases} \frac{B+(1-\alpha)k_t^{\alpha}}{(1+\mu)D} & \text{if } k_t \leq \bar{k} \\ \frac{\left(\phi_h(1-\alpha)k_t^{\alpha}l(k_t)^{-\alpha}\right)^{\theta}\left((1+\phi_h)(1-\alpha)k_t^{\alpha}l(k_t)^{-\alpha}+B\right)^{1-\theta}}{D(1+\mu)(\gamma\theta)^{\theta}(1+\gamma\theta)^{1-\theta}} & \text{if } k_t > \bar{k} \end{cases} \tag{15}$$

We can find the condition necessary to have $\bar{k} > \tilde{k}$, using the fact that, for $k_t < \bar{k}$, we have $l(\tilde{k}) = 1$:

$$\frac{\eta_l}{\eta_h} < \left(\frac{1+\gamma\theta\frac{\phi_h}{\phi_l}}{1+\gamma\theta}\right)^{1+\gamma\theta}\left(\frac{\phi_l}{\phi_h}\right)^{\gamma\theta} \tag{16}$$

Figure 1 shows two different configurations depending on condition 16. The first (figure 1(i)) is when men stand to lose significantly from the switch from high discrimination to low discrimination (i.e. $\eta_l/\eta_h$ is high).[6] In this case, when women join the labor force, they face high discrimination and only later does the regime switch occur. The second (figure 1(ii)) is when the male share of household income does not vary much from the high discrimination regime to the low discrimination one (i.e. $\eta_l/\eta_h$ is low). In this case, the switch to low discrimination occurs early, at a time when women are not yet participating in the labor force. We consider the case in figure 1(ii) as the least likely as rising female labor participation seems to precede falling gender wage gaps.[7]

**Proposition 2.** *There exists at least one locally stable positive steady-state equilibrium*

*Proof.* See Appendix A □

# 3 Empirics

In this section, we test an important implication of our model of endogenous gender discrimination: the higher the economic opportunities available to women, the less discriminatory are male views on gender. Because we cross aggregate date on income and individual opinion data, in one case, and use individual data on two different moments in time, in another case, we believe we have been able to handle the issue of endogeneity appropriately.

[6] Intuitively, a high ratio $\eta_l/\eta_h$ implies that there is a big gap in the shares of household income which men can capture in the high discrimination regime as opposed to the low discrimination regime.

[7] For instance, in the case of the U.S., the gender wage gap started falling in the 1970s while FLP rose substantially from the 1940s onwards.

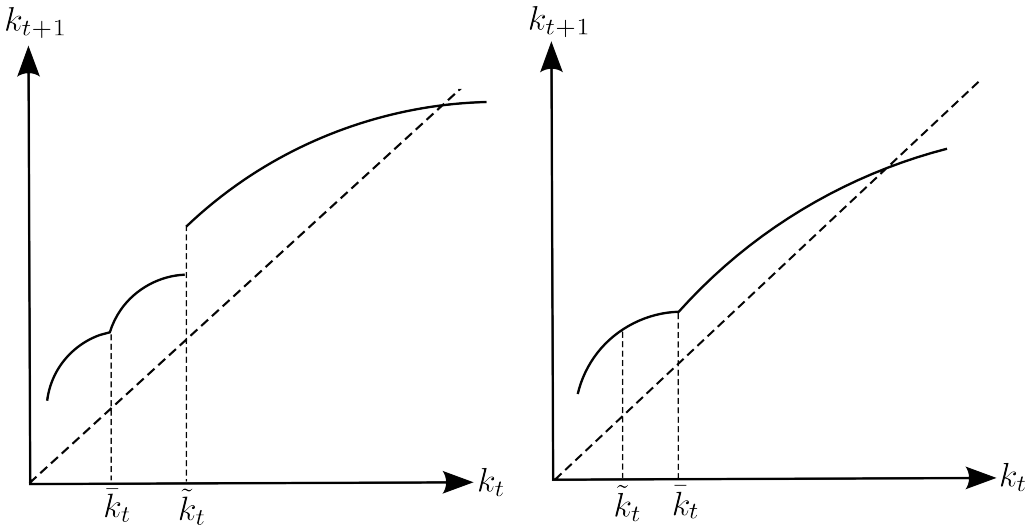


Figure 1: Steady-states (i) $\tilde{k}_t > \bar{k}_t$ (ii) $\tilde{k}_t < \bar{k}_t$

At the economy level, higher per capita income should be associated with reductions in male preferences for discrimination. Here we exploit two repeated cross-section datasets, namely the World Value Survey (WVS) and the International Social Survey Program (ISSP). The WVS has been conducted every 5 years since 1985 and we use data from the four last rounds - 1990, 1995, 2000 and 2005 - amounting to around 180 000 observations for 79 different countries. The ISSP data has around 90 000 observations, spans three rounds - 2002, 1994, 1988 - for 35 countries.

Second, we conduct an investigation at the household level: our model predicts that if the economic opportunity cost of the wife staying at home is high, her male partner should respond with a higher preference for low discrimination. Here we use the National Longitudinal Survey of Youth 1979, which consists of about 12000 US adults who were successively surveyed since 1979, when aged then between 14 and 22. These adults have been repeatedly surveyed since then and asked, among other things, about their views on women's role in the home, the labor market and in society in general. Since individuals change over time, namely men marry women with different abilities to earn market income, we are able to determine whether the latter factor is determinant for a change of the male views on discrimination.

## 3.1 Cross-Country Differences

### 3.1.1 Methodology

From the WVS and the ISSP datasets, we identify six variables which capture an individual's 'preference for discrimination'.

