Female Empowerment: Impact of a Commitment Savings Product in the Philippines ☆

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Summary. — Female "empowerment" has increasingly become a policy goal, both as an end to itself and as a means to achieving other development goals. Microfinance in particular has often been argued, but not without controversy, to be a tool for empowering women. Here, using a randomized controlled trial, we examine whether access to and marketing of an individually held commitment savings product lead to an increase in female decision-making power within the household. We find positive impacts, particularly for women who have below median decision-making power in the baseline, and we find this leads to a shift toward female-oriented durables goods purchased in the household.
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1. INTRODUCTION

Female "empowerment" has increasingly become a policy goal, both as an end to itself and as a means to achieving other development goals.[1] A growing literature on intra-household bargaining finds that exogenous increases in female share of income, interpreted as providing the female more power in the household, lead to an allocation of resources that better reflect preferences of the woman (Duflo, 2003; Rangel, 2005). This often leads to greater investment in education, housing, and nutrition for children (Thomas, 1990, 1994; Thomas & Strauss, 1995; Duflo, 2003). Many development interventions have thus focused on transferring income as a way of inducing empowerment (Adato, de la Brière, Mindek, & Quisumbing, 2000).

However, it is not clear in theory that transfers of income alone to women can improve their status in the household. Marginal increases in income given to women may be bargained over in the same way as the existing income, and are therefore not guaranteed to lead to gains in bargaining power.[2] On a policy level, microfinance proponents often argue that these empowerment mechanisms justify increased attention and financing to microfinance institutions, and perhaps even subsidies (Hashemi, Schuler, & Riley, 1996; Kabeer, 1999). However, there is little rigorous evidence that expanding financial access and usage can promote female empowerment.

What may be more important than providing access to additional sources of income, or simply expanding access to finance, is giving control and property rights over allocated money.[3] Household power could be increased directly by interventions which lead women to have more control over the existing assets. This could be done explicitly through financial accounts in her and only her name, or through marketing or training which encourage separate assets. In theory, such interventions could be unwound by adjustments to the control over other assets in the household. Nevertheless, it is unknown whether simply expanding access to products and training that can directly impact *financial* control, and thus in turn affect overall household power of women.

Using a randomized control trial, we implemented a program which provided a financial savings account whose use was controlled by an individual and/or provided direct marketing to facilitate personalized savings goals. This program did not necessarily increase income in the household (in fact, we have no evidence that it did so); rather it offered individuals a savings vehicle over which only the account holder has control.

Specifically, we designed and implemented a commitment savings product with the Green Bank of Caraga, a rural bank in the Philippines. Current bank clients were randomly chosen to either (a) "savings commitment treatment" (SEED): receive

an offer to open a "commitment" account accessible only by them, and which does not mature until a pre-specified goal is reached,[4] (b) "marketing treatment": receive one-on-one marketing about the importance of saving for a goal, or (c) control: no household visit. The savings commitment device could benefit those with self-control, but could also benefit those with familial or spousal control issues. Indeed, the literature on household savings, and on informal savings devices in particular, has emphasized motivations for both reasons (Anderson & Baland, 2002; Gugerty, 2007).

Those who choose to open such accounts are likely fundamentally (and un-observably) different from those who do not open such accounts, and thus a comparison of account-holders to non-account-holders would be plagued by a selection bias. By using a randomized control trial, and comparing those who were *offered* the account to those who were not, we are able to draw causal inference about the impact of the account itself (i.e., and not a self-selection bias in which impact estimates are confounded by account openers being motivated to save) on household dynamics.

We reported earlier (Ashraf, Karlan, & Yin, 2006) that after one year individuals who were offered the product increased their savings by 81% relative to a control group, and that in accordance with the theoretical literature on hyperbolic preferences (Laibson, 1997; O'Donoghue and Rabin, 1999) and dual-self models (Fudenberg & Levine, 2005; Gul & Pesendorfer, 2001, 2004), time-inconsistent individuals were the ones most likely to demonstrate a preference for this commitment.

Using two new sources of data, a follow-up survey collected after one year and administrative bank data collected after two and a half years, we examine here the impact of this commitment savings product on both self-reported decision-making processes within the household and the subsequent household allocation of resources. We find positive impacts, particularly for women who have below median decision-making power in the baseline, and we find this leads to a shift toward female-oriented durables goods purchased in the household.

This paper proceeds as follows. Section 2 describes the commitment savings product and the experimental design. Section 3 presents the empirical results on household decision making and self-perception of savings behavior. Section 4 concludes with a discussion of the theoretical mechanisms through which this impact may have occurred.

