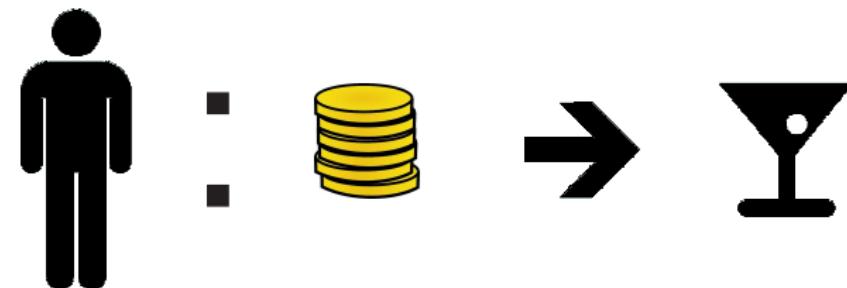
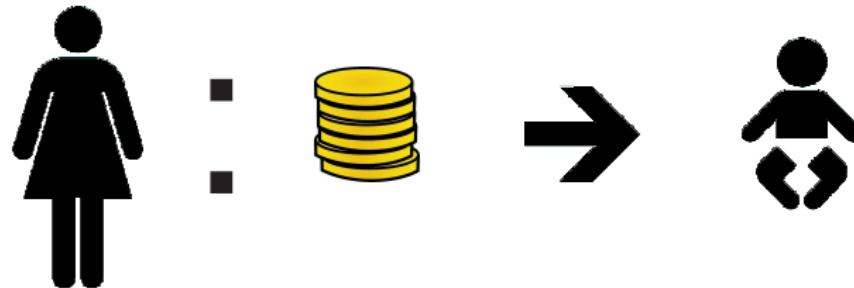


# Does Female Empowerment Promote Economic Development?

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# Evidence



# Development Policy

- ▶ Based on this evidence, various development policies and programs target women.
- ▶ Most prominent examples:
  - ▶ Microcredit.
  - ▶ Conditional cash transfer programs (PROGRESA).

# Questions

- ▶ Does targeting transfers to women and raising female income really benefit children?
- ▶ Do alternative forms of female empowerment have similar effects?

## Answer Not Obvious

- ▶ If men and women acted independently, fairly direct link from evidence to policy implications.
- ▶ But men and women are joined in households and families, and their decisions interact.
- ▶ Need to understand household decision making to assess policy implications.

# This Paper

- ▶ Develop models of household decision making that are consistent with empirical evidence on gender-specific spending.
- ▶ Examine implications of these models for development policy.

## Preview of Results

- ▶ Common models of household decision making are not consistent with the evidence.
- ▶ In models that are consistent with evidence, policies aimed at increasing female wealth and income have unintended consequences.
- ▶ Alternative forms of female empowerment can have opposite effects on spending on children.

# Models of Marital Decision Making

- ▶ Unitary model: Single utility function for household.
  - ▶ Cannot speak to question.
  - ▶ Income pooling result.
- ▶ Cooperative bargaining.
  - ▶ Separate (male and female) utility functions.
  - ▶ Efficient bargaining subject to threat points.
  - ▶ If threat point is divorce, still have income pooling during marriage.
- ▶ Non-cooperative bargaining.
  - ▶ Separate utility functions.
  - ▶ Spouses act independently, play Nash equilibrium.
  - ▶ Focus on this framework.

# General Setup

- ▶ Husband and wife.
- ▶ Derive utility from private goods and continuum of public goods (such as children).
- ▶ Contribute to public goods in form of goods or time.
- ▶ Play Nash equilibrium:
  - ▶ Each spouse chooses own consumption, public-good contributions, and labor supply.
  - ▶ Choices of other spouse taken as given.
- ▶ Focus on how (and whether) relative female wage and wealth affect outcome.

# Non-cooperative Bargaining and Simple Preference Gap is Not Enough

- ▶ Consider model without time inputs where only asymmetry is that women value public goods more:

$$U_g = u(c_g) + \gamma_g \int_0^1 U(C_i) di$$

with  $\gamma_f > \gamma_m$ .

- ▶ Budget constraint:

$$c_g + \int_0^1 C_{g,i} di = y_g.$$

# Non-cooperative Bargaining and Simple Preference Gap is Not Enough

- ▶ As long as both spouses contribute to public goods, still have income pooling result.
- ▶ Allocation depends only on  $y_f + y_m$ , and not gender-specific wealth.
- ▶ Intuition: Spouse with higher wealth will provide more public goods, so that all public goods are equally provided.

# Breaking the Income Pooling Result

1. Subtle preference asymmetry: Spouses value different public goods differently.
2. Simple preference asymmetry + lack of substitutability of male and female contributions to public goods.
3. No preference asymmetry + varying time and good inputs for public goods.