1. **PRIORITY**: "When jobs are scarce, men should have more right to a job than women". 1 - disagree, 2 - neither, 3 - agree. (Source: WVS)

2. **HOMEKIDS**: "What women really want is home and kids". 1 - strongly disagree, 2 - disagree, 3 - neither, 4 - agree, 5 - strongly agree. (Source: ISSP)

3. **HOUSEWORK**: "Housework satisfies as much as paid work". 1 - strongly disagree, 2 - disagree, 3 - neither, 4 - agree, 5 - strongly agree. (Source: ISSP)

4. **INDEPENDENCE**: "Work is best for women's independence". 1 - strongly agree, 2 - agree, 3 - neither, 4 - disagree, 5 - strongly disagree.(Source: ISSP)

5. **BOTHCONTRIBUTE**: "Both husband and wife should contribute to household income". 1 - strongly agree, 2 - agree, 3 - neither, 4 - disagree, 5 - strongly disagree. (Source: ISSP)

6. **PLACEATHOME**: "Men's job is at work and women's job is in the household". 1 - strongly disagree, 2 - disagree, 3 - neither, 4 - agree, 5 - strongly agree. (Source: ISSP)

   We rescaled all variables so that a higher value represents a higher preference for discrimination.

In the repeated cross-section, we estimate the following model

$$Y_i = \beta_0 + \beta_1 M_i + \beta_2 \text{logGDP}_i + \beta_3 M_i * \text{logGDP}_i + \beta_4 X_i' + \beta_5 D_i' + \varepsilon_i \quad (17)$$

where $Y_i$ is the ordered response of individual $i$ to the above questions; $M_i$ is an indicator variable which takes a value of 1 if the respondent is male; logGDP is the log of GDP of the country of residence of the respondent; $X_i'$ is a vector of controls which varies according to the chosen specification; $D_i$ is a set of dummy variables.

For variable PRIORITY, the controls variables, $X_i$ consist of the age of the respondent (AGE), his/her marital status (MARRIED), his/her education level (EDUC), his/her marital status the number of children he/she has (CHILD), the size of the town he/she lives in (TOWNSIZE), his/her reported degree of religiosity (RELIGIOSITY). The set of dummy variables consists of (1) country dummies, i.e. the respondent's country of residence, (2) cultural dummies, i.e. the cultural group to which the country is associated with (based on Inglehart-Welzel Cultural Map of the World) and (3) the occupation type of the respondent.

For variables (2) - (6), the control variables consist of the age of the respondent (AGE), his/her marital status (MARRIED), his/her education level (EDUC) and whether he/she lives in urban or rural areas (URBAN).[8]. The set of dummy variables consists of (1) country dummies and (2) religion dummies, i.e. the respondent's religion.

[8]The control variables are different from those used for PRIORITY, because the variables are from another dataset, namely the ISSP.

For dependent variables (1) -(6), probit regressions are carried out. From variables (2) - (6), a latent variable is generated from factor analysis and is denoted Index, for which OLS regressions are carried out. We are particularly aware of the fact that clustering in repeated cross-section data leads to grossly under-estimated standard errors (see Moulton 1990, Bertrand, Duflo, and Mullainathan 2004, Kézdi 2004). In addition to the usual standard error estimates, we therefore report "cluster-robust" standard errors that cluster by country. We also report "cluster-robust" standard errors that cluster by country and time following the estimator developed by Cameron, Gelbach, and Miller (2010).[9]

**Pseudo panel:** From the repeated cross-section WVS and ISSP data, we construct pseudo-panel data, according to the method proposed by Deaton (1985). We build our cohorts around 4 birth-year bands (before 1939, 1940-1954, 1955-1969, after 1970), 4 education groups (primary education, secondary education, higher education), 2 sex groups and 80 countries for WVS / 38 countries for ISSP, giving 2560 cohort-year observations for the WVS data and 1216 cohort-year observations for the ISSP data. We run both fixed-effect and random-effect regressions and run Hausman test to choose between them.

$$Y_{it} = \beta_0 + \beta_1 M_i + \beta_2 \text{logGDP}_{it} + \beta_3 M_i * \text{logGDP}_{it} + \beta_4 X_i' + \varepsilon_i \qquad (18)$$

where $Y_i$ is the average response of cohort $i$; $M_i$ is an indicator variable which takes a value of 1 if the cohort is male; logGDP is the log of GDP of the country of residence of the cohort; $X_i'$ is a vector of time-invariant controls.

### 3.1.2 Results

**Repeated cross-section:** Figure 2 shows the inverse relationship between the variables that characterize preference for gender discrimination and log GDP. Controlling for individual-specific characteristics such as education, age, religiosity, number of children, respondent's town size, tables 1 and 2 confirm this relationship. Additionally, we can see that although men are more discriminatory than women (the negative coefficient on the male dummy), their views converge to those of women (as shown by the negative coefficient on the interaction variable LOGGDP*MALE), which is line with our model.

Accounting for potential clustering in the data (i.e. models (2) and (3) in tables 1 and 2) increases considerably the standard errors, as expected (up to a ten-fold increase in some cases). Nevertheless, all the coefficients remain significant.

The coefficients on the control variables suggest that (i) older people, less educated people, people with more children, people living in smaller towns,

[9]The code used for the ordered probit regressions is an adaptation here from Mitchell Petersen's Stata routine that allows for two-way clustering. Code available upon request.

and religious people tend to have more discriminatory views. Although not reported here, all regressions have also been carried out without the dummy variables, and the results do not change.

**Pseudo panel data:** From table 3, we are led to conclude that an increase in GDP leads to a reduction in the "preference for discrimination".