2. INTERVENTION AND EXPERIMENTAL DESIGN

(a) *The SEED account*

We designed and implemented a commitment savings product called a SEED (Save, Earn, Enjoy Deposits) account with the Green Bank of Caraga, a small rural bank in Mindanao, Philippines. The SEED account requires that clients commit not to withdraw funds that are in the account until they reach a goal date or amount but does not explicitly commit the client to deposit funds after opening the account. The SEED accounts are *individual* accounts, even if the participants were married. There are three critical design features to the account, one regarding withdrawals and two regarding deposits. First, individuals restricted their rights to withdraw funds until they reached a specific goal. Clients could restrict withdrawals until a specified month when large expenditures were expected, for example, the beginning of school, Christmas, a particular celebration, or when business needs arose. Alternatively, clients could set a goal amount and only have access to the funds once that goal was reached (e.g., saving a quantity of money

Table 1. *Clients' specific savings goals*

	Frequency	Percent
Christmas/birthday/celebration/graduation	97	48.0
Education	42	20.8
House/lot construction and purchase	21	10.4
Capital for business	20	9.9
Purchase or maintenance of machine/ automobile/appliance	8	4.0
Agricultural financing/investing/maintenance	4	2.0
Vacation/travel	4	2.0
Personal needs/future expenses	3	1.5
Did not report reason for saving	2	1.0
Medical	1	0.5
Total	202	100.0
Date-based goals	140	69.3
Amount-based goals	62	30.7
Total	202	100.0
Bought Ganansiya box	167	82.7
Did not buy Ganansiya box	35	17.3
Total	202	100.0

known to be needed for a new roof). The clients had complete flexibility to choose which of these restrictions they would like on their account. Once the client had made the decision they could neither change it, nor could they withdraw from the account until they met their chosen goal amount or date.[5] After the goal is reached, the SEED client, not his or her spouse, could withdraw the funds. All clients, regardless of the type of restriction they chose, were encouraged to set a specific savings goal as the purpose of their SEED savings account. SEED marketers insisted that the client herself or himself, and not another household member, set the goal.[6] Table 1 shows a list of the savings goals selected broken down by percentage of the group that selected them.

The savings goal was written on the SEED form used to open the account, as well as on a "Commitment Savings Certificate" that was given to the client to keep. Forty-eight percent of clients reported wanting to save for a celebration, such as Christmas, birthday, or fiesta.[7] Twenty-one percent of clients chose to save for tuition and education expenses, while 20% of clients chose business and home investments as their specific goals.

The bank offered each SEED client a locked box (called a "ganansiya" box) for a small fee in order to encourage deposits. This locked box is similar to a piggy bank: it has a small opening to deposit money and a lock to prevent the client from opening it. In our setup, only the bank, and not the client, had a key to open the lock. Thus, in order to make a deposit, clients need to bring the box to the bank periodically. Of the 202 clients who opened SEED accounts, 167 opted for this box. This feature can be thought of as a mental account with a small, physical barrier; the box is merely a mechanism that provides individuals a way to save their small change. Individuals put loose change or bills on an occasional basis, hence making "deposits" that normally would be too small to warrant a trip to the bank. These small daily "deposits" keep cash out of one's (and others') pocket; eventually, once enough money accumulates in the box, the client deposits the funds at the bank. The barrier, however, is largely psychological; the box is easy to break and hence is a weak physical commitment at best.[8]

Other than providing a possible commitment savings device, no further benefit accrued to individuals with this account. The interest rate paid on the SEED account was identical to the interest paid on a normal savings account (4% per annum).

(b) *The experimental design and data collection*

Our sample for the field experiment consists of 4,001 adult Green Bank clients who have savings accounts in one of two bank branches in the greater Butuan City area, and who have identifiable addresses. We randomly chose 3,125 of 4,001 bank clients to interview for our baseline survey. We then performed a second randomization to assign these individuals to three groups: commitment-treatment (T), marketing-treatment (M), and control (C) groups. One-half the sample was randomly assigned to T, and a quarter of the sample each were randomly assigned to groups M and C. We verified at the time of the randomization that the three groups were not statistically different in terms of preexisting financial and demographic data. Of the 3,125, 1,776 were located by the survey team and then completed a survey. Table 2 provides summary statistics, broken down by treatment and control groups. See Ashraf *et al.* (2006) for analysis that shows that the treatment and control groups were observably statistically similar at the time of the baseline.

