ONLINE APPENDIX FOR
Can Policy Change Culture? Government Pension Plans and Traditional Kinship Practices

Natalie Bau
UCLA

A Theoretical Framework

In this section, I develop a simple model providing formal support for the predictions discussed in Section 3. The model captures the relationship between the intergenerational transmission of co-residence traditions, education, and pension policies. In the first subsection, I describe the parent's decision problem, where an imperfectly altruistic parent decides whether or not to educate and whether or not to transmit a cultural tradition to her son or daughter. The existence of the cultural tradition allows the parent to "save" for old age by investing in the human capital of the same child to whom she transmits the tradition. There is a reduced-form cultural externality: transmission of the tradition is more successful if more co-ethnics transmit it. In the second subsection, I characterize the parent's equilibrium actions. Reflecting the empirical reality that matrilocal, patrilocal, and neolocal ethnic groups co-exist, I show that all three types of equilibria exist. Thus, different ethnic groups can be in different equilibria. In a neolocal equilibrium, cultural traditions are never transmitted. In a matrilocal/patrilocal equilibria, parents who educate a child of the targeted gender also transmit the tradition. Then, education rates for the targeted gender are high relative to in the neolocal equilibrium or the equilibrium that targets the other gender. When pension plans are sufficiently large, they completely crowd-out parents' "saving" through investing in the child's human capital and transmitting the tradition. Then, the matrilocal/patrilocal equilibria cease to exist. Due to the cultural externality, this occurs even if only part of the population is treated with the pension plan. Thus, the model generates three testable predictions: (1) education rates are higher for the targeted gender relative to the other gender in the matrilocal/patrilocal equilibria relative to the neolocal equilibrium, (2) the introduction of pension plans reduces both education and the practice of the cultural tradition, and (3) the share of the population exposed to the pension plan will have non-linear effects on education and the practice of matrilocality/patrilocality.

A.1 Setup

The decision-maker in the model is a parent j who has one male and one female child (indexed by m and f). The children's returns to education, v^m and v^f, which vary with ability, are independent draws from the distribution function F. The parent lives for two periods but make decisions only in the first period. In period 1, she decides whether or not to transmit one of two cultural traditions – that males support parents in old age (patrilocality) or that females support parents in old age (matrilocality) – and whether or not to invest in the child's education. The parent can only transmit one of the cultural traditions; that is, she cannot tell sons that males support parents in old age while telling daughters that daughters support parents in old age. The parent consumes in both periods and also has some altruism towards her children. Suppressing the index j, the parent solves

$$\max_{e^f,e^m,i^f,i^m} U^p(e^f,e^m,i^f,i^m,\mathbf{I}) = \max_{e^f,e^m,i^f,i^m} u(c_1^p(e^f,e^m,i^f,i^m,\mathbf{I})) + \beta E\left(u(c_2^p(e^f,e^m,i^f,i^m,\mathbf{I})) + \gamma U^f(e^f,i^f,I^f) + \gamma U^m(e^m,i^m,I^m)\right), \tag{1}$$

such that

$$c_1^p, c_2^p \geq 0 \tag{2}$$

$$c_{1,1}^p(e^f,e^m,i^f,i^m) + c_{1,2}^p(e^f,e^m,i^f,i^m) = y_1 - \sum_{k\in\{f,m\}} d_e e^k - \sum_{k\in\{f,m\}} d_i i^k - p, \tag{3}$$

$$c_{2,1}^p(e^f,e^m,i^f,i^m) + c_{2,2}^p(e^f,e^m,i^f,i^m) = y_2 + \sum_{k\in\{f,m\}} \tau^k e^k s^k + rp \tag{4}$$

$$E(s^k) = g(i^k,I^k) \tag{5}$$

$$g(0,I^k) = 0, g(i^k,0) = 0 \tag{6}$$

$$c_1^k(e^k,i^k) + c_2^k(e^k,i^k) = s^k(b^k + e^k(v^k - d_\tau)) + (1-s^k)(b^k + e^k v^k) \forall\ k \tag{7}$$

Here, c_1^p and c_2^p are vectors of the parent's consumption of two different goods in periods 1 and 2. $c_{1,1}^p$ denotes the parent's consumption of the first good in period one, and so on. U^k is the utility of a child of type $k \in \{f,m\}$ in period 2. The parameter γ measures the parent's altruism toward the children, while β measures the parent's discount factor. The parent's choice variables are $e^k \in \{0,1\}$ and $i^k \in \{0,1\}$, which denote discrete investments in education, e^k, and transmitting the tradition, i^k. For education, this assumption matches the reality in low-income countries, where parents often believe that all or most of the returns to education come from completing a given level of schooling (e.g. primary or secondary). $\mathbf{I}$ is the vector of the aggregate investments among co-ethnics $I^f = E(i^f)$ and $I^m = E(i^m)$, which sum the individual investments by co-ethnics in i^m and i^f and capture the extent to which the rest of society invests in the different traditions.

Equation (10) is the parent's budget constraint in period 1, where y_1 is the parent's exogenous income, d_e is the cost of educating a child, d_i is the cost of transmitting a cultural tradition, and p is the exogenous amount the parent pays into a pension program.

Equation (11) is the parent's budget constraint in period 2, where y_2 is the exogenous period 2 income, s^k is a random binary variable that is 1 if an educated child provides the parent with old age support (we normalize the amount an uneducated child provides to 0), τ_k is the transfers from the child when $e^k = 1$ and $s^k = 1$, and r is the return on the pension investment.

So, parental consumption in period 2 is equal to exogenous income y_2 plus transfers from the child and pension returns. Note that in the parent's budget constraint, for simplicity, the model abstracts from borrowing and formal sources of saving. This is consistent with the fact that most of the population in Indonesia and Ghana in the 1970s (the period I study) had little access to the formal banking sector.[1]

Equation (12) captures the assumption that the probability that $s^k = 1$ is given by $g(i^k, I^k)$, representing a reduced-form cultural externality. By assumption, s^k is increasing in I^k. Equation (13) captures the assumption that $s^k = 0$ if the parent doesn't transmit the tradition or if no co-ethnics transmit the tradition. The function $g(i^k, I^k)$ is an important ingredient in the model because it captures the importance of culture for ensuring that children provide old age support. If parents unilaterally try to change or instill a new co-residence tradition, this tradition would conflict with the tradition of the child's eventual spouse. Additionally, when following cultural traditions is costly, social stigma may play a powerful role in enforcing the tradition. The cultural externality explains both why culture can be sticky in some circumstances (e.g. it is impossible for parents to unilaterally deviate to matrilocality in a neolocal society) and also why traditional practices may exhibit tipping point behavior, disappearing quickly when the underlying economic environment changes.

Equation (14) is a child k's budget constraint for period 2, where b^k is the exogenous baseline income of child k if she does not receive any education, and δ_τ is the cost of making a transfer to the parent, which may be lower than the transfer itself if parents and children share public goods.

I further assume that the utility functions of the parent and the children are quasi-linear over the two goods consumed in a given period. So, $u = U^f = U^m = log(c^k_{t,1}) + c^k_{t,2}$, where t indexes the time period. Intuitively, the first good can be thought of as the necessities required for subsistence, such as food and housing. Children in the second period are assumed to be at an interior solution, where their income is high enough that they spend on both goods. The parent is assumed to be at an interior solution in the first period and a corner solution in the second period, where she only spends on the log good. This captures the fact that the retiree's income is low and often close to subsistence. Since the retiree's income is low, quasi-linear utility provides the parent with an incentive to transfer income across periods.

Under this assumption, I can rewrite the expected utility of consumption in period 2 for the

[1] As late as 2011, 30–40 years after the pension plans I study were introduced and the first year for which data is available, only 20 percent of adult Indonesians and 29 percent adult Ghanians had savings accounts (World Bank, 2018).

parent as

$$E(u(c_2^p(e^f,e^m,i^f,i^m,\mathbf{I}))) = \sum_{k\in\{f,m\}} \mathbf{1}_{i^k=1}\Big(g^k(i^k,I^k)\log\Big(y_2+\tau^k e^k+rp\Big)+(1-g^k(i^k,I^k))\log(y_2+rp)\Big)$$
$$+\mathbf{1}_{i^f+i^m=0}\log(y_2+rp),$$

where $\mathbf{1}_{i^k=1}$ is an indicator variable equal to 1 if $i^k=1$ and $\mathbf{1}_{i^f+i^m=0}$ is an indicator variable equal to 1 if $i^f+i^m=0$.

Similarly, a child k's expected utility is

$$E(U^k) = g(i^k,I^k)(b^k+s^k e^k(v^k-d_\tau))+(1-g(i^k,I^k))(b^k+e^k v^k).$$

I consider the one-shot static equilibrium of this game. For the first two predictions, for simplicity, I'll restrict p to be the same for all parents. In the final prediction, to allow for spillovers to individuals who do not receive the pension plan, I will assume there are two types of individuals. A share λ of individuals receive the pension, while for $(1-\lambda)$, $p=0$.

A.2 Predictions

Now, we characterize the types of equilibria this model can have, and relate them to the pension parameter p. Before proceeding to the propositions, I define a "matrilocal" equilibria to be an equilibria where $I^f \geq I^m$ and a "patrilocal" equilibria to be an equilibria where $I^m > I^f$. Matrilocal and patrilocal equilibria are "gendered equilibria." A "neolocal" equilibria is one where $I^f = I^m = 0$.

Proposition 1. *There are three types of equilibria: matrilocal equilibria, patrilocal equilibria, and a neolocal equilibrium. The neolocal equilibrium always exists. Denote by α^k the share of children of gender k who are educated. Then, $\alpha^f_{mat}-\alpha^m_{mat}\geq\alpha^f_{neo}-\alpha^m_{neo}>\alpha^f_{pat}-\alpha^m_{pat}$.*

Proof. See Appendix Subsection A.3.

It is clear that a neolocal equilibrium will always exist since, if $I^k=0$, $g^k(i^k,0)=0$, and it is never rational to invest in a tradition. However, gendered equilibria may also exist if enough individuals choose to invest in a tradition. In these equilibria, all parents who educate a child of the targeted gender will also choose to transmit the tradition to her since the returns to transmitting the tradition do not depend on v^k. Since the decision to invest in the tradition depends on the share of co-ethnics who invest in the tradition, a gendered equilibrium is characterized by a fixed point in I^k. That is, the number of parents who invest in the predominant tradition I^k is also equal to the number of children of the targeted gender who are educated. Transmitting the tradition creates an additional incentive to invest in the child's education as a way of "saving" for old age, increasing education rates for that gender. As the matrilocal equilibrium generates stronger incentives to educate females relative to males, the female education rate net of the male education rate is higher in the matrilocal equilibrium than the neolocal and patrilocal equilibria. The opposite is true for the patrilocal equilibrium.

Now consider the effects of increasing the size of the pension payments p.

Proposition 2. *There exists p^H such that if $p > p^H$, no household that receives the pension plan will invest in transmitting the tradition.*

Proof. See Appendix Subsection A.3.

Receiving the pension plan increases a household's second period income, reducing the value of saving through transfers from their child. Thus, when the value of the pension payments is high enough, households no longer invest in transmitting the tradition. Indeed, raising second period income on its own could eventually lead households to stop transmitting the cultural tradition, even if the cost of transmitting the tradition $d_i = 0$, as long as the cost of a child making a transfer to her parent d_τ is sufficiently high.[2] As second period incomes increase, parents will no longer value the additional consumption extracted from their children more than the loss to the child's utility of making those transfers, capturing the fact that higher incomes and economic development can themselves lead the gendered equilibria to disappear.

To better understand the properties of the equilibria, we consider the conditions under which the matrilocal equilibria exist. Let $i^{f*}(v^f, e^f, I^f)$ be the parent's equilibrium investment in the tradition conditional on the child's ability, the choice of investment in education, and the response of other families. The parent will invest in a daughter's education if the returns to educating are higher than not educating

$$\max_{e^m} U^p(1, e^m, i^{f*}(v^f, 1, e^m, I^f), 0, \mathbf{I}) \geq \max_{e^m, i^m} U^p(0, e^m, 0, i^m, \mathbf{I}),$$

Substituting and rearranging gives a cut-off value $v^{f*}(I^f)$ for ability such that the child is educated if, and only if, $v^f > v^{f*}(I^f)$.[3]

The parent will choose to invest in the tradition if, and only if the utility from investing in

[2] One important cost of making the transfer could be the cost of not migrating to pursue better work opportunities.