### 3.1.3 Predicted probabilities

Figure 3(a) shows the predicted probabilities of the respondent agreeing that job priority be given to men when jobs are scarce, conditional on the gender and on the country GDP of the respondents. Both men and women become less discriminatory as GDP increases, but the decline is more significant for men. Figures 3(b) to 3(f) show predicted probabilities from the ISSP variables. Again, men become less discriminatory as GDP increases and the gap between men and women declines with GDP.

## 3.2 Changes in preferences

The National Longitudinal Survey of Youth 1979 enables us to understand how life circumstances influence people's attitude to gender roles. In four occasions (1979, 1982, 1987 and 2004), the same adults (aged between 14 and 22 in 1979) are asked whether they strongly agree, agree, disagree or strongly disagree with the following statements:

1. **PLACE HOME**: "A woman's place is at home, not in the office"
2. **MAN ACHEIVER**: "It is much better for everyone if the man is the achiever outside the home and the woman takes care of the home and family"
3. **HAPPY AT HOME**: "Women are much happier if they stay at home and take care of children".

We regroup responses into two categories, **AGREE** consisting of those who agree and those who strongly agree with the given statement and **DISAGREE** consisting of those who disagree and those who strongly disagree. For each variable, we construct the following variable:

$$W = \begin{cases} 0 & \text{for } Y_{1987} = \text{agree } \& \ Y_{2004} = \text{agree} \\ 1 & \text{for } Y_{1987} = \text{disagree } \& \ Y_{2004} = \text{agree} \\ 2 & \text{for } Y_{1987} = \text{agree } \& \ Y_{2004} = \text{disagree} \\ 3 & \text{for } Y_{1987} = \text{disagree } \& \ Y_{2004} = \text{disagree} \end{cases}$$

where $Y_{1987}$ and $Y_{2004}$ represent variables PLACE HOME, MAN ACHEIVER and HAPPY AT HOME as observed in 1987 and 2004.

Table 4 summarizes the proportion of respondent who fall in the different categories. We restrict our analysis to married men and women and consider potential explanatory variables which can lead respondents to alter

or keep their opinion from 1987 to 2004: years of schooling, age, race, region of residence, the number of sons and daughters the individuals has within this period and the ratio of the spouse's income to the respondent's own income. the level of education (EDUC) and the ratio of spouse's income to respondent's own income (RATIOINCOME).

We consider a multinomial probit model. In the top part of table 5, the comparison category consists of individuals who had discriminatory views in both 1987 and 2004, i.e. $Y_{1987}$ = agree & $Y_{2004}$ = agree. The group of individuals who had discriminatory views in 1987 but who changed their views in 2004, i.e. $Y_{1987}$ = agree & $Y_{2004}$ = disagree, are compared against the comparison group and it can be found that, controlling for race and education, the spouse-respondent income ratio positively influences the probability of falling in the group who "improve" their views of women over time. Put crudely, men married to high-income women tend to improve their attitude towards working women over time. This effect is not present in the case of women.

In the bottom part of table 5, the comparison category consists of individuals who had non-discriminatory views in both 1987 and 2004, i.e. $Y_{1987}$ = disagree & $Y_{2004}$ = disagree. The group of individuals who had non-discriminatory views in 1987 but who changed their views in 2004, i.e. $Y_{1987}$ = disagree & $Y_{2004}$ = agree are compared against the comparison group and it can be found that, controlling for race and education, the spouse-respondent income ratio negatively influences the probability of falling in the group who "improve" their views of women over time. More simply, men married to high-income women are less likely to become discriminatory over time. Notice that relative spousal income has no significant effect on the views of women on the issues at stake, which supports our view of the role of males in discrimination.

# 4 Conclusion

Gender discrimination entails high output costs and yet it remains a pervasive phenomenon. In this paper, we show that a simple non-unitary model of the household can explain persistent male support for gender wage-discrimination. While in the current literature, men extend legal and property rights (and potentially "equal-pay" rights) to women because of the concern they have for their daughters, we identify another channel through gender discrimination hurts men. We highlight the existence of a trade-off between the benefit of discrimination to men in terms of higher bargaining power within the household and the cost in terms of lost family income and show how costs and benefits change with the level of economic development. Unlike other papers in which there is discrete switch from a "no-right" regime to "full-rights" regime, we show, as historical evidence suggests, that the process towards "equal pay" between men and women is a gradual one.

We test and confirm the two key implications of our model, namely that economic development, by enhancing the returns to human capital, reduces

male support for discrimination, and that men "adjust" their support for discrimination according to the earning capacity of their spouse. The latter result confirms our claim that discriminatory views are to some extent endogenous to the family.

One limitation of our analysis is the restriction to a representative-agent model, which implies that there is always consensus among men as to which $\phi$ to choose. One possible extension of the model would be to allow for heterogeneity (possibly along income lines) with the consequence of having some men more in favor of discrimination than others. This would have to be compared with our empirical findings that there is a majority of men favoring discriminatory practices at low levels of development and a turning point where this group becomes a minority at the level of income equivalent to that of a middle-income country today.