Next, we trained a team of marketers hired by the partnering bank to go to the homes and/or businesses of the clients in the commitment-treatment group, to stress the importance of savings to them—a process which included eliciting the clients' motivations for savings and emphasizing to the client that even small amounts of saving make a difference—and then to offer them the SEED product. We were concerned, however, that this special (and unusual) face-to-face visit might in and of itself inspire higher savings.[9]

To address this concern, we created a second treatment, the "marketing" treatment. We used the same exact script for both the commitment-treatment group and the marketing-treatment group, up to the point when the client was offered the SEED savings account. For instance, members of both treatment groups were asked to set specific savings goals for themselves, write those savings goals into a specific "encouragement" savings certificate, and talk with the marketers about how to reach those goals. However, members of the marketing-treatment group were neither offered nor allowed to open the SEED account. The bank staff was trained to

Table 2. *Summary statistics*

	All (1)	Control (2)	Treatment (3)	Marketing (4)	F statistic (5)
Total	3,125	803	1,553	769	
Completed baseline survey	1,776	469	842	465	
Completed follow-up survey	1,629	428	771	430	
Baseline					
Female, proportion	0.595	0.624	0.601	0.558	0.136
Married, proportion	0.773	0.806	0.767	0.753	0.151
Household decision-making power index 1	1.209 (0.422)	1.225 (0.423)	1.220 (0.416)	1.171 (0.432)	0.190
Household decision-making power index 2	0.004 (0.812)	0.024 (0.799)	0.019 (0.808)	−0.045 (0.834)	0.480
Household decision-making power index 1 (married female)	1.264 (0.401)	1.288 (0.385)	1.271 (0.399)	1.220 (0.424)	0.275
Household decision-making power index 2 (married female)	0.026 (0.799)	0.091 (0.739)	0.036 (0.803)	−0.076 (0.856)	0.167
Total savings at Green Bank, MIS	509.974 (506.408)	536.489 (515.373)	504.440 (500.692)	493.505 (507.773)	0.423
Total household savings	5,428.758 (15,781.820)	5,894.524 (16,279.700)	5,764.304 (18,305.750)	4,363.517 (8,852.169)	0.262
Total household informal savings	967.125 (4,641.664)	968.960 (5,697.623)	1,078.983 (4,988.806)	764.733 (2,171.288)	0.531
Savings in shared accounts (client is not the principal user)	211.739 (2,784.990)	335.801 (3,533.014)	202.528 (2,885.735)	104.767 (1,426.876)	0.475
Formal savings of other household members	1,212.963 (7,365.828)	1,143.356 (7,212.905)	1,445.227 (8,639.445)	865.791 (4,462.855)	0.415
Followup					
Household decision-making power index 1	1.103 (0.286)	1.090 (0.289)	1.117 (0.285)	1.093 (0.282)	0.270
Household decision-making power index 2	−0.001 (0.775)	−0.048 (0.799)	0.040 (0.766)	−0.027 (0.763)	0.203
Household decision-making power index 1 (married female)	1.168 (0.273)	1.140 (0.266)	1.193 (0.270)	1.152 (0.284)	0.068
Household decision-making power index 2 (married female)	0.079 (0.779)	−0.003 (0.773)	0.159 (0.771)	0.017 (0.789)	0.036

Standard deviations are reported in the parentheses. Household decision making power indices are composed from answers to "Who decides" on the following nine domains: what to buy at the market, expensive purchases, giving assistance to family members, family purchases, recreational use of the money, personal use of the money, number of children, schooling of children, and use of family planning. The value for each item takes zero if the decision making is done by spouse, one if the decision making is done by the couple, and two if decision making is done by the respondent. Index 1 is the equally weighted mean of an individual's responses across the nine decision categories; index 2 is the first factor of an individual's responses across the nine categories. The factor index (2) is created only for those who have no missing response to the nine questions on household decision-making power, and thus removes all individuals without children. Analytical results throughout do not change if index 1 is calculated with the same sample restriction as index 2.

refuse SEED accounts to members of the marketing-treatment and control groups, and to offer a "lottery" explanation: clients were chosen at random through a lottery for a special trial period of the product, after which time it would be available for all bank clients. Green Bank reported that this happened on fewer than ten occurrences. [10]

After one year, we conducted a follow-up survey on each of the participants. We completed follow-up surveys on 92% of those in the baseline. Those in the treatment group were equally likely to complete a follow-up survey as those in the marketing or control group. This survey contained three sections: (1) inventory of assets, in order to measure whether the impact on savings represented a net increase in savings or merely a crowd-out of other assets, whose results are reported in a separate paper (Ashraf, Karlan, & Yin, 2008); (2) impact on household decision making and savings attitudes; and (3) impact on economic decisions, such as the purchase of durable goods, health, and consumption.