[3] $v^{f*} = \frac{d_i + d_e}{\beta\gamma} + \frac{g(i^{f*}, I^f)\left(\log(y_2 + rp) + \gamma d_\tau - \log(y_2 + rp + \tau)\right)}{\gamma}$, where i^{f*} is the equilibrium investment in transmitting the tradition given $e^f = 1$.

transmitting the tradition to an educated daughter is higher than the utility of not transmitting it,

$$U^p(1,e^m,1,0,\mathbf{I}) \geq U^p(1,e^m,0,i^{m*},\mathbf{I}).$$

Rearranging this implies that investment in the tradition is only optimal if I^f is sufficiently high such that $I^f \geq I^{f*}$.[4] Crucially, I^{f*} does not depend on v^f, since the payoff to the parent if $s^k = 1$ instead of 0 does not depend on v^f. Hence, if $I^f \geq I^{f*}$, then every parent who educates their child will also invest in the tradition, so $I^f = 1 - F(v^{f*})$.

These relationships are depicted graphically for matrilocal and neolocal equilibria in an example in Appendix Figure 1. The left panel of Appendix Figure 1 shows an example with three candidate equilibria, which are the points where the red line (the share of parents who would invest in education given I^f) intersects the blue line (the 45 degree line). The pink line shows the incentive compatibility constraint $I^f \geq I^{f*}$. The three candidates for an equilibrium are the case where no one invests $I^f = 0$, everyone invests $I^f = 1$, and an intermediate case where only some fraction invest in matrilocality. In this example, the intermediate case is not an equilibrium because even if all parents who educate their daughters also transmit the tradition, the payoff of transmitting the tradition would be lower than the cost. That is, $I^f < I^{f*}$ (shown by the dotted lines). Hence, the example in the left-panel has equilibria where everyone invests in matrilocality and where no-one invests in it.

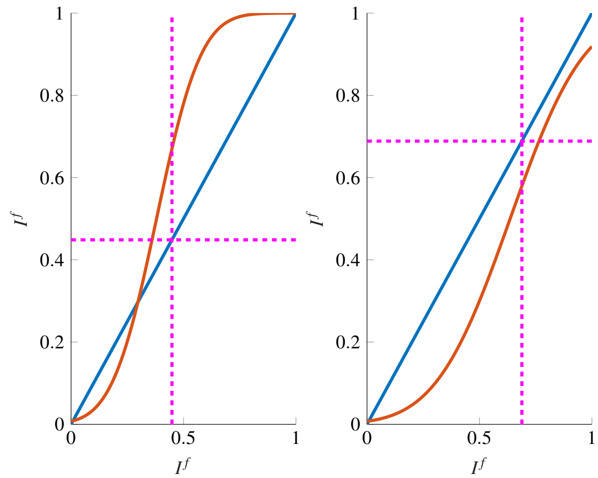
In the right panel, we increase the size of pension payments from zero to a positive number. Increased second period income reduces the value of transmitting the cultural tradition. So, the pension plan increases the cut-off I^{f*} since the tradition needs to be practiced more widely to make the investment worthwhile. At the same time, the pension plan also increases v^{f*} for every value of I^f since it reduces the payoffs of saving through the child. This causes the red line $1 - F(v^{f*}(I^f))$ to move to the right (a stochastically dominated shift in the counter-cumulative distribution). In this case, the matrilocal equilibrium ceases to exist, and only the neolocal equilibrium is left.

In this comparative static exercise, for an ethnic group initially in the neolocal equilibrium, there is no decrease in education due to the pension plan. However, for the matrilocal equilibrium, there is potentially a drastic decrease in female education. If the starting point is a gendered equilibrium, the pension policy may eliminate this equilibrium, and cause a discontinuous switch to the neolocal equilibrium, which has a lower rate of education for children of the targeted gender.

For the next proposition, I now consider a case where pension coverage is not universal. This

[4] I^{f*} is characterized by $\beta g(1,I^{f*})\Big(\log(y_2+rp+\tau) - \log(y_2+rp) - \gamma d_\tau\Big) = d_i$.

Figure 1: Existence of the Matrilocal Equilibrium and the Introduction of the Pension Plan



This figure shows the circumstances under which there is a matrilocal equilibrium. The red line gives the share of daughters educated for a given I^f, which is $1 - F(v^{f*}(I^f))$. The blue line gives the share of households who transmit the matrilocal tradition, I^f. The pink dotted lines are the incentive compatibility constraints $I^f \geq I^{f*}$. The area above and to the right of these lines satisfies the constraint that parents who educate their daughters are made better off by transmitting the cultural tradition. The left figure shows one matrilocal equilibrium at $I^f = 1$, characterized by the fixed point in the share educated and the share who transmit the tradition. The right figure shows a case where no matrilocal equilibrium exists.

shows that a similar effect can occur, holding fixed the size of pension payments p, in response to an increase in pension coverage λ.

Proposition 3. *There exists $\lambda^H < 1$ such that if $\lambda > \lambda^H$ and $p > p^H$, a gendered equilibria no longer exists.*

Proof. See Appendix Subsection A.3.

If those who receive the pension plan cease to practice the tradition, the returns to transmitting the tradition for other households will fall due to the cultural externality. Therefore, when enough households receive the pension plan, the conditions for a gendered equilibrium will no longer be satisfied, even for households who did not receive the pension plan. The gendered equilibrium ceases to exist. Then, the practice of gendered traditions falls even for those whose parents were not eligible for the plan.

Propositions 2 and 3 suggest that the introduction and expansion of a compulsory pension program will differentially reduce education for ethnicities that practice gendered co-residence traditions prior to the introduction of the pension plan by breaking down the tradition. Proposition 3 shows that even households who are not treated directly by the pension program can undergo dramatic changes in both the practice of the tradition and investment in education due to equilibrium effects. Because large effects of the expansion occur when the equilibrium switches, Proposition 3 also suggests that the share of the population treated by a pension plan will have non-linear effects on both education and the practice of the cultural traditions.

A.3 Proofs

Proof of Proposition 1.

Proof.
Existence of Neolocal Equilibrium. Consider the case where $I^f = I^m = 0$. Then, it is always individually rational for all parents to choose $i^f = i^m = 0$, since the returns to investing in the tradition are 0. Solving for when $U^p(1,0,0,0,\mathbf{0}) > U^p(0,0,0,0,\mathbf{0})$ shows that a daughter is educated in the neolocal equilibrium if $v^f \geq v^*_{neo}$, where $v^{f*}_{neo} = \frac{d_e}{\beta\gamma}$. Symmetrically, $v^{m*}_{neo} = \frac{d_e}{\beta\gamma}$.
Gendered Equilibria. I now turn to the matrilocal case where $I^f > 0$ and $I^f \geq I_m$. Everything is symmetric for the patrilocal case where $I^m > I^f$. The returns to transmitting i^k do not depend on v^k, so if $I^f > 0$ and $I^m > 0$, a parent must be willing to transmit the tradition for any child she educates if the constraint $i^m + i^f \leq 1$ is non-binding. If a parent only educates k, she will choose $i^k = 1$ and $i^{k'} = 0$. If a parent educates both children, she will transmit the tradition to f if $U^p(1,1,1,0,\mathbf{I}) \geq U^p(1,1,0,1,\mathbf{I})$. With a little algebra, this is the case if $g(1,I^f) \geq g(1,I^m)$, which is the case if $I^f \geq I^m$. Thus, if a parent educates both children, she chooses $i^f = 1$ in the matrilocal equilibrium. Then, v^{f*}_{mat} is given by solving for $U^p(1,e^m,i^f,0,\mathbf{I}) > U^p(0,e^m,0,i^m,\mathbf{I})$ since if $e^f = 1$, $i^m = 0$. This produces

$$v^{f*}_{mat} = \frac{d_i + d_e}{\beta\gamma} + \frac{g(1, 1 - F(v^{f*}_{mat}))\Big(\log(y_2 + rp) + \gamma d_\tau - \log(y_2 + rp + \tau)\Big)}{\gamma}, \tag{8}$$

where $\alpha^f_{mat} = 1 - F(v^{f*}_{mat}) = I^f$.

Then, there is a probability α^{f*}_{mat} that $e^f = 1, i^f = 1, i^m = 0$ and a probability $1 - \alpha^{f*}_{mat}$, $e^f = 0, i^f = 0$. Let $v^{m*}_{mat|e^f=1}$ be the cut-off ability for a boy to be educated in a matrilocal equilibrium, given his sister is educated. $v^{m*}_{mat|e^f=1}$ is given by $U^p(1,1,1,0,\mathbf{I}) > U^p(1,0,1,0,\mathbf{I})$, which simplifies to $v^{m*}_{mat|e^f=1} = \frac{d_e}{\beta\gamma} = v^{m*}_{neo}$. If $e^f = 0$, $v^{m*}_{mat|e^f=0} = \frac{d_i+d_e}{\beta\gamma} + \frac{g(1,I^m)\Big(\log(y_2+rp)+\gamma d_\tau - \log(y_2+rp+\tau)\Big)}{\gamma}$, where $I^m = (1-\alpha^{f*}_{mat})F(v^{m*}_{mat|e^f=0})$. So,

$$\begin{aligned}\alpha^m_{mat} =& (1 - F(v^{f*}_{mat}))(1 - F(v^{m*}_{neo})) \\ &+ F(v^{f*}_{mat})\left(1 - F\left(\frac{d_i + d_e}{\beta\gamma} + \frac{g(1, I^m))F(v^{m*}_{mat})\Big(\log(y_2 + rp) + \gamma d_\tau - \log(y_2 + rp + \tau)\Big)}{\gamma}\right)\right),\end{aligned}$$

where $I^m = F(v^{f*}_{mat})\left(1 - F\left(\frac{d_i+d_e}{\beta\gamma} + \frac{g(1,I^m))F(v^{m*}_{mat})\left(\log(y_2+rp)+\gamma d_\tau - \log(y_2+rp+\tau)\right)}{\gamma}\right)\right)$. Then, since $\alpha^f_{neo} = \alpha^m_{neo}$ and $\alpha^f_{mat} \geq \alpha^m_{mat}$, it follows that $\alpha^f_{mat} - \alpha^f_{neo} \geq \alpha^m_{mat} - \alpha^m_{neo}$ and re-arranging, this implies $\alpha^f_{mat} - \alpha^m_{mat} \geq \alpha^f_{neo} - \alpha^m_{neo}$.

Proof of Proposition 2.

Proof. Without loss of generality, I focus on a matrilocal equilibrium where $I^f \geq I^m$. Everything is symmetric for the patrilocal equilibrium. Conditional on educating the daughter, the parent chooses $i^f = 1$ if $U^p(1, e^m, 1, 0, \mathbf{I}) \geq U^p(1, e^m, 0, 0, \mathbf{I})$. Re-arranging this relationship shows that a parent chooses $i^f = 1$ if

$$\beta g(1, I^f)\Big(\log(y_2 + rp + \tau) - \log(y_2 + rp) - \gamma d_\tau\Big) \geq d_i.$$

The maximal value for the left-side is given by $g(1, I^f) = 1$. So a parent will only choose $i^f = 1$ if $\Big(\log(y_2 + rp + \tau) - \log(y_2 + rp)\Big) \geq d_i + \gamma\beta d_\tau$. Note that p does not affect the right-side of this relationship, but taking the derivative of the left-side shows that $\frac{\partial LHS}{\partial p} = \frac{r}{y_2+rp+\tau} - \frac{r}{y_2+p} < 0$. Thus, the left-side is decreasing in p and as $p \to \infty$, the left-side goes to 0. This implies single-crossing between the left- and right-sides of the inequality. So, there must exist a p^H such that if $p > p^H$, the inequality is no longer satisfied, and all parents will choose $i^f = 0$. If it is no longer incentive compatible to choose $i^f = 1$, it will also no longer be incentive compatible to choose $i^m = 1$.

Proof of Proposition 3.

Proof. Again consider a matrilocal equilibrium, where $I^f \geq I^m$. We again use the fact that the parent will only choose $i^f = 1$ if $\beta g(1, I^{f*})\Big(\log(y_2 + rp + \tau) - \log(y_2 + rp)\Big) \geq d_i + \gamma\beta d_\tau$. If λ individuals get a pension plan with $p > p^H$, the maximal value for the left-side is $g(1, (1 - \lambda))$. Substituting this into the inequality, the matrilocal equilibrium only exists if $g(1, (1 - \lambda))\Big(\log(y_2 + rp + \tau) - \log(y_2 + rp)\Big) \geq d_i + \gamma\beta d_\tau$. We see that the left-side is decreasing in λ with $\frac{\partial LHS}{\partial \lambda} = -g'(1, (1 - \lambda))\Big(\log(y_2 + rp + \tau) - \log(y_2 + rp)\Big) < 0$. When $\lambda \to 1$, the left-side is equal to 0 under the assumption that $g(1, 0) = 0$. The right-side does not depend on λ. So, there is single-crossing between the left- and right-sides at λ^*, and if $\lambda > \lambda^*$, the gendered equilibrium can no longer exist.