# A Proofs

## A.1 Proposition 1

Using the Implicit Function Theorem on equation 11, we have[10]

$$\frac{\partial l_t}{\partial k_t} = \begin{cases} \frac{B\gamma\alpha k_t^{-1} l_t}{(1+\gamma\theta)\phi_l(1-\alpha)k_t^{\alpha} l_t^{1-\alpha}+B\gamma\alpha} > 0 & \text{if } B^{-1}(1-\alpha)k_t^{\alpha} l_t^{-\alpha} < \tilde{\omega} \\ \frac{B\gamma\alpha k_t^{-1} l_t}{(1+\gamma\theta)\phi_h(1-\alpha)k_t^{\alpha} l_t^{1-\alpha}+B\gamma\alpha} > 0 & \text{if } B^{-1}(1-\alpha)k_t^{\alpha} l_t^{-\alpha} > \tilde{\omega} \end{cases}$$

Using the above and the fact that $\omega_t = B^{-1}(1-\alpha)k_t^{\alpha} l(k_t)^{-\alpha}$, we have

$$\frac{\partial \omega_t}{\partial k_t} = \begin{cases} \frac{\alpha(1+\gamma\theta)\phi_l \omega_t^2 l_t k_t^{-1}}{(1+\gamma\theta)\phi_l \omega_t l_t+\gamma\alpha} > 0 & \text{if } k_t < \tilde{k} \\ \frac{\alpha(1+\gamma\theta)\phi_h \omega_t^2 l_t k_t^{-1}}{(1+\gamma\theta)\phi_h \omega_t l_t+\gamma\alpha} > 0 & \text{if } k_t > \tilde{k} \end{cases}$$

where $\tilde{k} = \left(\frac{B\tilde{\omega} l(\tilde{k})^{\alpha}}{1-\alpha}\right)^{1/\alpha}$

## A.2 Proposition 2

1. For $\tilde{k} \leq \bar{k}$, $k_{t+1}$, as given by equation 15, is continuous.

   - When $k_t < \bar{k}$ we have

$$\begin{aligned} \frac{\partial k_{t+1}}{\partial k_t} &= \frac{(1-\alpha)\alpha \bar{k}_t^{\alpha-1}}{(1+\mu)D} > 0 \\ \frac{\partial^2 k_{t+1}}{\partial k_t^2} &= \frac{-(1-\alpha)^2\alpha \bar{k}_t^{\alpha-2}}{(1+\mu)D} < 0 \\ \lim_{k_t \to 0} \frac{\partial k_{t+1}}{\partial k_t} &= \lim_{k_t \to 0} \frac{(1-\alpha)\alpha \bar{k}_t^{\alpha-1}}{(1+\mu)D} = \infty \end{aligned}$$

[10] Note that $l(k_t)$ is not differentiable for $B^{-1}(1-\alpha)k_t^{\alpha} l_t^{-\alpha} = \tilde{\omega}$

- When $k_t > \bar{k}$,

$$\begin{aligned}
\frac{\partial k_{t+1}}{\partial k_t} &= \frac{k_{t+1}}{k_t} \cdot \\
&\quad \left( \frac{(1+\gamma\theta)\phi_h(1-\alpha)k_t^{\alpha} l_t^{1-\alpha}}{(1+\gamma\theta)\phi_h(1-\alpha)k_t^{\alpha} l_t^{1-\alpha} + B\gamma\alpha} \right) \cdot \\
&\quad \left( \frac{(1-\theta)\alpha(1+\phi_h)(1-\alpha)k_t^{\alpha} l_t^{-\alpha} + \theta\alpha}{(1+\phi_h)(1-\alpha)k_t^{\alpha} l_t^{-\alpha} + B} \right) \\
&= \frac{\left(\phi_h(1-\alpha)k_t^{\alpha} l_t\right)^{-\alpha\theta} \left((1+\phi_h)(1-\alpha)k_t^{\alpha} l_t^{-\alpha} + B\right)^{1-\theta}}{D(1+\mu)\left(\gamma\theta\right)^{\theta}(1+\gamma\theta)^{1-\theta} k_t} \cdot \\
&\quad \left( \frac{(1+\gamma\theta)\phi_h(1-\alpha)k_t^{\alpha} l_t^{1-\alpha}}{(1+\gamma\theta)\phi_h(1-\alpha)k_t^{\alpha} l_t^{1-\alpha} + B\gamma\alpha} \right) \cdot \\
&\quad \left( \frac{(1-\theta)\alpha(1+\phi_h)(1-\alpha)k_t^{\alpha} l_t^{-\alpha} + \theta\alpha}{(1+\phi_h)(1-\alpha)k_t^{\alpha} l_t^{-\alpha} + B} \right) > 0 \\
\lim_{k_t \to \infty} \frac{\partial k_{t+1}}{\partial k_t} &= 0
\end{aligned}$$

2. For $\tilde{k} \geq \bar{k}$, $k_{t+1}$, as given by equation 14, is not continuous.

- When $k_t < \bar{k}$ we have

$$\begin{aligned}
\frac{\partial k_{t+1}}{\partial k_t} &= \frac{(1-\alpha)\alpha\bar{k}_t^{\alpha-1}}{(1+\mu)D} > 0 \\
\frac{\partial^2 k_{t+1}}{\partial k_t^2} &= \frac{-(1-\alpha)^2\alpha\bar{k}_t^{\alpha-2}}{(1+\mu)D} < 0 \\
\lim_{k_t \to 0} \frac{\partial k_{t+1}}{\partial k_t} &= \lim_{k_t \to 0} \frac{(1-\alpha)\alpha\bar{k}_t^{\alpha-1}}{(1+\mu)D} = \infty
\end{aligned}$$

- When $\bar{k} < k_t < \tilde{k}$,

$$\begin{aligned}
\frac{\partial k_{t+1}}{\partial k_t} &= \frac{\left(\phi_l(1-\alpha)k_t^{\alpha} l_t\right)^{-\alpha\theta} \left((1+\phi_l)(1-\alpha)k_t^{\alpha} l_t^{-\alpha} + B\right)^{1-\theta}}{D(1+\mu)\left(\gamma\theta\right)^{\theta}(1+\gamma\theta)^{1-\theta} k_t} \cdot \\
&\quad \left( \frac{(1+\gamma\theta)\phi_l(1-\alpha)k_t^{\alpha} l_t^{1-\alpha}}{(1+\gamma\theta)\phi_l(1-\alpha)k_t^{\alpha} l_t^{1-\alpha} + B\gamma\alpha} \right) \cdot \\
&\quad \left( \frac{(1-\theta)\alpha(1+\phi_l)(1-\alpha)k_t^{\alpha} l_t^{-\alpha} + \theta\alpha}{(1+\phi_l)(1-\alpha)k_t^{\alpha} l_t^{-\alpha} + B} \right) > 0
\end{aligned}$$