3. IMPACT ON HOUSEHOLD DECISION MAKING AND SELF-PERCEPTION OF SAVINGS BEHAVIOR

(a) Household decision-making power

We first examine whether being offered the SEED account changed the decision-making roles in the household. In the follow-up survey, we ask questions regarding family planning, financial, and consumption decisions in order to ascertain the structure of spousal or familial control within married households. For each decision category, we record whether the principle decision-maker is the respondent, the spouse, or both. Responses are assigned values of two, zero, and one, respectively. We construct two decision-making indices from the nine decision categories: (1) equally weighted mean of each response given, and (2) a linear combination, determined through a factor analysis, of the individual responses to each question (Pitt, Khandker, & Cartwright, 2006). The nine categories refer to decisions on what to buy at the market, expensive purchases, giving assistance to family members, family purchases, recreational use of the money, personal use of the money, number of children, schooling of children, and use of family planning. [11]

Table 3 shows the impact of treatment assignment on household decision making. Household decision making comprises control over the following decisions: what to buy at the market, purchase of expensive items, giving assistance to family members, family purchases, recreational use of the money, personal use of the money, number of children, schooling of children, and use of family planning.

Panel A provides the results for the full sample, Panel B for married women and Panel C for married men. [12] The strongest results are for married women. [13] We find that assignment to the treatment group leads to a 0.14 standard deviation increase in the first (equally weighted) decision-making index (Table 3, Panel B, Column 1), and a 0.25 standard deviation increase in the second (factor-analysis) decision-making index (Table 3, Panel B, Column 3). [14] In Table 4, we separately analyze the impact on women who began the year below (above) the median decision-making power. We find that the average effect is largely driven by increases in decision-making ability for women who were *below* the baseline median (comparing Panels A and B in Table 4)—a fact consistent with initially less-empowered women experienced the largest gains in decision-making ability through increased financial savings and control over committed assets. In contrast, we find no such

Table 3. *Impact on the aggregate household decision-making power. Sample: Individuals who have children and whose spouses/partners live in the same household*

	Index 1 (mean)		Index 2 (factor)	
	Level (1)	Change (2)	Level (3)	Change (4)
Panel A: All				
Treatment	0.029	0.040	0.107**	0.124*
	(0.018)	(0.028)	(0.053)	(0.064)
Marketing	0.012	0.052	0.054	0.102
	(0.021)	(0.033)	(0.061)	(0.076)
Constant	0.778***	−0.138***	−0.061	−0.080
	(0.028)	(0.021)	(0.043)	(0.050)
Observations	1,184	1,184	1,114	1,114
R-squared	0.14	0.00	0.12	0.00
Panel B: Female				
Treatment	0.056**	0.073**	0.198***	0.241***
	(0.023)	(0.034)	(0.069)	(0.080)
Marketing	0.023	0.071*	0.087	0.192*
	(0.027)	(0.042)	(0.085)	(0.103)
Constant	0.793***	−0.147***	−0.032	−0.090
	(0.040)	(0.025)	(0.054)	(0.060)
Observations	643	643	600	600
R-squared	0.16	0.01	0.15	0.01
Panel C: Male				
Treatment	0.001	−0.002	0.006	−0.019
	(0.029)	(0.047)	(0.083)	(0.103)
Marketing	0.018	0.030	0.041	0.012
	(0.032)	(0.052)	(0.091)	(0.115)
Constant	0.791***	−0.125***	−0.105	−0.068
	(0.039)	(0.037)	(0.069)	(0.084)
Observations	541	541	514	514
R-squared	0.10	0.00	0.09	0.00

Robust standard errors in parentheses. Dependent variable: index of household decision-making power on what to buy at the market, expensive purchases, giving assistance to family members, family purchases, recreational use of the money, personal use of the money, number of children, schooling of children, and use of family planning. The value for each item takes zero if the decision making is done by spouse, one if the decision making is done by the couple, and two if decision making is done by the respondent. See notes under Table 1 for the exact definition of each index. Regressions in columns (1) and (3) control for the household decision-making power in the baseline (August 2003).
* Significant at 10%.
** Significant at 5%.
*** Significant at 1%.

treatment effect for married men (Table 4, Panel A, Columns 5–8). We find that marketing has a smaller, but still significant, effect on changes in decision-making indices, suggesting that the encouragement of savings alone had a positive effect on self-reported decision-making power of women in the household. [15]

Next, we examine whether the increased reported decision making led to a difference in the types of goods purchased for the household. By increasing the assets available for lumpy purchases, the mere presence of the SEED account may increase female decision-making power in the household and hence increase the likelihood that the household acquires female-oriented durables. Naturally, if the account is held in the woman's name this effect should be even stronger.