B Cross-country Gender Gap Regressions

The conceptual framework predicts that female education should be higher relative to male education in matrilocal societies and vice versa in patrilocal societies. This section tests whether this is the case in cross-country data. I combine country-level data on the percent of the population belonging to ethnic groups that traditionally practiced these customs based on a match to the *Ethnographic Atlas* created by Alesina et al. (2013) with country-level data on gender gaps from the 2013 World Economic Forum. The World Economic Forum reports measures of gender gaps along 4 sub-indices, as well as an overall index. These sub-indices are "Economic Participation and Opportunity," "Educational Attainment, " Health and Survival," and "Political Empowerment."[5]

Using this country-level data set, I estimate the following regression

$$y_c = \beta_0 + \beta_1 income_c + \beta_2 income_c^2 + \gamma PerPatrilocal_c + \delta PerMatrilocal_c + \alpha_r + \varepsilon_c, \quad (9)$$

where c denotes a country and y_c, the outcome variable, may be the combined gender gap score, the economics score, the education score, the health score, or the political score; $income_c$ is country c's log gdp per capita, $PerPatrilocal_c$ and $PerMatrilocal_c$ are the percent of a country's population that belong to historically patrilocal or matrilocal ethnic groups, and α_r is a continent fixed effect. Then, the coefficients of interest are γ and δ. Since a higher gender gap score indicates that women are better off relative to men, the model predicts that $\gamma < 0$ and $\delta > 0$.

Appendix Table A9 reports the estimates from these regressions. Column 1 estimates equation (9) for the aggregate score. The estimates from column 1 indicate that patrilocality is statistically significantly associated with worse gender gaps. Matrilocality is associated with better gender gaps with a coefficient of similar magnitude, although the relationship is not statistically significant.[6]

[5] The "Economic Participation and Opportunity Index" is based on measures of the ratio of female labor force participation over male labor force participation; female wage over male wage for similar work; the ratio of female estimated earned income over male estimated earned income; the ratio of female over male legislators, senior officials and managers; and the ratio of female over male professional and technical workers. The "Educational Attainment" index is based on female over male literacy; female net primary enrollment over male net primary enrollment; female net secondary enrollment over male net secondary enrollment; and female gross tertiary enrollment over male gross tertiary enrollment. The "Health and Survival Index" is based on the sex ratio at birth and the ratio of female health life expectancy over male healthy life expectancy. Finally, the "Political Empowerment" index is composed of the ratio of females with seats in parliament over males with seats; the ratio of females at the ministerial level over males; and the ratio of years of a female head of state (last 50 years) over the male value. For more information on these indices, see Bekhouche et al. (2013).

[6] The fact that the association between matrilocality and the global gender gap is statistically insignificant may in part be due to the fact that matrilocality is relatively rare. In 75 percent of the countries in the sample, the percent matrilocal variable is equal to 0.

Notably, if the regression in column 1 did not include $PerPatrilocal_c$ and $PerMatrilocal_c$, the adjusted R^2 would be 0.219, while in column 1, the adjusted R^2 is 0.257. Thus, the inclusion of controls for matrilocality and patrilocality increases the percentage of the variation explained by the regressors by 4 percentage points. Additionally, moving from 0 to 100 percent of the population belonging to traditionally patrilocal ethnicities decreases the overall gender gap score by 5 percent.

The remaining columns estimate equation (9) for the economics (column 2), education (column 3), health (column 4), and political scores (column 5). The large and significant effect of patrilocality on the overall gender gap in column 1 appears to be mainly driven by its effect on the economics gap (column 3) and the education gap (column 4). In contrast, patrilocality does not significantly affect the health or political gender gaps. Moreover, matrilocality is associated with an even larger improvement in the education gap, although this relationship is not statistically significant. These findings are consistent with the idea that patrilocality and matrilocality will mainly affect gender gaps through differences in human capital investments.

C Formal Sector Employment Variation

In this appendix, I introduce an alternative triple-differences identification strategy for testing whether the pension plan crowded out female education and the practice of matrilocality among traditionally matrilocal females in Indonesia. Instead of exploiting variation in the locations of pension offices as a source of geographic variation, in this strategy, I exploit variation in the location of large manufacturing firms. Since the pension plan was obligatory for formal sector firms with greater than 100 employees, we would expect the pension plan to have larger effects in areas with more large, formal sector establishments. To identify these areas, I use the Statistics Industry 1976 survey (from the year prior to the introduction of Astek) (Badan Pusat Statistik, 1976). Statistics Industry attempts to assemble data on the universe of manufacturing establishments in Indonesia, and it includes data on the number of employees at each establishment. For each province, I can calculate the number of workers at establishments with more than 100 employees. I replace $Intensity_p$ in equations (2) and (3) with $log(ShareManufacturing_p)$, where $ShareManufacturing_p$ is the share of the labor force that is employed at these establishments.[7]

Before reporting the results, I caution that (1) early (pre-1986) versions of the SI are known to have less-than universal coverage,[8] (2) the pension plan rule states that the cut-off is for the number of employees at the firm-level, not the establishment level, so this measure may undercount eligibility for multi-establishment firms, and (3) manufacturing is only a fraction of the formal sector.

Panel A of Appendix Table A19 reports the results for the difference-in-differences estimates (equation (3)) for traditionally matrilocal females, while Panel B reports the triple-differences estimates (equation (2)). Panel A shows that among traditionally matrilocal women, fully treated women in provinces where a larger share of the labor force works at large manufacturing establishments were less likely to complete primary, secondary, and university education. They were also less likely to practice matrilocality as adults. Panel B uses the triple-differences strategy to examine whether the pension plan differentially negatively affected traditionally matrilocal females. Across all outcomes, the point estimates remain negative and are significant or marginally significant for university completion and the practice of matrilocality. Overall, though the triple-differences estimates are less precise, these estimates are consistent with estimates of the pension plan's effects that exploit variation in the locations of pension offices.

[7] I count the number of employees at establishments with more than 100 employees in each province and then divide that value by the number of individuals between the ages of 25-55 in the province in the 1971 census. To arrive at accurate counts, I use the census' population weights.

[8] This issue is documented by RAND at `https://www.rand.org/well-being/social-and-behavioral-policy/data/bps/statistik_industri.html`.

D Additional Results

Pension Programs & Fertility. If the pension program reduced the need for old age support, it may have also differentially affected the fertility of matrilocal/patrilocal parents, who may be more likely to rely on their children for old age support. Since family size affects the resources available for educational investment, this may in turn affect the educational estimates observed in Tables 3 and 6. However, exploring whether the pension plan affected contemporaneous fertility requires a somewhat different identification strategy because we are interested in the fertility of the *parents* of the individuals in the education samples and exposure to the pension plan during childbearing years rather than during childhood is more likely to be important for fertility decisions.

To test whether the pension plan affected contemporaneous fertility, I exploit the fact that women differ in how much of their child-bearing years are affected by the program. Using data provided by the UN on the number of births per 100,000 women by age (estimates for 1971-1975 in the case of Indonesia and 1968-1969 in the case of Ghana), I construct a measure of a woman's ex ante expected fertility during the years the plan was in place. This variable then takes the place of the part and full treatment indicator variables in equations (3), (2), and (8), so that variation in the regressions is coming from the fact that more of the female's expected fertility overlaps with the pension plan. In Ghana, the key explanatory variable is the interaction of the expected fertility following the pension with belonging to a patrilocal ethnic group. In Indonesia, it is the interaction of this variable with $Intensity_d$ and (in the triple-differences specification) belonging to a traditionally matrilocal group. Since I use data from 2000 (in Ghana) and 2010 (in Indonesia), to reduce concerns about differential mortality or capturing the educational effects of the pension plan, I restrict the sample to individuals who were 20-35 at the time the pension plans were instituted (1977 in Indonesia and 1972 in Ghana).

Appendix Table A20 reports the results. I find no evidence the pension plans differentially affected fertility for matrilocal females in Indonesia or patrilocal females in Ghana.

Differential Returns to Education. A natural question is whether the returns to education are different between matrilocal and non-matrilocal females in Indonesia and patrilocal and non-patrilocal males in Ghana. If matrilocal females and patrilocal males have larger returns to education, this could explain the correlation that we observe between the gender gap and traditional customs. It is less clear that differential returns could explain the reductions of education and the practice of patrilocality and matrilocality due to the pension plan.

Without random or quasi-random variation in the amount of education an individual attains, I cannot causally estimate the returns to education for males in Ghana and females in Indonesia.

As a second best, I estimate hedonic regressions, regressing labor market outcomes and proxies for household wealth on educational attainment (indicator variables for primary school, secondary school, and university completion) and its interaction with matrilocality (in Indonesia) or patrilocality (in Ghana). Since formal sector workers report their wages in the 1995 Intercensal survey (but not the 2010 census), I use the 1995 Intercensal data for these regressions in Indonesia. This has the additional advantage of estimating the association between education and later-life outcomes closer to when the pension plan creation and expansion occurred. In both Ghana and Indonesia, I restrict my samples to individuals aged 25-45 at the time of the survey to (1) ensure that those included in the sample have completed their education and (2) help ensure that differential mortality does not bias the results.

Appendix Table A21 reports the results of this exercise. Column 1 shows that education is not more predictive of employment by traditionally matrilocal females relative to non-matrilocal females. Column 2 regresses log wages on the educational attainment measures and their interactions with matrilocality[9] and shows that the interactions are jointly insignificant predictors of log wages in Indonesia. In column 3, the interactions between matrilocality and education are jointly significant predictors of the wealth index,[10] but they are systematically negative. Turning to Ghana, in columns 5 and 6, I find that the interactions between the educational attainment measures and the indicator variable for traditional patrilocality are jointly statistically significant *negative* predictors of whether an individual is employed and household wealth.

Altogether, in the hedonic regressions, there is little evidence that there are greater returns to education for matrilocal females or patrilocal males. These results may be negatively biased since, as the conceptual framework suggests, females with lower returns to education will be more likely to receive education in matrilocal ethnic groups relative to non-matrilocal ethnic groups. The same is true for males in patrilocal groups. This is consistent with the fact that, in columns 3, 4, and 5 of Appendix Table A21, the estimated returns to education are significantly lower for matrilocal females and patrilocal males.

Traditions & Gender Biased Behavior. If traditionally matrilocal ethnic groups are generally more positively gender biased toward females, and vice versa for patrilocal groups, this could also explain the positive associations between matrilocality and female enrollment/patrilocality and male enrollment. As with differential returns to education, it is less clear that gender bias

[9] The much reduced sample size is because very few women work in the formal sector in 1995.

[10] In Indonesia, the wealth index is formed by predicting the first principal component of a principal components analysis of indicator variables for ownership of a automobile, tv, radio, buffet, stove, bicycle boat, and motor boat. In Ghana, the wealth index is the predicted first component from a principal components analysis of indicator variables for whether a household has a toilet, whether it has electricity, and whether it has running water, and the number of rooms in the house. In both cases, the units are standard deviations. For a discussion of this methodology, see Filmer and Pritchett (2001).

would lead to the pension program's differential negative effects.

To test whether matrilocal ethnic groups are more biased toward females, I again draw upon the IFLS, which includes questions about decision-making in the household. I create indicator variables equal to 1 if a female respondent is coded as one of the decision-makers for decisions about her own clothes, large household purchases, and how much time she spends socializing respectively. For male respondents, the indicator variables are coded as 1 if a male respondent mentions his spouse as one of the key decision-makers for her clothes, large household purchases, and how much time she spends socializing. I then regress these outcomes on whether the respondent belongs to a matrilocal ethnic group, controlling for age, respondent gender, province, and survey-year fixed effects. Appendix Table A22 reports the results of these regressions. Overall, there is no strong positive relationship between traditional matrilocality and these proxies for gender bias.

Remittances & Old Age Support. The analysis in this paper assumes that a decline in the practices of matrilocality and patrilocality also leads to a reduction in old age support. However, traditionally matrilocal daughters could still provide their parents with more old age support than non-matrilocal daughters through remittances. If this were the case, the pension plan might not crowd out old age support even if it crowds out cohabitation. I use the IFLS data set, in which respondents report their support for parents who are *not* co-resident, to test whether matrilocality is associated with greater support of parents who live outside the household. In Appendix Table A23, I regress an indicator variable for whether daughters provide any financial support (columns 1 and 2), the log of the amount of financial support (3 and 4) conditional on providing financial support, and days spent on chores for parents in the past year (5 and 6) on whether the adult daughter belongs to a matrilocal ethnic group, controlling for age, province, and survey-year fixed effects. Across all three measures, traditionally matrilocal daughters who do *not* live with their parents do not provide any more support than non-matrilocal daughters.

