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Gender training and female empowerment: Experimental evidence from Vietnam

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HIGHLIGHTS

- We combine an RCT and lab-in-the field game to analyze intra-household bargaining.
- In Vietnam, the preferences of men dominate household decision-making.
- After participating in a gender & business training, the gender gap is attenuated to a large extent.
- It does not matter whether husbands are also invited to participate in the trainings.

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ABSTRACT

We combine an RCT and a lab-in-the-field experiment to explore how participating in an 'entrepreneurship and gender' training affects the intra-household bargaining position of women. While male preferences dominate household decisions, the training attenuates the bargaining gap considerably. Inviting husbands to participate in the training does not further improve outcomes.

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1. Introduction

Realistic models of household behavior capture bargaining between spouses. A large literature suggests men and women have different preferences for the bundle of commodities the household should consume. A widespread concern among development economists is that, in patriarchal societies, the preferences of men carry more weight than the preferences of their spouses. As a result, women empowerment has emerged as an important policy objective in recent decades. Among other things, giving women a greater say in the management of household affairs is expected to increase investments in human capital of children (e.g., Thomas, 1990, Hoddinott and Haddad, 1995, Duflo, 2003 and Majlesi, 2015).

How to empower women? Bargaining models suggest that improving the 'threat point' of women, or their utility level upon

dissolving the relationship, should make them more powerful. This can be achieved, for example, by boosting their income-earning potential via business or entrepreneurship trainings. Another approach focuses on enhancing awareness and altering social norms via the provision of information. This can be achieved by gender trainings.

The main objective of this paper is twofold. First, we use a randomized controlled trial to study how the bargaining position of female entrepreneurs in Vietnam is affected by participating in an entrepreneurship and gender training. Second, we introduce an extra treatment arm in which we invited husbands of women to participate in the training as well. Women may suffer from increased intra-household conflict when they become involved in microfinance activities or trainings in case their husbands feel excluded (Allen et al., 2010). Moreover, if husbands participate in the modules on gender equality, they may update their beliefs about appropriate behavior. We empirically probe to what extent these considerations are important.

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2. Background and intervention

A random subsample of Vietnamese female entrepreneurs is exposed to a training provided by TYM fund, the largest microfinance organization in northern Vietnam. TYM provides financial and non-financial services to its members during regular center meetings. The training aims to improve business skills and gender equality, and is based on the Gender and Entrepreneurship Together (GET) Ahead for Women in Enterprise Training Package and Resource Kit, designed by the International Labor Organization (ILO). The entire program contains nine modules, of which two focus on “gender equality”. For a detailed analysis of the mid-term and long-term impacts of the training on business knowledge, practices and outcomes, refer to [Bulte et al. \(in press\)](#).

A training module lasts 45–60 min, and is provided at monthly center meetings. Additional discussions about the module are organized during weekly sessions. The first training was organized in February 2012. Participation was free of charge, voluntary, and there was nearly full compliance: more than 95% of the selected women participated in all sessions. Training sessions were held in TYM branches in the provinces Vinh Phuc and Ha Noi. We randomly assigned 187 centers in these provinces to three groups: two treatment groups (T1 and T2) and a control group (C):

- T1: 70 lending centers in which male partners were invited to join the training;
- T2: 31 lending centers in which male partners were not invited to join the training; and
- C: 86 lending centers receiving no additional services, beyond regular credit and savings services.

We test whether gender trainings play the role of a distribution factor: affecting the relative bargaining weight of women, but not individual preferences. This is motivated by the content of the training, which includes two modules on gender equality and on building self-confidence. The training also includes seven modules on issues related to entrepreneurship, which could affect bargaining weight by shifting the threat point of trained women.

To incentivize husbands to attend the training sessions, we provided financial compensation for attended modules. We varied the payment across modules, paying the largest sums for the two gender modules. The great majority of invited husbands participated in these modules, and skipped most of the other ones. On average, invited husbands attended about 4 training sessions, and our results should be interpreted as Intention To Treat Effects (ITT).

3. Measuring bargaining power

We measure bargaining power using convex-time budget (CTB) games ([Andreoni and Sprenger, 2012](#)). We invited random subgroups of the three experimental arms to participate in the lab-in-the-field experiment, and also invited all husbands to come along and play. We selected 115 couples from T1, 110 couples from T2, and 114 couples from C. In total, 339 females and 339 husbands played the game. We elicited time preferences for couples and for females and husbands separately, and follow [Yang and Carlsson \(2012\)](#) to explain the joint decision by spouses' individual decisions.