We use three categories for expenditures: house repair, female-oriented durables [16] (washing machines, sewing machines, electric irons, kitchen appliances, air-conditioning units, fans, and stoves), and other durables (vehicles/motorcycles, entertainment,

Table 4. *Impact on aggregate household decision-making power, by gender. Sample: Individuals who have children and whose spouses/partners live in the same household*

	Female				Male			
	Index 1 (mean)		Index 2 (factor)		Index 1 (mean)		Index 2 (factor)	
	Level (1)	Change (2)	Level (3)	Change (4)	Level (5)	Change (6)	Level (7)	Change (8)
Panel A: Household decision-making power below median in baseline								
Treatment	0.089***	0.094**	0.291***	0.341***	0.018	0.021	0.041	0.025
	(0.032)	(0.039)	(0.097)	(0.102)	(0.036)	(0.047)	(0.102)	(0.115)
Marketing	0.023	0.061	0.123	0.223*	0.051	0.075	0.133	0.132
	(0.040)	(0.050)	(0.117)	(0.131)	(0.040)	(0.051)	(0.117)	(0.128)
Constant	0.800***	0.075**	−0.124	0.233***	0.751***	0.105***	−0.128	0.296***
	(0.068)	(0.030)	(0.090)	(0.080)	(0.056)	(0.037)	(0.101)	(0.095)
Observations	322	322	303	303	296	296	284	284
R-squared	0.08	0.02	0.07	0.03	0.06	0.01	0.07	0.00
Panel B: Household decision-making power above median in baseline								
Treatment	0.026	0.022	0.111	0.109	−0.027	0.015	−0.061	−0.004
	(0.032)	(0.037)	(0.098)	(0.103)	(0.049)	(0.058)	(0.137)	(0.149)
Marketing	0.027	0.019	0.068	0.045	−0.030	0.027	−0.092	−0.027
	(0.037)	(0.048)	(0.120)	(0.137)	(0.053)	(0.062)	(0.145)	(0.157)
Constant	0.879***	−0.342***	0.115	−0.380***	0.954***	−0.440***	0.123	−0.579***
	(0.103)	(0.027)	(0.096)	(0.078)	(0.137)	(0.047)	(0.139)	(0.122)
Observations	321	321	297	297	245	245	230	230
R-squared	0.04	0.00	0.03	0.00	0.01	0.00	0.00	0.00

Robust standard errors in parentheses. Dependent variable: index of household decision-making power on what to buy at the market, expensive purchases, giving assistance to family members, family purchases, recreational use of the money, personal use of the money, number of children, schooling of children, and use of family planning. The value for each item takes zero if the decision making is done by spouse, one if the decision making is done by the couple, and two if decision making is done by the respondent. See notes under Table 1 for the exact definition of each index. Regressions in columns (1) and (3) control for the household decision-making power in the baseline (August 2003).
* Significant at 10%.
** Significant at 5%.
*** Significant at 1%.

and recreational goods). Table 5 finds no significant impacts on the choice and/or quantity of durables purchased in the household in aggregate, nor broken down by gender. Table 6 analyzes the same dependent variables, but separately for those above and below the median in terms of household decision-making power at the baseline. We find that both the number of items purchased and the total expenditures of consumer durables traditionally associated with female use in the Philippines increase for married women who were below the median in the pre-existing bargaining power. This effect is smaller, and not statistically significant, for married women above the median. This finding is consistent with the impact on decision-making ability for the purchases of personal items and durable goods. We do not, however, find that married households where the women are below the median in decision-making ability increase expenditures on other non-female specific durables. Likewise, we do not find any effect for men offered SEED, either in aggregate (Table 3, Panel C) or for those above or below the median in household decision-making power (Table 4, Columns 5–8, Panels A and B).

Taken together, the presence of both direct impact on self-reported decision-making measures, and a greater composition of female-oriented durables, suggest that women who were offered the commitment savings product indeed increased their power within their household.