- When $k_t > \tilde{k}$,

$$\begin{aligned}
\frac{\partial k_{t+1}}{\partial k_t} &= \frac{\left(\phi_h(1-\alpha)k_t^{\alpha}l_t\right)^{-\alpha}\right)^{\theta}\left((1+\phi_h)(1-\alpha)k_t^{\alpha}l_t^{-\alpha}+B\right)^{1-\theta}}{D(1+\mu)\left(\gamma\theta\right)^{\theta}(1+\gamma\theta)^{1-\theta}k_t} \cdot \\
&\quad \left(\frac{(1+\gamma\theta)\phi_h(1-\alpha)k_t^{\alpha}l_t^{1-\alpha}}{(1+\gamma\theta)\phi_h(1-\alpha)k_t^{\alpha}l_t^{1-\alpha}+B\gamma\alpha}\right) \cdot \\
&\quad \left(\frac{(1-\theta)\alpha(1+\phi_h)(1-\alpha)k_t^{\alpha}l_t^{-\alpha}+\theta\alpha}{(1+\phi_h)(1-\alpha)k_t^{\alpha}l_t^{-\alpha}+B}\right) > 0 \\
\lim_{k_t\to\infty}\frac{\partial k_{t+1}}{\partial k_t} &= 0
\end{aligned}$$

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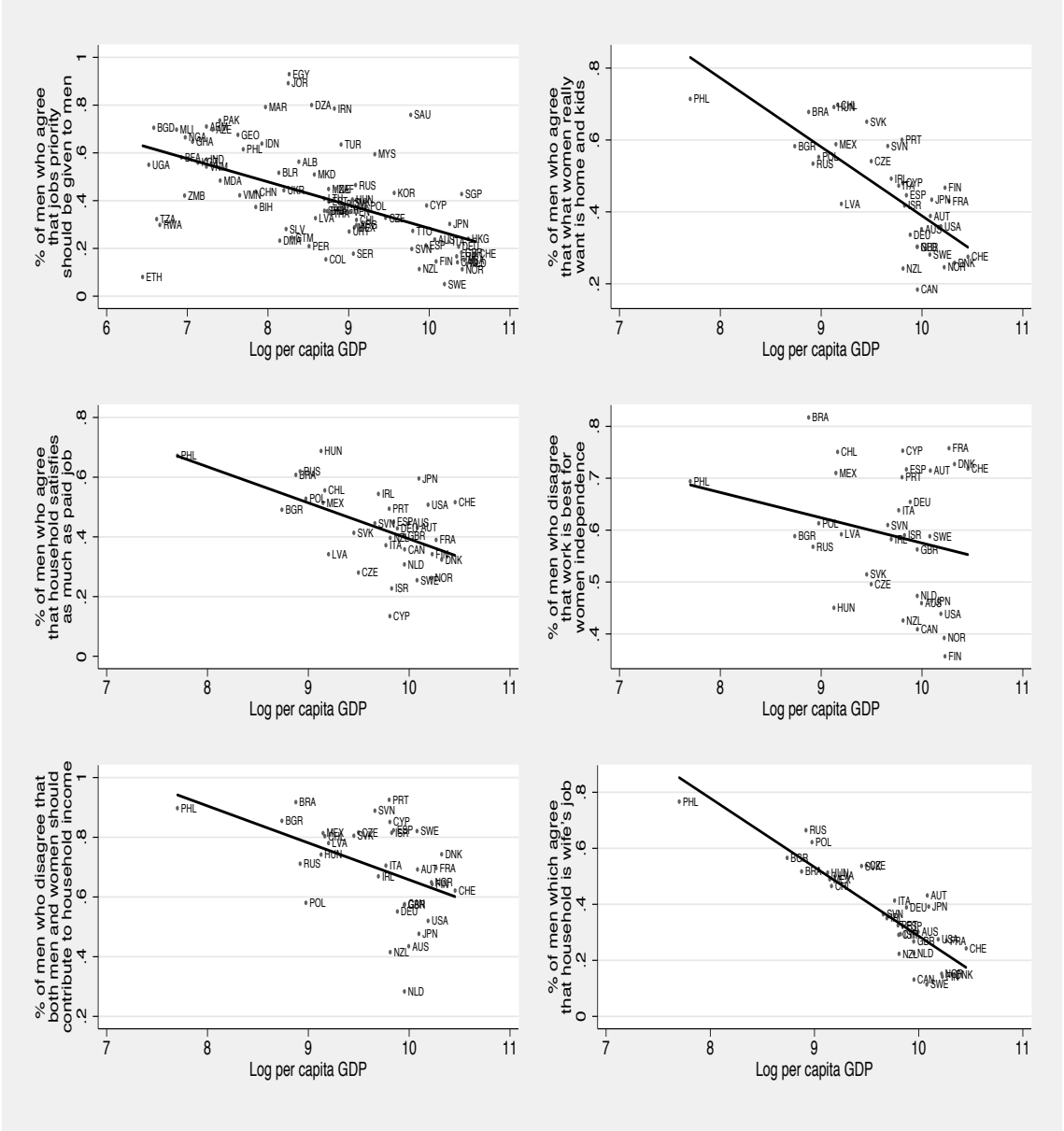