For the CTB, we asked subjects to allocate a budget of 80,000 VND (USD 4, or about one day of income for unskilled labor) over sooner and later outcomes, possibly seeking an ‘interior allocation’ (allocating part of their budget to the sooner period). Each participant made 20 allocation decisions. The sooner period occurred at time t , and the later period occurred k days later (hence at $t + k$). We distinguish two times t : four days after the experimental day (the ‘near time frame’) and 32 days after

the experimental day (the ‘far time frame’). We also distinguish between $k = 28$ days and $k = 56$ days. Subjects allocating money to the later period gain a pre-specified rate of return, r . We refer to each (t, k) combination as a choice set, and each choice set had five rates of return (ranging between a daily rate of 0.04% and 1.46%). Intertemporal choice decisions were incentivized by randomly selecting one choice for actual payment. Participants received a voucher indicating when the payment could be collected at the TYM branch office.

Games were played separately by the wives and their husbands, revealing their individual preferences. Next, the same decisions were made by the couples jointly, allowing us to compute the implied bargaining power of the spouses. For our full sample of 6710 choices, $c_t - c_{t+k} = -63,621$. For the sub-sample of 4235 choices that excludes corner solutions, we obtain $\ln c_t - \ln c_{t+k} = -1.22$.¹

4. Identification

Assume subjects devise a two-period consumption plan that maximizes utility, subject to an intertemporal budget constraint: $c_t + \frac{c_{t+k}}{1+r} = m$ (where c_t is consumption at time t , r is the constant interest rate, and m is the endowment). Assume a time-separable CRRA utility function: $U(c_t) = \frac{c_t^{1-\theta}}{1-\theta}$, when $\theta > 0$ and $\theta \neq 1$, and $U(c_t) = \ln(c_t)$ for $\theta = 1$. The parameter θ measures the degree of relative risk aversion. The tangency condition yields:

$$\ln c_{t+k} - \ln c_t = \frac{\ln \delta}{\theta} k + \frac{1}{\theta} \ln(1+r) \quad (1)$$

where δ is the one-period discount factor. Using the allocations from the CTB, θ and δ can be jointly estimated.

According to [Browning and Chiappori \(1998\)](#), a household's jointly discounted utility can be expressed as $V_j = \mu_h \cdot U_h + \mu_w \cdot U_w$ where V_j is joint utility, U_h and U_w represent, respectively, the husband's and wife's utility, and μ_h and μ_w denote the bargaining power of these spouses (measuring how individual preferences are aggregated into household joint decisions). To gauge bargaining power empirically, we follow [Yang and Carlsson \(2012\)](#), and consider:

$$(\ln c_{t+k} - \ln c_t)_{couple}^* = C + \alpha(\ln c_{t+k} - \ln c_t)_{husband}^* + \beta(\ln c_{t+k} - \ln c_t)_{wife}^*, \quad (2)$$

where superscript $*$ refers to decisions as measured in the experiment. The equation includes a constant and does not restrict $\alpha + \beta = 1$ (enabling joint decisions to be outside of the range of individual decisions). The bargaining power of wives is captured by the ratio $R = \frac{\beta}{\alpha}$ so that for $R > 1$ the preferences of wives carry more weight than those of their spouses.

Since we want to measure whether the bargaining position of women is affected by participation in the training, we estimate the following model:

$$\begin{aligned} (c_{t+k} - c_t)_{couple}^* = & C + \gamma * T1 + \delta * T2 \\ & + (\zeta * T1 + \eta * T2 + \alpha) * (c_{t+k} - c_t)_{husband}^* \\ & + (\iota * T1 + \lambda * T2 + \beta) * (c_{t+k} - c_t)_{wife}^*. \end{aligned} \quad (3)$$

We assume time preferences of individuals are “deep parameters” varying at the level of the individual, and that time preferences themselves are unaffected by the training intervention (or that

¹ [Andreoni and Sprenger \(2012\)](#) found that about 70% of the observations were corner solutions. In our case, the percentage of corner solutions is smaller: about 35%. These observations will be dropped from the estimations.

time preferences are properly exogenous regressors in (3)). This is supported by our data: the average rate of time preference for both men and women is not correlated with treatment status—not shown.

We can now calculate the bargaining power of women for the three experimental groups: $R(T1) = \frac{\lambda+\beta}{\zeta+\alpha}$; $R(T2) = \frac{\lambda+\beta}{\eta+\alpha}$ and $R(C) = \frac{\beta}{\alpha}$.