Value of Practicing Matrilocality. In this subsection, I estimate the value of practicing matrilocality to parents and consider whether ex post the pension plan provided a similar level of old age support, cautioning that this back-of-the-envelope exercise necessarily requires strong assumptions. There are a variety of mechanisms that could lead parents to benefit from living with their adult daughters and in particular, living with more educated adult daughters. While daughters are unlikely to work in the formal sector, they still may be employed and have positive returns to education. In the 2010 Indonesia census, 51 percent of women aged 25-55 report working. Additionally, as Ashraf et al. (2020) show, there is strong assortative matching in the marriage market in Indonesia. Thus, more educated daughters are likely to be married to more educated men who also may come from wealthier families and have higher incomes. The hedonic regressions in Appendix Table A21 provide evidence that more educated women in Indonesia live in households with greater wealth (as measured by the asset index).

Since there are a number of difficult to observe mechanisms through which matrilocality may affect older adults' consumption, instead of focusing on measuring each of these channels, I directly estimate the relationship between practicing matrilocality (and living with more educated daughter) and consumption. This provides me with a summary measure of the value of matrilocality that includes unobservable or difficult to measure mechanisms. To do so, I exploit the fact that the IFLS collects detailed consumption data. Using the 2000 and 2007 rounds of the IFLS, for a sample of retirement age (aged 55-80), traditionally matrilocal adults, I first regress log household consumption on whether the adult practices matrilocality, controlling for province-age fixed effects, sex, and own-education. I include these controls to help account for selection, including differences in selecting into practicing matrilocality by cohort and province due to the pension plan. I also control for the number of adults and children in the household to account for mechanical differences in household size that affect consumption. Then, in a second specification, I allow the relationship of matrilocality with log household consumption to vary by the education of the daughter parents live with, including the same set of controls as before. This provides (non-causal) estimates of the effect of practicing matrilocality with a daughter of a given education level.

Appendix Table A24 reports the results of these regressions. Column 1 shows that practicing matrilocality is associated – on average – with 15 percent higher household consumption, conditional on family size. Column 2 shows that this positive association is driven by parents who live with more educated daughters. Parents who live with a daughter with no education live in households that consume 36 percent less (although this is very rare, occurring only 3 percent of the time). Parents living with a daughter who attended primary school, live in households with on net 6 percent higher consumption, and parents who live with a daughter that attended secondary school live in households with (a statistically significant) 20 percent higher consumption relative to those who do not practice matrilocality.

With these numbers in mind, we can shed light on whether the pension at least roughly replaced the amount of consumption parents gained from practicing matrilocality on average. Furthermore, we can compare the old age support returns to providing daughters with secondary schooling (which appears to be the key educational margin at the time) to its cost.

Comparison of Pension Pay-out to Average Gains From Practicing Matrilocality. Leechor (1999) estimates that after taking inflation into account, the pension plan would provide enrollees with a lump-sum equivalent to an annuity replacing 7-10 percent of their salaries during retirement. Focusing on 2007 (the fourth round of the IFLS), GDP per capita was 1,860 in current USD. Thus, for an individual earning GDP per capita who retired in 2007, the pension plan would increase yearly consumption by 130-186 USD. In contrast, in 2007, mean household consumption for traditionally matrilocal individuals aged 55-80 was 3,288 USD.[11] Then, Column 1 of Appendix Table A24 indicates that practicing matrilocality leads to living in a household with 493 USD ($0.15 \times 3{,}288$) more consumption per year. However, these consumption gains are household-level and must be divided up among household members. The average traditionally matrilocal, elderly individual lives in a household with 6 adults (individuals over the age of 15). Under the strong assumption that extra consumption is split evenly among adults, and that one of the other 6 adults is the elderly individual's spouse, elderly individuals can expect to capture one-third of the consumption or 164 USD. Then, the benefits of practicing matrilocality are similar to the estimated benefits of the pension plan.

However, it is important to remember that this is a back-of-the-envelope exercise and that the relative sizes of the benefits will depend on the assumptions used to arrive at these numbers in important ways. If elderly adults capture a smaller or larger share of household consumption, the benefits to practicing matrilocality will likewise be smaller or larger. Similarly, if there are public goods that all household members benefit from, the benefits may also be greater. If individuals on the pension plan typically earn more than GDP per capita, the retirement payout of the pension plan will be larger.

These calculations also abstract from the cost of investing in a daughter's education. Below, I quantify the returns in old age support from investing in a daughter's secondary schooling and compare them to the costs. However, I note that even if the costs of secondary schooling were lower than the old age returns, traditional matrilocality can still incentivize education. Parents also educate their children for reasons besides old age support such as altruism. As the model in Appendix A shows, all that is needed for traditional matrilocality to incentivize educational investment is for there to be a mass of parents who are on the margin of educating their daughters.

Relative Costs and Benefits of Providing Daughter with Secondary Education. Column 2 of Appendix Table A24 provides an estimate of the marginal gains to household consumption of living with a secondary school educated daughter instead of a primary school educated daughter (14 percent). Under the same assumptions as used above, this leads to a yearly consumption gain for the elderly couple of 156 USD. To compare these benefits to the costs of education, we need to calculate the present discounted value of the parents' consumption gains at the time the education decision was made. For this calculation, I assume parents make the secondary school education decision for daughters 20 years before retirement and expect to live with a

[11] To avoid having the mean driven by a few very large, extreme outliers, I trim the top 5 percent of observations.

daughter after retirement for 15 years. I further assume parents have a discount factor $\beta = 0.95$, in line with Haacker et al. (2020). Then the present discounted value of living with a secondary educated daughter (rather than a primary educated daughter) is $\sum_{t=20}^{35} \beta^t 156 = 347$ USD. Note that this calculation does not account for the insurance benefits of the old age support. Additional consumption in old age may be more valuable than additional consumption during the prime of parents' lives.

Turning to the cost side, the IFLS provides detailed educational expenditure data. Based on this data, the cost of a year of secondary school education in 2007 was 16 percent of GDP per capita. For a parent making an investment decision in 1987, 20 years before retirement in 2007, this is equivalent to 70 USD.[12] Then, the present discounted cost of six years of secondary school investment is $\sum_{t=0}^{5} \beta^t 70 = 316$ USD. Taking these back-of-the-envelope estimates at face value and ignoring the possibility that a daughter reneges on practicing the tradition, an investment in secondary schooling has a 9 percent return for *total* parental consumption. Thus, conditional on practicing matrilocality, a daughter's secondary education seems to more than pay for itself in the form of increased old age consumption.

References

Alesina, A., P. Giuliano, and N. Nunn (2013). On the origins of gender roles: Women and the plough. *The Quarterly Journal of Economics 128*(2), 469–530.

Ashraf, N., N. Bau, N. Nunn, and A. Voena (2020). Bride price and female education. *Journal of Political Economy 128*(2), 591–641.

Badan Pusat Statistik (1976). Statistik Industri.

Bekhouche, Y., R. Hausmann, L. Tyson, and S. Zahidi (2013). The global gender gap report 2013. *Geneva Switzerland World Economic Forum 2013*.

Filmer, D. and L. H. Pritchett (2001). Estimating wealth effects without expenditure data—or tears: An application to educational enrollments in states of India. *Demography 38*(1), 115–132.

Haacker, M., T. B. Hallett, and R. Atun (2020). On discount rates for economic evaluations in global health. *Health Policy and Planning 35*(1), 107–114.

Leechor, C. (1999). *Reforming Indonesia's pension system*. World Bank Working Paper.

World Bank (2018). Global financial inclusion (global findex) database.

[12] Indonesian GDP per capita in 1987 in current USD was 442 USD.

Appendix Tables

Table A1: Association Between Matrilocality and Patrilocality and Other Traditional Practices for All Ethnic Groups in the *Ethnographic Atlas*

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	Indicator variable for patrilocal					**Indicator variable for matrilocal**				
Plow	-0.064					-0.017				
	(0.060)					(0.051)				
Bride Price		0.137					-0.130			
		(0.030)					(0.025)			
Male-Dominated Agriculture			-0.040					0.027		
			(0.058)					(0.050)		
Polygamy				0.139					-0.060	
				(0.036)					(0.031)	
Matrilineal					-0.501					0.547
					(0.036)					(0.029)
Region FE	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
N	1,137	1,237	936	1,210	1,222	1,137	1,237	936	1,210	1,222
Adjusted R^2	0.337	0.351	0.322	0.360	0.435	0.285	0.302	0.266	0.300	0.457

This table regresses indicator variables for practicing matrilocality or patrilocality on indicator variables for other ethnicity-level traditions. All regressions control for region (sub-continent) fixed effects. The data is drawn from Murdock's *Ethnographic Atlas.* Standard errors are heteroskedasticity robust.

Table A2: Association Between Matrilocality and Patrilocality and Other Traditional Practices Within Indonesia and Ghana

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
			Indonesia				**Ghana**
			Indicator variable for matrilocal				**Indicator variable for patrilocal**
Plow	-0.403						
	(0.167)						
Bride Price		-0.047				-0.071	
		(0.042)				(0.416)	
Male Dominated Agriculture			-0.066				
			(0.066)				
Polygamy				-0.512			
				(0.184)			
Matrilineal					0.996		0.192
					(0.005)		(0.402)
N	21,176,375	21,267,789	20,957,869	21,258,451	21,267,789	1,603,351	1,597,917
Clusters	39	45	33	44	45	24	23
Adjusted R^2	0.661	0.554	0.556	0.690	0.713	0.001	0.013

This table regresses indicator variables for practicing matrilocality or patrilocality on indicator variables for other ethnicity-level traditions using within-Indonesia and within-Ghana variation. Regressions for polygamy, aboriginal plow use, and male-dominated agriculture are excluded for Ghana since there is no within-country variation in these variables. The regressions for Indonesia include province fixed effects. To weight ethnic groups by their size, an observation is an individual in the 2010 Indonesia census or the 2000 Ghana census. The data is drawn from Murdock's *Ethnographic Atlas.* Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level.

Table A3: Transmission of Matrilocality in the IFLS

	(1)	(2)
	Dep. Var.: Respondent Practices Matrilocality	
	IFLS 2000	IFLS 2007
Matrilocal '93	0.486	0.249
	(0.095)	(0.100)
Mean Dep. Var.	0.281	0.265
N	399	464
Adjusted R^2	0.061	0.015

This table regresses an indicator variable equal to 1 if at least one of the respondent's parents live in the same household on an indicator variable equal to 1 if the respondent is a descendant of a household that practiced matrilocality in 1993. The sample is restricted to married women with at least one living parent from traditionally matrilocal ethnic groups in round 3 of the IFLS (column 1) and round 4 (column 2). Round 1 of the IFLS (1993) is used to measure whether the respondent belongs to a household descended from a household that practiced matrilocality in 1993. To ensure the effect of practicing matrilocality in 1993 is not mechanically positive, respondants who were observed practicing matrilocality in 1993 are not included in the 2000 and 2007 samples. Standard errors are heteroskedasticity robust.

Table A4: Summary Statistics for the Indonesia 2010 Census

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Matrilocal			Non-Matrilocal			Coef.	
	Mean	**SD**	**N**	**Mean**	**SD**	**N**	**Prov. & Birth Year FE**	**SE**
				Enrollment Sample: Children Aged 5-22				
Age	12.662	4.909	428,700	12.598	4.903	5,854,635		
Female	0.475	0.499	428,700	0.472	0.499	5,854,635	0.004	0.004
Enrolled	0.688	0.463	428,700	0.687	0.464	5,854,635	0.021	0.023
Father Primary	0.808	0.394	386,630	0.866	0.341	5,439,544	0.027	0.029
Mother Primary	0.807	0.395	420,145	0.850	0.357	5,702,295	0.053	0.033
Father High Skilled	0.037	0.188	386,630	0.046	0.209	5,439,544	0.000	0.010
Mother High Skilled	0.049	0.216	420,145	0.042	0.202	5,702,295	0.003	0.014
Father Agriculture	0.583	0.493	386,630	0.387	0.487	5,439,544	-0.071	0.096
Mother Agriculture	0.337	0.473	420,145	0.241	0.428	5,702,295	-0.106	0.075
Head Male	0.903	0.296	427,846	0.929	0.257	5,852,012	-0.015	0.006
Muslim	0.908	0.289	428,598	0.871	0.335	5,852,347	0.166	0.078
			Pension Sample: Females Born Between 1959 and 1985					
Age	36.323	7.711	306,119	36.242	7.665	4,477,301		
Branch Offices per 1,000 Sq. Miles	0.144	0.364	306,119	0.678	1.464	4,477,301		
Primary	0.848	0.359	306,119	0.878	0.328	4,477,301	0.041	0.030
Secondary	0.314	0.464	306,119	0.320	0.466	4,477,301	0.010	0.075
University	0.054	0.226	306,119	0.056	0.230	4,477,301	-0.003	0.021
Muslim	0.923	0.267	306,050	0.879	0.326	4,474,523	0.146	0.069

This table provides summary statistics for the two samples from the Indonesia 2010 census used in this paper. The first three columns give the mean, SD, and number of observations for individuals from traditionally matrilocal ethnic groups. The next three columns do the same for individuals from traditionally non-matrilocal ethnic groups. The final two columns report the coefficient on matrilocality and its standard error from a regression of the row name variable on an indicator variable for belonging to a traditionally matrilocal ethnic group, controlling for age and province fixed effects and ethnicity-level traits (traditional bride price, polygamy, plow use, and male-dominated agriculture). Because these regressions control for age and province fixed effects, coefficients for age and for branch offices per 1,000 square miles are not reported. The first panel is the set of children 5–22 of household heads. The second panel is the set of females born between 1959 and 1985. Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level.