Figure 2: Male preference for discrimination and GDP

| | PRIORITY (1) | PRIORITY (2) | PRIORITY (3) | PRIORITY (1) | PRIORITY (2) | PRIORITY (3) | PRIORITY (1) | PRIORITY (2) | PRIORITY (3) |
|---|---|---|---|---|---|---|---|---|---|
| **Main Effects:** | | | | | | | | | |
| LOGGDP | -0.237*** | -0.237** | -0.237** | -0.209*** | -0.209** | -0.209** | -0.234*** | -0.234** | -0.234* |
| | (0.0141) | (0.0960) | (0.1010) | (0.0145) | (0.0949) | (0.0981) | (0.0169) | (0.1159) | (0.1239) |
| MALE | | | | 0.933*** | 0.933*** | 0.933*** | 1.005*** | 1.005*** | 1.005*** |
| | | | | (0.0519) | (0.1409) | (0.1194) | (0.0550) | (0.1476) | (0.1045) |
| LOGGDP*MALE | | | | -0.072*** | -0.072*** | -0.072*** | -0.075*** | -0.075*** | -0.075*** |
| | | | | (0.0060) | (0.0157) | (0.0153) | (0.0064) | (0.0166) | (0.0126) |
| **Controls:** | | | | | | | | | |
| MARRIED | | | | | | | -0.016*** | -0.016*** | -0.016*** |
| | | | | | | | (0.0018) | (0.0037) | (0.0059) |
| AGE | | | | | | | 0.005*** | 0.005*** | 0.005*** |
| | | | | | | | (0.0003) | (0.0009) | (0.0008) |
| EDUC | | | | | | | -0.060*** | -0.060*** | -0.060*** |
| | | | | | | | (0.0018) | (0.0053) | (0.0062) |
| CHILD | | | | | | | 0.010*** | 0.010*** | 0.010*** |
| | | | | | | | (0.0022) | (0.0031) | (0.0039) |
| TOWNSIZE | | | | | | | -0.016*** | -0.016* | -0.016** |
| | | | | | | | (0.0013) | (0.0088) | (0.0070) |
| RELIGIOSITY | | | | | | | 0.092*** | 0.092*** | 0.092*** |
| | | | | | | | (0.0041) | (0.0138) | (0.0107) |
| Country dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Cultural dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Occupation dummies | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| PseudoR-square | 0.102 | 0.102 | | 0.109 | 0.109 | | 0.121 | 0.121 | |
| LogLikelihood | -141676 | -141676 | -141676 | -140448 | -140448 | -140448 | -124903 | -124903 | -124903 |
| Obs. | 152321 | 152321 | 152321 | 152287 | 152287 | 152287 | 137552 | 137552 | 137552 |

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 1: Ordered probit regressions using 4 rounds of WVS - 1990, 1995, 2000, 2005 (All respondents). All regressions include a constant. * significance at 10%, ** significance at 5%, *** significance at 1%. Standard errors in parenthesis: (1) robust standard errors with no clustering, (2) standard errors with clustering by country, (3) standard errors with clustering by country and time

| | HOMEKIDS | HOMEKIDS | HOUSEWORK | HOUSEWORK | INDEPENDENCE | INDEPENDENCE |
|---|---|---|---|---|---|---|
| | (2) | (3) | (2) | (3) | (2) | (3) |
| LOGGDP | -0.316** | -0.316*** | -0.329*** | -0.329*** | -0.177** | -0.177*** |
| | (0.1340) | (0.0110) | (0.0786) | (0.0277) | (0.0702) | (0.0289) |
| MALE | 0.145*** | 0.145*** | 0.086*** | 0.086*** | 0.115*** | 0.115*** |
| | (0.0180) | (0.0098) | (0.0198) | (0.0227) | (0.0207) | (0.0193) |
| EDUC | -0.294*** | -0.294*** | -0.166*** | -0.166*** | -0.031* | -0.031** |
| | (0.0175) | (0.0085) | (0.0184) | (0.0116) | (0.0179) | (0.0124) |
| AGE | 0.013*** | 0.013*** | 0.009*** | 0.009*** | -0.003*** | -0.003*** |
| | (0.0010) | (0.0017) | (0.0010) | (0.0013) | (0.0012) | (0.0012) |
| URBAN | 0.030* | 0.030*** | 0.029** | 0.029*** | 0.013*** | 0.013*** |
| | (0.0172) | (0.0039) | (0.0113) | (0.0050) | (0.0045) | (0.0031) |
| Country dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Religion dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| LogLikelihood | -58868 | -58868 | -59709 | -59709 | -54655 | -54655 |
| Obs. | 62155 | 62155 | 61793 | 61793 | 63032 | 63032 |

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

| | BOTHCONTRIBUTE | BOTHCONTRIBUTE | PLACEATHOME | PLACEATHOME | INDEX | INDEX |
|---|---|---|---|---|---|---|
| | (2) | (2) | (2) | (3) | (2) | (3) |
| LOGGDP | -0.408*** | -0.408*** | -0.530*** | -0.530*** | -0.354*** | -0.354*** |
| | (0.0952) | (0.0668) | (0.1296) | (0.1021) | (0.0877) | (0.0384) |
| MALE | 0.112*** | 0.112*** | 0.273*** | 0.273*** | 0.156*** | 0.156*** |
| | (0.0209) | (0.0102) | (0.0166) | (0.0100) | (0.0108) | (0.0059) |
| EDUC | 0.034 | 0.034* | -0.351*** | -0.351*** | -0.218*** | -0.218*** |
| | (0.0251) | (0.0186) | (0.0186) | (0.0102) | (0.0130) | (0.0078) |
| AGE | 0.002** | 0.002* | 0.019*** | 0.019*** | 0.011*** | 0.011*** |
| | (0.0011) | (0.0013) | (0.0014) | (0.0016) | (0.0010) | (0.0014) |
| URBAN | 0.019*** | 0.019*** | 0.040*** | 0.040 | 0.028** | 0.028 |
| | (0.0060) | (0.0048) | (0.0138) | (.) | (0.0115) | (.) |
| Country dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Religion dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| LogLikelihood | -46474 | -46474 | -56198 | -56198 | -62483 | -62483 |
| Obs. | 64116 | 64116 | 64329 | 64329 | 57716 | 57716 |