5. Estimation results

Respondents understood the game well, and we obtained patterns in the experimental data that are comparable to those from earlier studies. When analyzing the play of the female clients, and including a constant and demographic variables, we find an annual discount rate of 0.78, which is higher than that estimated by Andreoni and Sprenger (2012) but in the same ballpark as OLS results reported by Andreoni et al. (2015). The curvature parameter is estimated at 0.62, which is not unlike outcomes based on the DoubleMultiple Price List approach (using Holt and Laury risk measures)—see Andreoni et al. (2015).

Next turn to our main result. Table 1 gives the results of a simple OLS regression, showing the impact of the. We calculate female bargaining power for the three experimental groups. Our results are consistent with those of Yang and Carlsson (2012) who analyzed intra-household bargaining in China. Specifically, while both spouses have a significant influence on joint decisions, we find that the preferences of husbands are more important. Omitting insignificant coefficients from the computation we find that $R(C) = 0.392$ (or 0.208/0.531).² Insofar as women have stronger preferences for investing in human capital of their offspring than husbands, this finding fuels the concern that such investment levels may be ‘too low’.

However, and extending Yang and Carlsson (2012), we also find bargaining power is amenable to outside intervention. Across both treatment arms we find bargaining ratios that are much closer to unity: $R(T1) = 0.853$ (husbands attending trainings) and $R(T2) = 0.746$ (without husbands attending the training).³ These two outcomes are both statistically different from 0.392 ($p < 0.05$), but are not statistically different from each other.

In other words, participation in the entrepreneurship and gender training (nearly) doubled the bargaining ratio, reflecting that the joint decisions of the household are more closely aligned to female preferences.⁴ Insofar as the training affected intra-household financial decision making in real life (e.g. decisions on savings), this finding would be consistent with Yang and Carlsson (2012) who also find a correlation between real-life financial decisions and influence in the experiment (also see Majlesi, 2015).

6. Conclusions

When preferences of household members do not coincide, members have to bargain over the allocation of surpluses. Earlier empirical work suggested that females tend to have stronger preferences for human capital of children, which is one reason why development interventions are increasingly geared towards empowering women. But how can we empower women?

² This result is not surprising. Vietnam is characterized as a deeply patriarchal society, with traditional gender norms based on Confucianism and Buddhism (Duvvury et al., 2012). While, according to the Vietnam Country Gender Assessment (VCGA, World Bank, 2011), Vietnam has made progress in terms of gender equality, a serious gender gap remains.

³ $(0.208 + 0.188)/(0.531) = 0.746$ and $(0.208 + 0.245)/(0.531) = 0.853$.

⁴ We also find (not shown) that the training did not affect the solo allocation of the wife, so it did not alter the female rate of time preference.

Table 1

Female bargaining power and training participation.

$(\ln c_{t+k} - \ln c_t)_{\text{husband}}^*$	0.531*** (2.7e–08)
$(\ln c_{t+k} - \ln c_t)_{\text{wife}}^*$	0.208*** (0.008)
$(\ln c_{t+k} - \ln c_t)_{\text{wife}}^* \cdot T1$	0.188* (0.063)
$(\ln c_{t+k} - \ln c_t)_{\text{wife}}^* \cdot T2$	0.245* (0.074)
$(\ln c_{t+k} - \ln c_t)_{\text{husband}}^* \cdot T1$	–0.155 (0.222)
$(\ln c_{t+k} - \ln c_t)_{\text{husband}}^* \cdot T2$	–0.139 (0.384)
T1	–0.136 (0.368)
T2	0.099 (0.585)
C	–0.445*** (9.5e–05)
Observations	2261
R-squared	0.363

Notes: Dependent variable: joint allocation: $\ln c_t - \ln c_{t+k}$. Robust p-values in parentheses. Standard errors clustered at the level of the individual or couple. Clustering at the credit center level does not affect the results as most centers supply only one couple. Including controls (age, education, Communist Party membership) does not qualitatively affect the results.

* $p < 0.1$.

*** $p < 0.01$.

In this study, based on experimental data from rural Vietnam, we document that the preferences of husbands indeed tend to dominate those of their wives. But we also find that the bargaining position of wives can be fortified by external interventions. We consider the case of an intensive entrepreneurship and gender training, and document strong effects on gender equality. Participation of husbands did not further increase the effectiveness of the training, but also did not diminish it. The entrepreneurship component of the training may enhance the income earning potential of women (improving the threat point upon relationship dissolving) and the gender component seeks to build confidence and instill norms of gender equality. Future work should identify which of these potential mechanisms explains the intervention's success.

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