Table A5: Summary Statistics for Ghana 2000 Census

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
		Patrilocal			**Non-Patrilocal**		**Coef.**	
	Mean	**SD**	**N**	**Mean**	**SD**	**N**	**District & Birth Year FE**	**SE**
				Enrollment Sample: Children Aged 5-22				
Age	11.814	4.815	205,756	12.056	4.803	201,084		
Female	0.472	0.499	205,756	0.488	0.500	201,084	-0.005	0.002
Enrolled	0.527	0.499	205,756	0.670	0.470	201,084	-0.082	0.019
Father Primary	0.366	0.482	163,057	0.671	0.470	142,063	-0.230	0.052
Mother Primary	0.230	0.421	185,740	0.459	0.498	181,609	-0.195	0.031
Father High Skilled	0.055	0.228	163,057	0.073	0.260	142,063	-0.017	0.004
Mother High Skilled	0.033	0.177	185,740	0.050	0.218	181,609	-0.019	0.003
Father Agriculture	0.650	0.477	163,057	0.515	0.500	142,063	0.069	0.010
Mother Agriculture	0.569	0.495	185,740	0.492	0.500	181,609	0.051	0.014
Head Male	0.755	0.430	205,094	0.660	0.474	200,957	0.088	0.016
Muslim	0.165	0.371	205,756	0.083	0.276	201,084	0.076	0.075
				Pension Sample: Males Born Between 1954 and 1975				
Age	33.988	6.417	95,650	34.172	6.401	99,982		
Primary	0.515	0.500	95,650	0.726	0.446	99,982	-0.165	0.056
Secondary	0.149	0.356	95,650	0.180	0.384	99,982	-0.025	0.018
University	0.019	0.136	95,650	0.025	0.157	99,982	-0.005	0.002
Muslim	0.167	0.373	95,650	0.079	0.269	99,982	0.085	0.071

This table provides summary statistics for the two samples from the Ghana 2000 census used in this paper. The first three columns give the mean, SD, and number of observations for individuals from traditionally patrilocal ethnic groups. The next three columns do the same for individuals from traditionally non-patrilocal ethnic groups. The final two columns report the coefficient on patrilocality and its standard error from a regression of the row name variable on an indicator variable for belonging to a traditionally matrilocal ethnic group, controlling for age and district fixed effects and ethnicity-level traits (traditional bride price). Because these regressions control for age fixed effects, the coefficient for age is not reported. The first panel is the set of children 5–22 of household heads. The second panel is the set of males born between 1954 and 1975. Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level.

Table A6: Association Between Traditional Matrilocality and Patrilocality and the Within-Household Gender Gap in Enrollment for Children Aged 5-18

	(1) **Baseline**	(2) **+SES Controls**	(3) **+Cultural Traits**	(4) **+Geography Controls**
			Indonesia	
$I_e^{Matrilocal} \times I_i^{Female}$	0.015	0.013	0.013	0.007
	(0.004)	(0.003)	(0.004)	(0.004)
Mean Dep. Var.	0.778	0.781	0.781	0.781
N	3,686,702	3,397,471	3,397,471	3,397,471
Clusters	44	44	44	44
Adjusted R^2	0.429	0.429	0.429	0.429
			Ghana	
$I_e^{Patrilocal} \times I_i^{Male}$	0.011	0.005	0.008	0.012
	(0.007)	(0.006)	(0.005)	(0.004)
Mean Dep. Var.	0.653	0.638	0.638	0.638
N	299,006	207,532	207,532	207,532
Clusters	24	24	24	24
Adjusted R^2	0.508	0.529	0.529	0.530

This table reports difference-in-difference estimates of the association between the interaction between traditional matrilocality and female (Indonesia) and patrilocality and male (Ghana) and enrollment for children of the household head aged 5-18 in the Indonesia 2010 census and the Ghana 2000 census. All regressions include household fixed effects and age fixed effects. Column 2 adds indicator variables for whether the father has completed primary school, whether the father's spouse has completed primary school, whether the father works in a high skill sector, whether the father's spouse works in a high skill sector, whether the father works in agriculture, whether the father's spouse works in agriculture, whether the household head is male, and whether the individual is Muslim interacted with child gender. Column 3 adds indicator variables for whether a child belongs to an ethnicity with a bride price custom, male-dominated agriculture, polygamy, and aboriginal plow use interacted with child gender. Column 4 adds province fixed effects (Indonesia) or district fixed effects (Ghana) interacted with child gender. Data on ethnic traits is drawn from the *Ethnographic Atlas*. Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level.

Table A7: Association Between Traditional Matrilocality and Patrilocality and the Within-Household Gender Gap in Enrollment for Children Outside Their Ethnic Homeland

	(1) **Baseline**	(2) **+SES Controls**	(3) **+Cultural Traits**	(4) **+Geography Controls**
			Indonesia	
$I_e^{Matrilocal} \times I_i^{Female}$	0.013	0.009	0.011	0.009
	(0.004)	(0.003)	(0.005)	(0.005)
Mean Dep. Var.	0.735	0.744	0.744	0.744
N	1,167,434	1,076,608	1,076,608	1,076,608
Clusters	43	43	43	43
Adjusted R^2	0.500	0.494	0.494	0.494
			Ghana	
$I_e^{Patrilocal} \times I_i^{Male}$	0.020	0.010	0.016	0.007
	(0.010)	(0.007)	(0.007)	(0.004)
Mean Dep. Var.	0.574	0.565	0.565	0.565
N	176,880	126,056	126,056	126,056
Clusters	24	24	24	24
Adjusted R^2	0.523	0.532	0.533	0.533

This table reports difference-in-difference estimates of the association between the interaction between traditional matrilocality and female (Indonesia) and patrilocality and male (Ghana) and enrollment for children of the household head aged 5-22 in the Indonesia 2010 census and the Ghana 2000 census, who live outside their ethnic group's homeland. All regressions include household fixed effects and age fixed effects. Column 2 adds indicator variables for whether the father has completed primary school, whether the father's spouse has completed primary school, whether the father works in a high skill sector, whether the father's spouse works in a high skill sector, whether the father works in agriculture, whether the father's spouse works in agriculture, whether the household head is male, and whether the individual is Muslim interacted with child gender. Column 3 adds indicator variables for whether a child belongs to an ethnicity with a bride price custom, male-dominated agriculture, polygamy, and aboriginal plow use interacted with child gender. Column 4 adds province fixed effects (Indonesia) or district fixed effects (Ghana) interacted with child gender. Data on ethnic traits is drawn from the *Ethnographic Atlas*. Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level.

Table A8: Association Between Traditional Matrilocality and Patrilocality and Education Levels For Adults Aged 25–45

	(1) **Primary**	(2) **Secondary**	(3) **University**	(4) **Years of Education**
			Indonesia	
$I_e^{Matrilocal} \times I_i^{Female}$	0.086	0.135	0.026	
	(0.018)	(0.050)	(0.010)	
Mean Dep. Var.	0.912	0.374	0.062	
N	7,874,205	7,874,205	7,874,205	
Clusters	45	45	45	
Adjusted R^2	0.076	0.123	0.035	
			Ghana	
$I_e^{Patrilocal} \times I_i^{Male}$	0.020	0.004	-0.002	0.160
	(0.017)	(0.009)	(0.002)	(0.207)
Mean Dep. Var.	0.523	0.126	0.016	5.952
N	410,496	410,496	410,496	410,496
Clusters	24	24	24	24
Adjusted R^2	0.257	0.056	0.009	0.241

This table reports difference-in-differences estimates of the association between the interaction between traditional matrilocality and female (Indonesia) or patrilocality and male (Ghana) and educational attainment for adults 25–45 in the Indonesia 2010 census and the Ghana 2000 census. All regressions include ethnicity fixed effects, age fixed effects, geographic region (province in Indonesia and district in Ghana) by gender fixed effects and controls for whether a child belongs to an ethnicity with a bride price custom, male-dominated agriculture, polygamy, and aboriginal plow use interacted with child gender. Panel A reports estimates from Indonesia, and Panel B reports estimates from Ghana. Indonesia does not include years of schooling as an outcome because this is not reported in the 2010 census. Data on ethnic traits is drawn from the *Ethnographic Atlas*. Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level.

Table A9: Patrilocality, Matrilocality, and the Cross-Country Gender Gap

	(1) **Score, 2013**	(2) **Economics Score**	(3) **Education Score**	(4) **Health Score**	(5) **Political Score**
Percent Population Patrilocal	-0.031	-0.056	-0.028	-0.002	-0.037
	(0.014)	(0.029)	(0.013)	(0.002)	(0.032)
Percent Population Matrilocal	0.033	-0.031	0.054	0.002	0.107
	(0.042)	(0.062)	(0.034)	(0.003)	(0.124)
Continent FE	Y	Y	Y	Y	Y
GDP Per Capita Controls	Y	Y	Y	Y	Y
Mean Dep. Var.	0.684	0.643	0.948	0.971	0.173
Number of observations	122	122	122	122	122
Adjusted R^2	0.257	0.189	0.494	0.110	0.147

Each column reports the results from cross-country regressions of the 2013 World Economic Forum Gender Gap scores on the percentage of each country's population that belongs to ethnic groups that traditionally practice patrilocality and matrilocality according to the *Ethnographic Atlas*. Regressions control for log gdp per capita and log gdp per capita squared and continent fixed effects. The first column is the overall score, and the remaining columns use the sub-scores of the gender gap score as the outcome variable instead of the overall score. Standard errors are heteroskedasticity robust.

Table A10: Association Between Number of Pension Offices Per 1,000 Sq. Miles and Pension Plan Coverage in the IFLS Round 4

	(1) **Any Pension**	(2) **Any Pension**	(3) **Public Pension**	(4) **Public Pension**
$Intensity_p$	0.024	0.037	0.018	0.027
	(0.004)	(0.006)	(0.004)	(0.005)
	[0.000]	[0.000]	[0.000]	[0.000]
Ethnicity FE	Y	Y	Y	Y
Age FE	Y	Y	Y	Y
Sample	All Retirees	Past Retirement Age	All Retirees	Past Retirement Age
Mean Dep. Var.	0.232	0.256	0.207	0.232
Number of observations	1,536	1,312	1,536	1,312
Clusters	17	17	17	17
Adjusted R^2	0.081	0.082	0.077	0.068

This table reports estimates of the association between $Intensity_p$, where $Intensity_p$ is the number of pension offices per 1,000 square miles in province p, and whether a retiree reports having received either any pension (columns 1 and 2) or any public pension (columns 3 and 4) in the IFLS round 4. The sample consists only of retirees who were asked if they received pensions. For the full sample of retirees, the mean of $Intensity_p$ is 1.02, and the standard deviation is 2. For the sample of those older than 55, the mean is 0.93 and the standard deviation is 1.97. Columns 1 and 3 consist of all retirees, and columns 2 and 4 restrict the sample to retirees past the official retirement age for the pension (those over 55). Standard errors are clustered at the province-level. P-values from a wild bootstrap procedure at the province-level appear in square brackets.