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

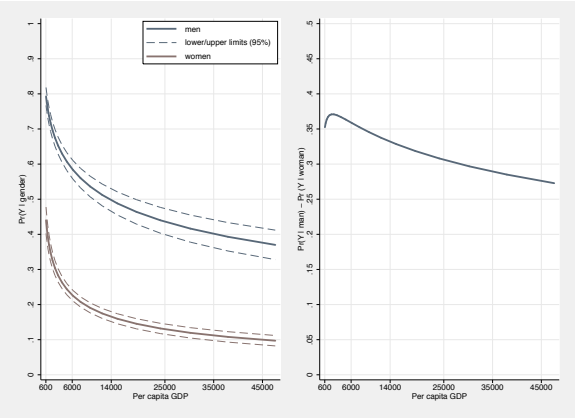
Table 2: Regressions (Ordered Probit for columns HOMEKIDS, HOUSEWORK, INDEPENDENCE, BOTHCONTRIBUTE, PLACEATHOME and OLS for Index) using 3 rounds of ISSP - 1988, 1994, 2002. Standard errors in parenthesis. * significance at 10%, ** significance at 5%, *** significance at 1% (2) clustered standard errors by country, (3) clustered standard errors by country and time. For lack of space, we omit the standard errors without clustering, but they are, as expected, significantly lower than those with clustering.

| | PRIORITY (R.E.) | HOMEKIDS (F.E.) | HOUSEWORK (R.E.) | INDEPENDENCE (F.E.) | BOTHCONTRIBUTE (F.E.) | PLACEATHOME (F.E.) | INDEX (F.E.) |
|---|---|---|---|---|---|---|---|
| LOGGDP | -0.118*** | -0.407*** | -0.280*** | -0.280*** | -0.176** | -0.323*** | -0.294*** |
| | (0.0110) | (0.0599) | (0.0343) | (0.0750) | (0.0797) | (0.0474) | (0.0389) |
| LOGGDP*MALE | -0.051*** | 0.093 | 0.022 | 0.068 | -0.072 | 0.042 | 0.012 |
| | (0.0152) | (0.0795) | (0.0463) | (0.1034) | (0.1082) | (0.0672) | (0.0517) |
| MALE | -0.658*** | | 0.073 | | | | |
| | (0.1357) | | (0.4496) | | | | |
| EDUC | -0.137*** | | -0.169*** | | | | |
| | (0.0084) | | (0.0193) | | | | |
| constant | 4.544*** | 6.542*** | 5.800*** | 4.749*** | 4.197*** | 5.571*** | 2.713*** |
| | (0.2115) | (0.3852) | (0.6907) | (0.5006) | (0.5240) | (0.3250) | (0.2502) |
| Obs. | 4092 | 1375 | 1373 | 1375 | 1375 | 1375 | 1373 |

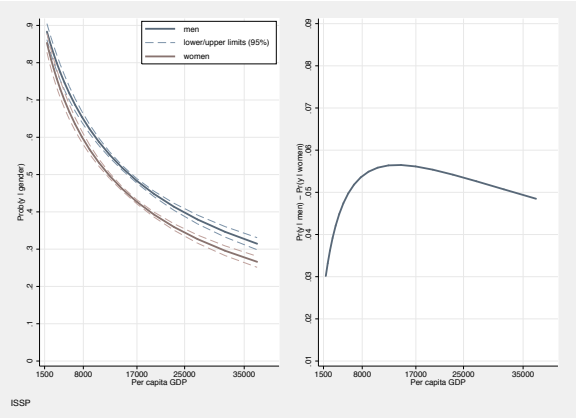
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Fixed Effects (F.E.) and Random Effects (R.E.) regressions using pseudo-panel data. Robust standard errors in parenthesis.

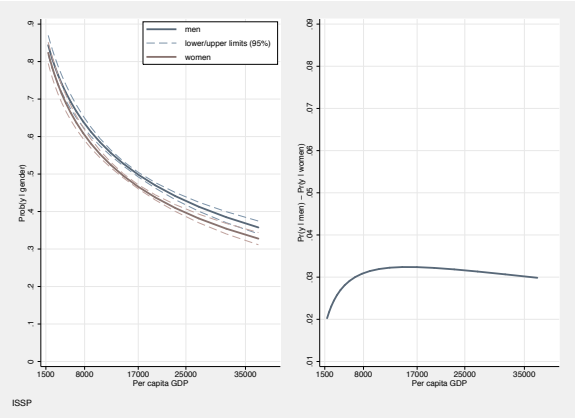
Figure 3: Predicted probabilities by gender