# 1. Subtle Preference Asymmetry

- ▶ Spouses value different public goods:

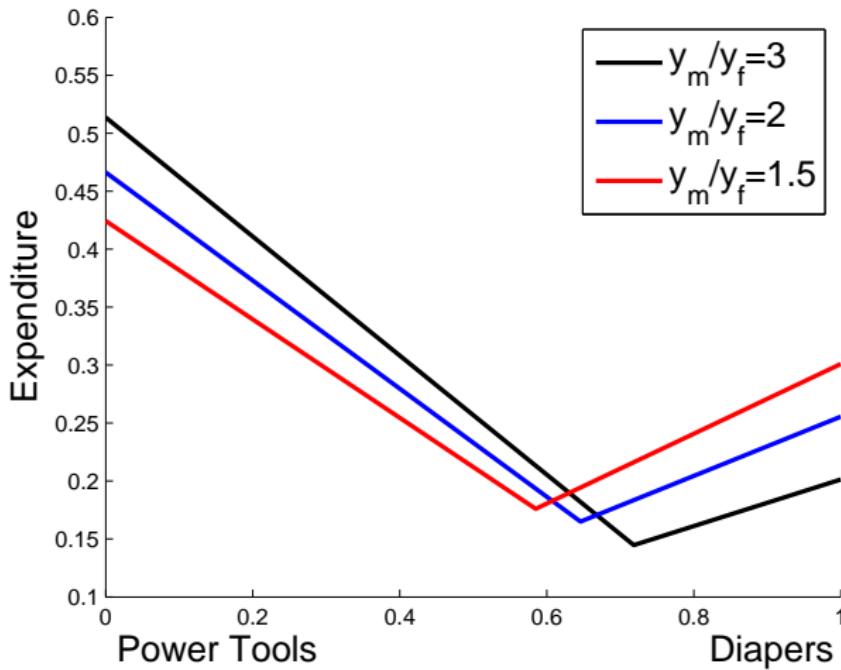
$$U_f = \log(c_f) + \int_0^1 i \log(C_i) di,$$

$$U_m = \log(c_m) + \int_0^1 (1 - i) \log(C_i) di.$$

- ▶ Outcome:
  - ▶ Each spouse provides public goods that she/he values most highly.
  - ▶ Cutoff determined such that each spouse provides same amount at cutoff.

# 1. Subtle Preference Asymmetry

- ▶ Public goods versus female income:



# 1. Subtle Preference Asymmetry

- ▶ Implications for spending patterns:
  - ▶ Spending on different public goods responds to relative female income.
  - ▶ A rise in female income disproportionately benefits the public goods that women care about the most.
  - ▶ If women care more about child goods than men do, model is consistent with evidence.
- ▶ Policy implications:
  - ▶ Rise in spending on “female” public goods comes at the expense of other public goods.
  - ▶ Share of spending on public goods actually declines as female income share approaches 50 percent.

## 2. Simple Preference Asymmetry + Lack of Substitutability

- ▶ Back to simple preference asymmetry:

$$U_g = \log(c_g) + \gamma_g \int_0^1 \log(C_i) di.$$

- ▶ Husband and wife make separate contributions to each good that are not perfect substitutes:

$$C_i = \sqrt{e_{if}} \sqrt{e_{im}}.$$

## 2. Simple Preference Asymmetry + Lack of Substitutability

- ▶ Implications for spending patterns:
  - ▶ Fixed shares of income spent on private consumption and public-good contributions.
  - ▶ If  $\gamma_f > \gamma_m$ , raising female income share increases spending public goods.
- ▶ Policy implications:
  - ▶ Microfoundation for  $\gamma_f > \gamma_m$ : limited range of or access to female consumption goods.
  - ▶ Reducing gender discrimination in consumption market lowers public good spending.
  - ▶ Different forms of female empowerment have opposite effects on public good spending.

### 3. No Preference Asymmetry + Time and Good Inputs

- ▶ Husband and wife have same preferences, but public goods differ in importance of time input  $h$  versus goods input  $e$ :

$$C_i = C_{if} + C_{im},$$

$$C_{ig} = h_{ig}^i e_{ig}^{1-i}.$$

- ▶ Husband and wife divide time between working and providing public goods.
- ▶ Wages are gender specific.
- ▶ Can distinguish between changes in relative female wage and relative female wealth.

### 3. No Preference Asymmetry + Time and Good Inputs

- ▶ Nash equilibrium:
  - ▶ Spouse with lower wage specializes in provision of public goods that are more time-intensive.
  - ▶ At the cutoff between male and female goods provision, same amount of public good is provided.
- ▶ Implications of an increase in relative female wealth:
  - ▶ Assume that children are time-intensive and that women have lower wages than men.
  - ▶ Then an increase in relative female wealth will increase goods expenditure on children.

### 3. No Preference Asymmetry + Time and Good Inputs

- ▶ Implications of an increase in relative female wage:
  - ▶ Wife provides wider range of goods.
  - ▶ Public goods spending by wife goes up, but time input goes down.
  - ▶ Total provision of most time-intensive goods goes down.
- ▶ Policy implications:
  - ▶ Higher female wages versus higher transfers to women can have opposite effects.
  - ▶ Higher goods spending on children does not imply that children are better off: time inputs also matter.

# Investment Distortions

- ▶ In dynamic setting, similar results if investment distortions tilt female spending (on both public and private goods) towards the present.
  - ▶ Lack of access to savings.
  - ▶ Implicit tax through expected transfer from husband.
  - ▶ Saving through spending on (male) children.
- ▶ Policy implication:
  - ▶ Increased spending on children may come at the expense of overall investment.

# Answers

- ▶ Does targeting transfers to women and raising female income really benefit children?
- ▶ Uncertain: increased child spending may come at the expense of . . .
  - ▶ . . . other public goods.
  - ▶ . . . time with children.
  - ▶ . . . investment.

# Answers

- ▶ Do alternative forms of female empowerment have similar effects?
- ▶ No: different implications for . . .
  - ▶ . . . changes in relative wages.
  - ▶ . . . changes in relative wealth.
  - ▶ . . . changes in access to consumer or investment markets.

# Conclusions

- ▶ Need good models of family decision making to understand investments in children.
- ▶ Evidence narrows down set of viable models.
- ▶ Still, policy implications highly sensitive to details of model.
- ▶ More empirical research is needed to distinguish between models.