Table A11: Difference-in-Differences Estimates of the Effect of Astek by Traditional Matrilocality and Gender

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
			Females				**Males**	
	Primary	**Secondary**	**University**	**Practice Matrilocality**	**Practice Matrilocality**	**Primary**	**Secondary**	**University**
				Panel A: Traditionally Matrilocal Ethnic Groups				
$I_c^{Part\_Treat} \times Intensity_p$	-0.020	-0.064	-0.032	-0.079	-0.083	-0.147	-0.099	-0.027
	(0.047)	(0.038)	(0.015)	(0.013)	(0.013)	(0.063)	(0.034)	(0.020)
$I_c^{Full\_Treat} \times Intensity_p$	-0.184	-0.251	-0.130	-0.143	-0.147	-0.199	-0.086	-0.015
	(0.080)	(0.043)	(0.027)	(0.030)	(0.030)	(0.070)	(0.054)	(0.024)
Birth Province FE	Y	Y	Y	Y	Y	Y	Y	Y
Birth Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Ethnicity FE	Y	Y	Y	Y	Y	Y	Y	Y
Linear Time Trend Controls	Y	Y	Y	Y	Y	Y	Y	Y
Population Density Controls	Y	Y	Y	Y	Y	Y	Y	Y
Alternative Program Controls	Y	Y	Y	Y	Y	Y	Y	Y
Muslim	Y	Y	Y	Y	Y	Y	Y	Y
Current Province	N	N	N	N	Y	N	N	N
Mean Dep. Var.	0.848	0.314	0.054	0.105	0.105	0.872	0.345	0.052
N	306,050	306,050	306,050	278,566	278,566	294,303	294,303	294,303
Clusters	26	26	26	26	26	26	26	26
Adjusted R^2	0.718	0.736	0.277	0.637	0.714	0.609	0.595	0.179
				Panel B: Traditionally Non-Matrilocal Ethnic Groups				
$I_c^{Part\_Treat} \times Intensity_p$	0.023	0.213	0.028	-0.049	-0.046	0.023	0.219	0.032
	(0.073)	(0.060)	(0.013)	(0.047)	(0.044)	(0.052)	(0.054)	(0.009)
$I_c^{Full\_Treat} \times Intensity_p$	-0.016	0.241	-0.001	-0.075	-0.071	-0.006	0.191	0.006
	(0.123)	(0.060)	(0.021)	(0.090)	(0.083)	(0.083)	(0.066)	(0.015)
Birth Province FE	Y	Y	Y	Y	Y	Y	Y	Y
Birth Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Ethnicity FE	Y	Y	Y	Y	Y	Y	Y	Y
Linear Time Trend Controls	Y	Y	Y	Y	Y	Y	Y	Y
Population Density Controls	Y	Y	Y	Y	Y	Y	Y	Y
Alternative Program Controls	Y	Y	Y	Y	Y	Y	Y	Y
Muslim	Y	Y	Y	Y	Y	Y	Y	Y
Current Province	N	N	N	N	Y	N	N	N
Mean Dep. Var.	0.878	0.320	0.056	0.077	0.077	0.914	0.391	0.067
N	4,474,523	4,474,523	4,474,523	4,182,723	4,182,723	4,495,555	4,495,555	4,495,555
Clusters	26	26	26	26	26	26	26	26
Adjusted R^2	0.829	0.809	0.475	0.664	0.721	0.791	0.789	0.471

This table reports difference-in-differences estimates of the effect pension plan exposure by gender and matrilocal/non-matrilocal ethnic tradition. Panel A reports estimates for traditionally matrilocal males and females. Panel B reports estimates for traditionally non-matrilocal males and females. Linear Time Trend Controls consist of linear trends in birth year interacted with birth province fixed effects. Population Density Controls consist of controls for population density, log population density, and share urban at the birth province-level (calculated using the 1971 census) interacted with birth year fixed effects. Alternative Program Controls consist of controls for the INPRES school construction program and a water/sanitation program interacted with birth year fixed effects. The data are drawn from the Indonesia 2010 census, and information on ethnicity-level cultural traditions comes from the *Ethnographic Atlas.* Standard errors are clustered at the birth province-level.

Table A12: Triple-Differences Estimates of the Differential Effect of Pension Plan Exposure, Alternative Population Density Controls

	(1) **Primary**	(2) **Secondary**	(3) **University**	(4) **Practice Matrilocality**	(5) **Practice Matrilocality**
			Panel A: $Intensity_p$ Measure		
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times Intensity_p$	-0.074	-0.226	-0.080	-0.179	-0.187
	(0.127)	(0.082)	(0.035)	(0.045)	(0.045)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times Intensity_p$	-0.022	-0.358	-0.102	-0.483	-0.516
	(0.190)	(0.161)	(0.044)	(0.136)	(0.129)
Current Province FE	N	N	N	N	Y
Mean Dep. Var.	0.876	0.320	0.056	0.079	0.079
N	4,780,573	4,780,573	4,780,573	4,461,289	4,461,289
Adjusted R^2	0.837	0.823	0.513	0.675	0.733
			Panel B: Log Number of Offices Measure		
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times log(num.\ offices_p)$	0.002	-0.032	-0.011	-0.016	-0.017
	(0.014)	(0.016)	(0.006)	(0.007)	(0.007)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times log(num.\ offices_p)$	0.032	-0.043	-0.014	-0.035	-0.037
	(0.030)	(0.020)	(0.007)	(0.016)	(0.016)
Current Province FE	N	N	N	N	Y
Mean Dep. Var.	0.877	0.320	0.056	0.079	0.079
N	4,677,531	4,677,531	4,677,531	4,364,884	4,364,884
Adjusted R^2	0.840	0.827	0.519	0.689	0.741
			Panel C: Distance to a Pension Office		
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times log(distance_d)$	-0.022	0.001	0.007	-0.005	-0.006
	(0.009)	(0.012)	(0.006)	(0.004)	(0.004)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times log(distance_d)$	-0.038	-0.016	0.009	-0.022	-0.024
	(0.011)	(0.015)	(0.004)	(0.008)	(0.008)
Current District FE	N	N	N	N	Y
Mean Dep. Var.	0.880	0.318	0.055	0.080	0.080
N	4,618,188	4,618,188	4,618,188	4,313,952	4,313,949
Adjusted R^2	0.648	0.609	0.212	0.428	0.483

This table reports triple-differences estimates of the effect of the 1977 institution of the Astek pension plan on women, exploiting the interaction between years exposed to the plan (partial treatment indicates a woman was 6-12 when the pension plan was initiated, and full treatment indicates that she was younger than 6), a geographic area-level measure of treatment intensity, and whether an individual belongs to a matrilocal ethnic group. The sample consists of women born between 1959 and 1985 in the 2010 Indonesia census. All panels include birth province-matrilocal fixed effects, ethnicity fixed effects, birth province-birth year fixed effects, and linear time trends in birth year interacted with birth province-matrilocal fixed effects. All panels also include cultural trait interactions (ethnicity-level controls for the interaction between traditional plow use, male-dominated agriculture, polygamy, and bride price with the geographic area-level measure of pension plan affectedness, indicator variables for partial and full treatment, and the relevant double interactions), population density controls, and controls for the INPRES program and a water and sanitation program (at the geographic level of the treatment) interacted with matrilocal-birth year fixed effects. The population density controls consist or percent urban in the geographic area (province in Panels A and B and district in Panel C) interacted with matrilocal-birth year fixed effects, as well as matrilocal-birth year fixed effects interacted with measure(s) of population density selected by a lasso regression of the geographic treatment variable on population density and log population density. Panels A and B include muslim-birth province-treatment cohort (partial, full, or none) fixed effects. Panel C includes muslim-birth district-treatment cohort fixed effects and the relevant double interactions for the treatment variables that are not subsumed by the fixed effects. Standard errors are two-way clustered at the *Ethnographic Atlas* ethnic group-level and the birth geographic area-level (province in Panels A and B and district in Panel C). There are 45 ethnic groups, 26 provinces, and 464 districts.

Table A13: Robustness of Triple-Differences Estimates of the Differential Effect of Pension Plan Exposure on Traditionally Matrilocal Females to Additional Time Trend Controls

	(1) **Primary**	(2) **Secondary**	(3) **University**	(4) **Practice Matrilocality**	(5) **Practice Matrilocality**
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times Intensity_p$	-0.159	-0.249	-0.095	0.002	0.003
	(0.104)	(0.076)	(0.056)	(0.034)	(0.031)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times Intensity_p$	-0.145	-0.287	-0.160	-0.249	-0.262
	(0.162)	(0.122)	(0.057)	(0.161)	(0.148)
Birth Province by Matrilocal FE	Y	Y	Y	Y	Y
Ethnicity FE	Y	Y	Y	Y	Y
Birth Province by Birth Year FE	Y	Y	Y	Y	Y
Muslim by Province by Treatment Cohort FE	Y	Y	Y	Y	Y
Cultural Trait Interactions	Y	Y	Y	Y	Y
Third-Degree Time Trend Controls	Y	Y	Y	Y	Y
Population Density Controls	Y	Y	Y	Y	Y
Alternative Program Controls	Y	Y	Y	Y	Y
Current Province FE	N	N	N	N	Y
Mean Dep. Var.	0.876	0.320	0.056	0.079	0.079
N	4,780,573	4,780,573	4,780,573	4,461,289	4,461,289
Adjusted R^2	0.837	0.823	0.512	0.675	0.733

This table reports triple-differences estimates of the effect of the 1977 institution of the Astek pension plan on women, exploiting the interaction between years exposed to the plan (partial treatment indicates a woman was 6-12 when the pension plan was initiated, and full treatment indicates that she was younger than 6), intensity of treatment (number of offices in the province per 1,000 square miles or the log number of offices), and whether an individual belongs to a matrilocal ethnic group, controlling more flexibly for time trends. The sample consists of women born between 1959 and 1985 in the 2010 Indonesia census. Cultural Trait Interactions consist of ethnicity-level controls for the interaction between traditional plow use, male-dominated agriculture, polygamy, and bride price with the geographic measure of pension plan affectedness, indicator variables for partial and full treatment, and the relevant double interactions. Time Trend Controls are a linear, quadratic, and third-degree polynomials in birth year that are allowed to have different coefficients at the matrilocal-birth province level. Population Density Controls consist of population density, log population density, and share urban at the province-level (calculated with the 1971 census) interacted with matrilocal-birth year fixed effects. Alternative Program Controls consist of controls for the INPRES school construction program and a water sanitation program interacted with matrilocal-birth year fixed effects. Standard errors are two-way clustered at the *Ethnographic Atlas* ethnic group-level and the birth province-level. There are 45 ethnic groups and 26 provinces.

Table A14: Robustness of Triple-Differences Estimates of the Differential Effect of Pension Plan Exposure to Flexible Development & Population Density Controls

	(1) **Primary**	(2) **Secondary**	(3) **University**	(4) **Practice Matrilocality**	(5) **Practice Matrilocality**
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times Intensity_p$	-0.080	-0.236	-0.091	-0.177	-0.185
	(0.097)	(0.085)	(0.038)	(0.039)	(0.041)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times Intensity_p$	-0.017	-0.371	-0.111	-0.483	-0.518
	(0.158)	(0.163)	(0.045)	(0.146)	(0.141)
Birth Province by Matrilocal FE	Y	Y	Y	Y	Y
Ethnicity FE	Y	Y	Y	Y	Y
Birth Province by Birth Year FE	Y	Y	Y	Y	Y
Muslim by Province by Treatment Cohort FE	Y	Y	Y	Y	Y
Cultural Trait Interactions	Y	Y	Y	Y	Y
Linear Time Trend Controls	Y	Y	Y	Y	Y
Lasso Pop. Density Controls	Y	Y	Y	Y	Y
Alternative Program Controls	Y	Y	Y	Y	Y
Current Province FE	N	N	N	N	Y
Mean Dep. Var.	0.876	0.320	0.056	0.079	0.079
N	4,780,573	4,780,573	4,780,573	4,461,289	4,461,289
Adjusted R^2	0.837	0.823	0.513	0.675	0.733

This table reports triple-differences estimates of the effect of the 1977 institution of the Astek pension plan on women, exploiting the interaction between years exposed to the plan (partial treatment indicates a woman was 6-12 when the pension plan was initiated, and full treatment indicates that she was younger than 6), intensity of treatment (number of offices in the province per 1,000 square miles), and whether an individual belongs to a matrilocal ethnic group, controlling more flexibly for population density. The sample consists of women born between 1959 and 1985 in the 2010 Indonesia census. Cultural Trait Interactions consist of ethnicity-level controls for the interaction between traditional plow use, male-dominated agriculture, polygamy, and bride price with the geographic measure of pension plan affectedness, indicator variables for partial and full treatment, and the relevant double interactions. Linear Time Trend Controls are linear trends in birth year that are allowed to have different coefficients at the matrilocal-birth province level. Alternative Program Controls are controls for the INPRES school construction program and a water and sanitation program interacted with matrilocal-birth year fixed effects. Lasso Pop. Density Controls are selected using a double-lasso procedure from matrilocal birth-year fixed effects interacted with: up to third degree polynomials of population density and log population density, share living in urban areas, share working in agriculture, share with running water, and share with electricity (all values are measured in the 1971 census, and population density measures from the 1980 and 1990 censuses are also included). Standard errors are two-way clustered at the *Ethnographic Atlas* ethnic group-level and the birth province-level. There are 45 ethnic groups and 26 provinces.