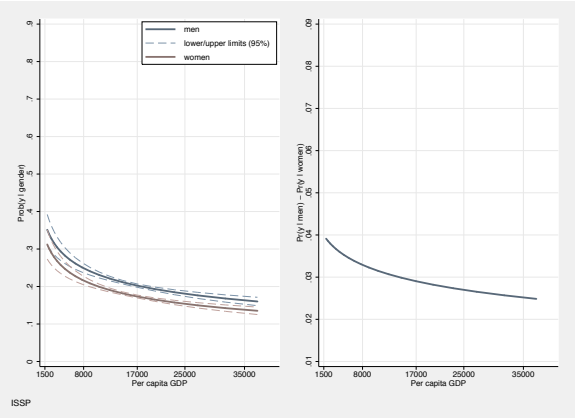

**(a)** PRIORITY



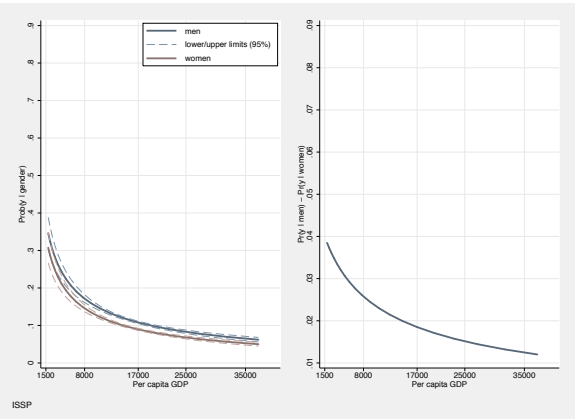

**(b)** HOMEKIDS



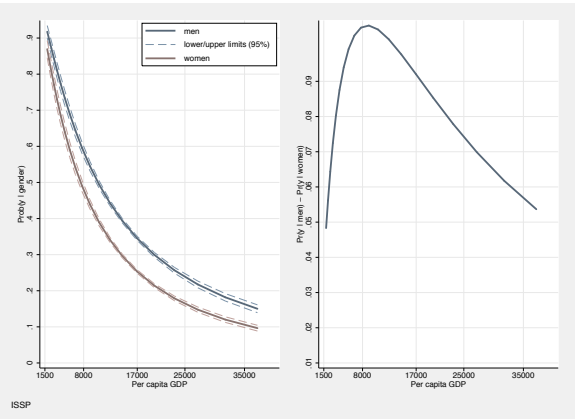

**(c)** HOUSEWORK




**(d)** INDEPENDENCE




**(e)** BOTHCONTRIBUTE




**(f)** PLACEATHOME

| | PLACE HOME | | MAN ACHIEVER | | HAPPY AT HOME | |
|---|---|---|---|---|---|---|
| 1987 → 2004 | **Agree** | **Disagree** | **Agree** | **Disagree** | **Agree** | **Disagree** |
| **Agree** | 256 | 508 | 814 | 1008 | 859 | 1060 |
| **Disagree** | 415 | 5887 | 964 | 4153 | 778 | 3611 |

Table 4: Transition from 1987 to 2004

| | PLACE HOME Men | PLACE HOME Women | MAN ACHIEVER Men | MAN ACHIEVER Women | HAPPY AT HOME Men | HAPPY AT HOME Women |
|---|---|---|---|---|---|---|
| **AGREE to DISAGREE (Comparison group: AGREE - AGREE)** | | | | | | |
| Age | -0.228 | -0.180 | -0.037 | -0.005 | -0.078 | -0.066 |
| | (0.16) | (0.23) | (0.08) | (0.10) | (0.07) | (0.11) |
| Years of Schooling | 0.105 | 0.450*** | 0.096* | 0.141 | 0.102 | 0.240*** |
| | (0.11) | (0.16) | (0.06) | (0.09) | (0.06) | (0.08) |
| Ratio spouse to respondent income | 0.700* | 0.456* | -0.078 | -0.052 | 0.088 | 0.054 |
| | (0.38) | (0.27) | (0.16) | (0.13) | (0.14) | (0.14) |
| Number of sons | 0.052 | 0.044 | -0.148 | 0.202 | 0.097 | -0.158 |
| | (0.27) | (0.42) | (0.17) | (0.24) | (0.15) | (0.28) |
| Number of daughters | -0.074 | 0.160 | 0.072 | -0.003 | -0.183 | -0.333 |
| | (0.38) | (0.49) | (0.18) | (0.21) | (0.19) | (0.23) |
| Race dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Region dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| PseudoR-square | 0.097 | 0.105 | 0.071 | 0.095 | 0.052 | 0.086 |
| LogLikelihood | -321 | -181 | -660 | -399 | -638 | -396 |
| Obs. | 674 | 454 | 657 | 441 | 590 | 417 |
| **DISAGREE to AGREE (Comparison group: DISAGREE - DISAGREE)** | | | | | | |
| Age | 0.231* | 0.188 | 0.074 | 0.070 | 0.141** | -0.006 |
| | (0.14) | (0.22) | (0.07) | (0.08) | (0.07) | (0.09) |
| Years of Schooling | -0.248*** | -0.547*** | -0.225*** | -0.369*** | -0.149*** | -0.388*** |
| | (0.09) | (0.15) | (0.05) | (0.08) | (0.06) | (0.08) |
| Ratio spouse to respondent income | -0.928*** | -0.313 | -0.402*** | 0.135 | -0.397*** | -0.068 |
| | (0.34) | (0.25) | (0.14) | (0.12) | (0.13) | (0.14) |
| Number of sons | 0.071 | 0.184 | -0.065 | 0.090 | 0.030 | 0.055 |
| | (0.21) | (0.38) | (0.13) | (0.21) | (0.14) | (0.23) |
| Number of daughters | -0.070 | 0.118 | -0.140 | 0.286 | 0.018 | 0.246 |
| | (0.31) | (0.43) | (0.15) | (0.18) | (0.16) | (0.19) |
| Race dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| Region dummies | Yes | Yes | Yes | Yes | Yes | Yes |
| PseudoR-square | 0.097 | 0.105 | 0.071 | 0.095 | 0.052 | 0.086 |
| LogLikelihood | -321 | -181 | -660 | -399 | -638 | -396 |
| Obs. | 674 | 454 | 657 | 441 | 590 | 417 |

Table 5: Multinomial logit using NLSY79 (Married men and women). Robust standard deviation in parenthesis.