Table A15: Robustness of Triple-Differences Estimates of the Differential Effect of Pension Plan Exposure on Traditionally Matrilocal Females to Controls for Baseline Education

	(1) **Primary**	(2) **Secondary**	(3) **University**	(4) **Practice Matrilocality**	(5) **Practice Matrilocality**
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times Intensity_p$	-0.059	-0.228	-0.078	-0.171	-0.178
	(0.103)	(0.075)	(0.030)	(0.047)	(0.046)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times Intensity_p$	-0.007	-0.357	-0.100	-0.466	-0.497
	(0.168)	(0.152)	(0.042)	(0.125)	(0.116)
Birth Province by Matrilocal FE	Y	Y	Y	Y	Y
Ethnicity FE	Y	Y	Y	Y	Y
Birth Province by Birth Year FE	Y	Y	Y	Y	Y
Muslim by Province by Treatment Cohort FE	Y	Y	Y	Y	Y
Cultural Trait Interactions	Y	Y	Y	Y	Y
Linear Time Trend Controls	Y	Y	Y	Y	Y
Population Density Controls	Y	Y	Y	Y	Y
Alternative Program Controls	Y	Y	Y	Y	Y
Baseline Education Controls	Y	Y	Y	Y	Y
Current Province FE	N	N	N	N	Y
Mean Dep. Var.	0.876	0.320	0.056	0.079	0.079
N	4,780,573	4,780,573	4,780,573	4,461,289	4,461,289
Adjusted R^2	0.837	0.823	0.513	0.675	0.733

This table reports triple-differences estimates of the effect of the 1977 institution of the Astek pension plan on women, exploiting the interaction between years exposed to the plan (partial treatment indicates a woman was 6-12 when the pension plan was initiated, and full treatment indicates that she was younger than 6), intensity of treatment (number of offices in the province per 1,000 square miles), and whether an individual belongs to a matrilocal ethnic group, controlling for baseline education levels by matrilocal females. The sample consists of women born between 1959 and 1985 in the 2010 Indonesia census. Cultural Trait Interactions consist of controls for the interaction between traditional plow use, male-dominated agriculture, polygamy, and bride price with the geographic measure of pension plan affectedness, indicator variables for partial and full treatment, and the relevant double interactions. Linear Time Trend Controls consist of linear trends in birth year that are allowed to have different coefficients at the matrilocal-birth province level. Alternative Program Controls are controls for the INPRES school construction program and a water sanitation program interacted with matrilocal-birth year fixed effects. For the Baseline Education Controls, baseline education is measured as the women aged 55-65 by traditionally matrilocal/non-matrilocal status who have completed primary, secondary, and university education, and this is triple interacted with $Intensity_p$ and $I_c^{Part\_Treat}$ or $I_c^{Full\_Treat}$. Standard errors are two-way clustered at the *Ethnographic Atlas* ethnic group-level and the birth province-level. There are 45 ethnic groups and 26 provinces.

Table A16: Robustness of Triple-Differences Estimates of the Differential Effect of Pension Plan Exposure on Traditionally Matrilocal Females to Controls for Provincial Composition

	(1) **Primary**	(2) **Secondary**	(3) **University**	(4) **Practice Matrilocality**	(5) **Practice Matrilocality**
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times I_p^{Q2}$	0.012	-0.023	0.000	-0.006	-0.007
	(0.020)	(0.046)	(0.016)	(0.009)	(0.009)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times I_p^{Q2}$	0.027	-0.059	-0.027	-0.024	-0.025
	(0.045)	(0.046)	(0.017)	(0.016)	(0.016)
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times I_p^{Q3}$	-0.017	-0.077	-0.015	-0.025	-0.027
	(0.019)	(0.023)	(0.007)	(0.009)	(0.009)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times I_p^{Q3}$	0.027	-0.100	-0.028	-0.061	-0.065
	(0.041)	(0.044)	(0.012)	(0.026)	(0.025)
Birth Province by Matrilocal FE	Y	Y	Y	Y	Y
Ethnicity FE	Y	Y	Y	Y	Y
Birth Province by Birth Year FE	Y	Y	Y	Y	Y
Muslim by Province by Treatment Cohort FE	Y	Y	Y	Y	Y
Cultural Trait Interactions	Y	Y	Y	Y	Y
Linear Time Trend Controls	Y	Y	Y	Y	Y
Population Density Controls	Y	Y	Y	Y	Y
Alternative Program Controls	Y	Y	Y	Y	Y
Baseline Composition Controls	Y	Y	Y	Y	Y
Current Province FE	N	N	N	N	Y
Mean Dep. Var.	0.876	0.320	0.056	0.079	0.079
N	4,780,573	4,780,573	4,780,573	4,461,289	4,461,289
Adjusted R^2	0.837	0.823	0.512	0.689	0.737

This table reports triple-differences estimates of the effect of the 1977 institution of the Astek pension plan on women, exploiting the interaction between years exposed to the plan (partial treatment indicates a woman was 6-12 when the pension plan was initiated, and full treatment indicates that she was younger than 6), tercile of treatment, and whether an individual belongs to a matrilocal ethnic group, controlling for baseline provincial composition. The sample consists of women born between 1959 and 1985 in the 2010 Indonesia census. All regressions include the same controls as in Table 5, as well as the Baseline Composition Controls. Baseline composition is measured as the province's share of women 55-65 who are traditionally matrilocal, and this is triple interacted with $I_e^{Matrilocal}$ and $I_c^{Part\_Treat}$ or $I_c^{Full\_Treat}$. Standard errors are two-way clustered at the *Ethnographic Atlas* ethnic group-level and the birth province-level. There are 45 ethnic groups and 26 provinces.

Table A17: Robustness of the Effect of Social Security in Ghana

	(1) **Primary** DD	(2) **Primary** Triple-D	(3) **Secondary** DD	(4) **Secondary** Triple-D	(5) **University** DD	(6) **University** Triple-D	(7) **Practices Patrilocality** DD
	Panel A: Controls for Third-Degree Polynomial Differential Time Trends						
$I_e^{Patrilocal} \times I_c^{Part\_Treat}$	-0.035		-0.010		-0.003		-0.019
	(0.014)		(0.009)		(0.004)		(0.009)
$I_e^{Patrilocal} \times I_c^{Part\_Treat} \times I_e^{Male}$		-0.057		-0.011		-0.006	
		(0.026)		(0.007)		(0.004)	
Sample	Males	All	Males	All	Males	All	Males
Mean Dep. Var	0.623	0.523	0.165	0.127	0.022	0.016	0.116
N	195,629	419,570	195,629	419,570	195,629	419,570	147,343
Clusters	24	24	24	24	24	24	24
Adjusted R^2	0.241	0.260	0.050	0.058	0.010	0.009	0.074
	Panel B: Controls for Differential Baseline Education Levels						
$I_e^{Patrilocal} \times I_c^{Part\_Treat}$	-0.033		0.004		-0.003		-0.015
	(0.012)		(0.004)		(0.002)		(0.006)
$I_e^{Patrilocal} \times I_c^{Part\_Treat} \times I_e^{Male}$		-0.035		-0.008		-0.006	
		(0.014)		(0.005)		(0.002)	
Sample	Males	All	Males	All	Males	All	Males
Mean Dep. Var	0.623	0.523	0.165	0.127	0.022	0.016	0.116
N	195,629	419,570	195,629	419,570	195,629	419,570	147,343
Clusters	24	24	24	24	24	24	24
Adjusted R^2	0.241	0.260	0.050	0.058	0.010	0.009	0.074

This table reports robustness tests for the difference-in-differences and triple-differences estimates of the effect of the 1972 institution of a social security program in Ghana in Table 6 and includes the same set of controls. Difference-in-differences exploit the interaction between exposure to the plan in childhood ($I_c^{Part\_Treat}$ indicates an individual was younger than 12 when the plan was instituted) and whether an individual belongs to a patrilocal ethnic group. The sample consists of individuals born between 1954 and 1975 in the Ghana 2000 census. The difference-in-differences only includes males, and the triple-differences includes both males and females. In Panel A, time trend controls are a third-degree polynomial in birth year (normalized to 1954) interacted with an indicator variable for patrilocal (and with a gender fixed effect in the triple-D), while in Panel B, it is a linear control interacted with $I_c^{Part\_Treat}$ (as in Table 6). Panel B includes controls for the percent of males who have completed primary school, completed secondary school, or attended university by patrilocal status interacted with $I_c^{Part\_Treat}$ (odd columns) or triple-interacted with $I_c^{Part\_Treat}$ and I_e^{Male} (even columns). Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level.

Table A18: The Association Between Education and the Practice of Matrilocality and Patrilocality

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Indonesia Census			**Indonesia IFLS**			**Ghana Census**	
	Dep. Var.: Practice Matrilocality						**Dep. Var.: Practice Patrilocality**	
$I_i^{Primary}$	-0.006	-0.006	-0.003	0.059	-0.001	0.061	0.010	0.010
	(0.006)	(0.006)	(0.015)	(0.036)	(0.015)	(0.036)	(0.004)	(0.005)
			[0.904]	[0.496]	[1.000]	[0.484]		
$I_i^{Secondary}$	0.063	0.064	0.061	0.108	0.056	0.111	-0.015	-0.015
	(0.002)	(0.001)	(0.013)	(0.027)	(0.010)	(0.028)	(0.007)	(0.007)
			[0.000]	[0.000]	[0.000]	[0.000]		
$I_i^{University}$	0.086	0.085	0.019	0.134	0.014	0.137	0.007	0.007
	(0.005)	(0.006)	(0.028)	(0.023)	(0.026)	(0.024)	(0.009)	(0.009)
			[0.640]	[0.000]	[0.688]	[0.000]		
Geographic FE	Y	Y	Y	Y	Y	Y	Y	Y
Age FE	Y	Y	Y	Y	Y	Y	Y	Y
Cultural Trait Controls	N	Y	N	N	Y	Y	N	Y
Muslim Control	N	Y	N	N	Y	Y	N	Y
Parental SES Controls	N	N	N	Y	N	Y	N	N
Mean Dep. Var.	0.116	0.116 .	0.278	0.278	0.278	0.278	0.141	0.141
N	227,182	227,129	871	871	871	871	69,735	69,735
Clusters	26	26	13	13	13	13	110	110
Adjusted R^2	0.059	0.060	0.026	0.789	0.030	0.789	0.084	0.084

This table reports the association between the practices of matrilocality and patrilocality and education. The sample for the Indonesian census (columns 1 and 2) consists of married women aged 25–45 belonging to matrilocal ethnic groups in the Indonesia 2010 census. The sample for the IFLS (columns 3-6) consists of married women belonging to a traditionally matrilocal groups aged 25–45 with a living parent. The sample for Ghana (columns 7 and 8) consists of married men aged 25–45 belonging to patrilocal ethnic groups in the Ghana 2000 census. In the census data, $I_i^{Primary}$, $I_i^{Secondary}$, and $I_i^{University}$ are indicator variables for the highest level of educational completion. In the IFLS, they are indicator variables for highest level of education attended. Geographic fixed effects are province fixed effects in Indonesia and district fixed effects in Ghana. Cultural Trait Controls consist of ethnicity-level indicator variables for bride price traditions, traditional plow use, polygamy, and male-dominated agriculture. Parental SES Controls consist of indicator variables for whether a respondent's parents have attended the following levels of education: any education, secondary, and university. Standard errors are clustered at the province-level in Indonesia and the district-level in Ghana. In the case of the IFLS, wild bootstrap p-values are reported in square brackets.

Table A19: Estimates of the Differential Effect of Pension Exposure Using Variation in Manufacturing Firms' Locations

	(1) **Primary**	(2) **Secondary**	(3) **University**	(4) **Practice Matrilocality**	(5) **Practice Matrilocality**
	Panel A: Difference-in-Differences for Matrilocal Females				
$I_c^{Part\_Treat} \times log(Share\,Manufacturing_p)$	-0.007	-0.005	-0.002	-0.010	-0.011
	(0.005)	(0.004)	(0.002)	(0.002)	(0.002)
$I_c^{Part\_Treat} \times log(Share\,Manufacturing_p)$	-0.030	-0.026	-0.013	-0.019	-0.020
	(0.009)	(0.005)	(0.003)	(0.005)	(0.005)
Birth Province FE	Y	Y	Y	Y	Y
Ethnicity FE	Y	Y	Y	Y	Y
Birth Year FE	Y	Y	Y	Y	Y
Muslim Control	Y	Y	Y	Y	Y
Linear Time Trend Controls	Y	Y	Y	Y	Y
Population Density Controls	Y	Y	Y	Y	Y
Alternative Program Controls	Y	Y	Y	Y	Y
Current Province FE	N	N	N	N	Y
Mean Dep. Var.	0.849	0.316	0.054	0.106	0.106
N	304,286	304,286	304,286	276,906	276,906
Adjusted R^2	0.719	0.734	0.275	0.637	0.715
	Panel B: Triple-Differences				
$I_e^{Matrilocal} \times I_c^{Part\_Treat} \times log(Share\,Manufacturing_p)$	0.001	-0.002	-0.009	-0.007	-0.007
	(0.008)	(0.010)	(0.006)	(0.006)	(0.006)
$I_e^{Matrilocal} \times I_c^{Full\_Treat} \times log(Share\,Manufacturing_p)$	-0.006	-0.016	-0.013	-0.026	-0.027
	(0.017)	(0.014)	(0.004)	(0.012)	(0.012)
Birth Province by Matrilocal FE	Y	Y	Y	Y	Y
Ethnicity FE	Y	Y	Y	Y	Y
Birth Province by Birth Year FE	Y	Y	Y	Y	Y
Muslim by Province by Treatment Cohort FE	Y	Y	Y	Y	Y
Cultural Trait Interactions	Y	Y	Y	Y	Y
Linear Time Trend Controls	Y	Y	Y	Y	Y
Population Density Controls	Y	Y	Y	Y	Y
Alternative Program Controls	Y	Y	Y	Y	Y
Current Province FE	N	N	N	N	Y
Mean Dep. Var.	0.876	0.320	0.056	0.079	0.079
N	4,739,242	4,739,242	4,739,242	4,423,083	4,423,083
Adjusted R^2	0.839	0.825	0.515	0.684	0.738

This table reports difference-in-differences and triple-differences estimates of the effect of the 1977 institution of the Astek pension plan on women, exploiting the interaction between years exposed to the plan (partial treatment indicates a woman was 6-12 when the pension plan was initiated, and full treatment indicates that she was younger than 6), the log share of the labor force that works at manufacturing establishments with more than 100 employees, and (in the triple-differences) whether an individual belongs to a matrilocal ethnic group. The sample consists of women born between 1959 and 1985 in the 2010 Indonesia census. Cultural Trait Interactions consist of controls for the interaction between traditional plow use, male-dominated agriculture, polygamy, and bride price with the geographic measure of pension plan affectedness, and indicator variables for partial and full treatment, as well as the relevant double interactions. In Panel A, Time Trend Controls consist of birth year trends interacted with birth province fixed effects, and in Panel B, the trends are interacted with matrilocal-birth province fixed effects. In Panel A, Alternative Program Controls consist of the INPRES and water/sanitation controls interacted with birth year fixed effects; in Panel B, they are interacted with matrilocal-birth year fixed effects. In Panel A, Population Density Controls are population density, log population density, and share urban (calculated with the 1971 census) interacted with birth year fixed effects; in Panel B, they are interacted with matrilocal-birth year fixed effects. In Panel A, standard errors are clustered at the birth province-level, and in Panel B, they are two-way clustered at the *Ethnographic Atlas* ethnic group-level and the birth province-level. There are 45 ethnic groups and 26 provinces.

Table A20: Differential Effects of the Pension Programs on Total Fertility

	(1)	(2)	(3)
	Dep. Var.: Total Children Born		
	Indonesia DD	Indonesia DDD	Ghana DD
$Affected\ Fertility_c \times Intensity_p$	0.577		
	(1.971)		
$I_e^{Matrilocal} \times Affected\ Fertility_c \times Intensity_p$		0.668	
		(1.645)	
$I_e^{Patrilocal} \times Affected\ Fertility_c$			-0.377
			(0.493)
Mean Dep. Var.	4.354	3.787	6.344
N	81,005	1,142,304	61,549
Adjusted R^2	0.026	0.066	0.055

This table reports estimates of the differential effects of the pension program on fertility in the 2010 Indonesia census data and the 2000 Ghana census data. Column 1 consists of traditionally matrilocal females in Indonesia who were 20–35 in 1977 when the plan was instituted and includes the same controls as Appendix Table A11. Column 2 consists of all Indonesian females who were 20–35 in 1977 when the plan was instituted and includes the same controls as Table 3. Column 3 consists of all females who were 20–35 in 1972 when the plan was instituted in Ghana and includes the same controls as Table 6. In column 1, standard errors are clustered at the birth province level (26). In column 2, they are two-way clustered at the birth province-level and the *Ethnographic Atlas* ethnicity-level (45). In column 3, they are clustered at the *Ethnographic Atlas* ethnicity-level (24).

Table A21: Association Between Education and Long-Term Outcomes in Indonesia and Ghana

	(1)	(2)	(3)	(4)	(5)
		Indonesia			**Ghana**
	Employed	**Log(wage)**	**Wealth Index**	**Employed**	**Wealth Index**
$I_e^{Tradition} \times I_e^{Primary}$	-0.035	-0.044	-0.011	-0.035	-0.068
	(0.027)	(0.038)	(0.090)	(0.006)	(0.023)
$I_e^{Tradition} \times I_e^{Secondary}$	0.055	0.130	-0.152	-0.030	-0.054
	(0.023)	(0.066)	(0.171)	(0.004)	(0.016)
$I_e^{Tradition} \times I_e^{College}$	0.012	0.016	-0.300	0.018	-0.041
	(0.031)	(0.036)	(0.078)	(0.012)	(0.041)
$I_e^{Primary}$	-0.057	0.325	0.820	0.033	-0.101
	(0.006)	(0.013)	(0.020)	(0.001)	(0.007)
$I_e^{Secondary}$	0.053	0.821	1.208	-0.094	0.052
	(0.015)	(0.014)	(0.029)	(0.001)	(0.002)
$I_e^{College}$	0.139	0.233	0.512	-0.032	0.213
	(0.025)	(0.024)	(0.032)	(0.001)	(0.002)
Sample	Females	Females	Females	Males	Males
Ethnicity Controls	Y	Y	Y	Y	Y
Age FE	Y	Y	Y	Y	Y
Province FE	Y	Y	Y	Y	Y
Muslim Control	Y	Y	Y	Y	Y
F-statistic	1.972	1.525	24.402	22.966	8.706
Mean Dep. Var.	0.539	11.560	-0.043	0.846	-0.175
N	84,501	12,421	84,491	190,990	189,539
Clusters	26	23	26	24	24
Adjusted R^2	0.068	0.449	0.297	0.059	0.279

This table estimates the association between education and labor market outcomes and wealth for traditionally matrilocal and non-matrilocal females aged 25-45 in the 1995 Indonesia Intercensal Survey and traditionally patrilocal and non-patrilocal males aged 25-45 in the 2000 Ghana census. $I_e^{Tradition}$ is an indicator variable equal to 1 if an individual is traditionally matrilocal in Indonesia and if an individual is patrilocal in Ghana. In Indonesia, the wealth index is formed by predicting the first principal component of a principal components analysis of indicator variables for ownership of a automobile, tv, radio, buffet, stove, bicycle boat, and motor boat. In Ghana, the wealth index is the predicted first component from a principal components analysis of indicator variables for whether a household has a toilet, whether it has electricity, and whether it has running water, and the number of rooms in the house. For a discussion of this methodology, see Filmer and Pritchett (2001). Standard errors are clustered at the *Ethnographic Atlas* ethnicity level.

Table A22: Traditional Matrilocality and Gender Bias in the Indonesia Family Life Survey

	(1)	(2)	(3)	(4)	(5)	(6)
	Female Makes Decision About:					
	Her Clothes		**Large HH Purchases**		**Her Time Socializing**	
$I_e^{Matrilocal}$	-0.038	-0.019	-0.025	-0.006	-0.037	-0.006
	(0.010)	(0.016)	(0.016)	(0.016)	(0.012)	(0.015)
	[0.002]	[0.338]	[0.220]	[0.678]	[0.084]	[0.746]
Ethnicity Controls	N	Y	N	Y	N	Y
Muslim Control	N	Y	N	Y	N	Y
Gender FE	Y	Y	Y	Y	Y	Y
Age FE	Y	Y	Y	Y	Y	Y
Province FE	Y	Y	Y	Y	Y	Y
Survey Year FE	Y	Y	Y	Y	Y	Y
Mean Dep. Var.	0.880	0.880	0.779	0.779	0.850	0.850
N	20,513	20,506	20,513	20,506	20,513	20,506
Clusters	13	13	13	13	13	13
Adjusted R^2	0.055	0.055	0.058	0.058	0.044	0.045

This table reports the association between traditional matrilocality and measures of gender bias towards females in rounds 3 and 4 of the Indonesia Family Life Survey. The outcome variable for columns 1 and 2 is an indicator variable for a female is listed as making decisions about her clothing. The outcome in columns 3 and 4 is an indicator variable for whether a female is listed as one of the decision-makers about large household purchases, and the outcome in columns 5 and 6 is an indicator variable for whether a female is a decision-maker about how much time she spends socializing. The sample is restricted to respondents aged 25–45. Ethnicity Controls consist of controls for bride price traditions, traditional plow use, polygamy, and male-dominated agriculture. Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level. Because of the relatively small number of clusters in the IFLS, p-values from a wild bootstrap procedure appear in square brackets.

Table A23: Traditional Matrilocality and Old Age Support for Non-Resident Parents in the Indonesia Family Life Survey

	(1)	(2)	(3)	(4)	(5)	(6)
	Any Financial Support		**Log(Financial Support)**		**Days Spent on Chores**	
$I_e^{Matrilocal}$	0.031	-0.034	0.118	0.203	-1.703	-1.045
	(0.029)	(0.020)	(0.221)	(0.220)	(1.247)	(2.287)
	[0.414]	[0.178]	[0.468]	[0.600]	[0.276]	[0.672]
Ethnicity Controls	N	Y	N	Y	N	Y
Muslim Control	N	Y	N	Y	N	Y
Age FE	Y	Y	Y	Y	Y	Y
Province FE	Y	Y	Y	Y	Y	Y
Survey Year FE	Y	Y	Y	Y	Y	Y
Mean Dep. Var.	0.784	0.784	11.962	11.963	8.152	8.150
N	7,213	7,209	4,300	4,297	7,230	7,226
Clusters	13	13	13	13	13	13
Adjusted R^2	0.035	0.044	0.192	0.193	0.028	0.027

This table reports the association between traditional matrilocality and married daughters' aged 25–45 support for parents who do not live with them in rounds 3 and 4 of the Indonesia Family Life Survey. The outcome variable for columns 1 and 2 is an indicator variable for whether a daughter provides parents with any financial support. The outcome in columns 3 and 4 is the log amount of financial support provided by daughters, and the outcome in columns 5 and 6 is the number of days spent on chores for parents in the last 12 months. Standard errors are clustered at the *Ethnographic Atlas* ethnicity-level. Because of the relatively small number of clusters in the IFLS, p-values from a wild bootstrap procedure appear in square brackets.

Table A24: Practicing Matrilocality and Consumption in Old Age

	(1)	(2)
	Log Household Consumption	
$I_i^{Prac.Matrilocality}$	0.154	-0.348
	(0.078)	(0.179)
$I_i^{Daughter\,Primary}$		0.408
		(0.183)
$I_i^{Daughter\,Secondary}$		0.142
		(0.107)
$I_i^{Daughter\,College}$		0.104
		(0.142)
Own Education Controls	Y	Y
Province-Age FE	Y	Y
Gender FE	Y	Y
HH Size Controls	Y	Y
N	772	772
Adjusted R^2	0.416	0.419

This table reports the association between practicing matrilocality and log household consumption for traditionally matrilocal adults aged 55-80 in the 2000 and 2007 Indonesia Family Life Surveys. The outcome variable for columns 1 and 2 is the log of total household monthly consumption. $I_i^{Prac.Matrilocality}$ is an indicator variable equal to 1 if an individual lives with his or her adult daughter, $I_i^{Daughter\,Primary}$ is an indicator variable equal to 1 if the daughter with whom she lives has any primary education, $I_i^{Daughter\,Secondary}$ is an indicator variable equal to 1 if she has any secondary education, and $I_i^{Daughter\,College}$ is an indicator variable equal to 1 if she has attended college. Own education controls include controls for whether individual *i* has any primary schooling, any secondary school, and whether he/she has attended college. Household size controls consist of controls for the number of adults and number of children in the household. The standard errors are heteroskedasticity robust.