In Tables A2 and A3 we evaluate the additional effect of the commitment savings product above and beyond the marketing treatment for both self-reported decision-making measures and household purchases. Indeed, the results suggest that for women the SEED product increased both measures of empowerment above and beyond the marketing treatment, however the differences are not statistically significant.

(b) *Self-perception of savings behavior*

In the follow-up survey, we included several qualitative questions about personal savings habits and attitudes. In earlier research we found that time-inconsistent women were more likely than time-consistent women to take up the SEED product, but that no such differential was found for men.[17] Here we examine whether there are heterogeneous treatment effects on savings attitudes and practices for men *versus* women and time-inconsistent *versus* time-consistent clients. Table 7 presents four outcomes, using an ordered probit specification. For each outcome, the respondent was asked whether they strongly agree, agree, are neutral, disagree or strongly disagree with a specific statement. First, we ask about savings practices: (1) (Columns 1 and 2) "Although my income is low, I am a disciplined saver," (2) (Columns 3 and 4) "I never save," and (3) (Columns 5 and 6) "When I have a little cash, I spend it rather than save it."

We find no aggregate effect, although we do find that time-inconsistent women who were offered the SEED account report being more likely to be a disciplined saver, less likely to never save, and less likely to report spending rather than saving extra cash. This indicates that at least in their perception, the SEED account helped them overcome their self-control problem and led to improved savings practices (in earlier research, we do not find that the time-inconsistent women actually save more than the time-consistent women). In addition, the marketing condition may have had an independent effect on women's perceptions of their efficacy in financial decisions (Column 5, Panel B).

The final statement (Columns 7 and 8) is "I often find that I regret spending money. I wish that when I had cash, I was better disciplined and saved it rather than spent it." Being

Table 5. *Impact on consumer durables. OLS, probit. Sample framework: Those whose spouses are living in the same house.*

	House repair		Female-oriented durables			Other durables		
	Probit (1)	Cost (2)	Probit (1)	Total number (2)	Cost (3)	Probit (4)	Total number (5)	Cost (6)
Panel A: All								
Treatment	0.007	172.201	−0.019	0.009	48.293	−0.015	−0.006	−2,293.060
	(0.033)	(1,611.810)	(0.032)	(0.062)	(312.882)	(0.030)	(0.042)	(1,529.312)
Marketing	0.018	−1,393.116	−0.035	−0.017	144.558	−0.011	−0.024	−2,493.613
	(0.038)	(1,648.315)	(0.036)	(0.072)	(475.376)	(0.034)	(0.047)	(1,543.340)
Constant		7,615.907***		0.495***	1,997.997***		0.305***	6,095.462***
		(1,299.894)		(0.047)	(242.252)		(0.034)	(1,344.654)
Observations	1,181	1,181	1,183	,183	1,183	1,183	1,183	1,183
R-squared		0.00		0.00	0.00		0.00	0.00
Panel B: Females								
Treatment	0.026	2,758.632	−0.023	0.086	504.622	−0.002	0.050	−2,146.550
	(0.045)	(1,960.731)	(0.043)	(0.086)	(433.285)	(0.040)	(0.052)	(2,340.491)
Marketing	0.020	−1,133.261	−0.023	0.038	−56.553	0.029	0.043	−1,731.438
	(0.053)	(1,875.305)	(0.051)	(0.104)	(508.971)	(0.048)	(0.058)	(2,401.692)
Constant		6,761.989***		0.489***	1,947.878***		0.261***	6,230.154***
		(1,289.453)		(0.060)	(297.011)		(0.036)	(2,032.658)
Observations	641	641	642	642	642	642	642	642
R-squared		0.01		0.00	0.00		0.00	0.00
Panel C: Males								
Treatment	−0.016	−3,137.328	−0.012	−0.086	−519.682	−0.032	−0.080	−2,453.800
	(0.051)	(2,759.733)	(0.049)	(0.090)	(456.142)	(0.044)	(0.071)	(1,739.883)
Marketing	0.016	−2,010.130	−0.043	−0.071	315.665	−0.055	−0.107	−3,165.144*
	(0.056)	(2,942.709)	(0.052)	(0.103)	(805.930)	(0.047)	(0.077)	(1,764.869)
Constant		8,796.324***		0.504***	2,066.774***		0.365***	5,910.628***
		(2,534.068)		(0.077)	(406.126)		(0.062)	(1,555.118)
Observations	540	540	541	541	541	541	541	541
R-squared		0.00		0.00	0.00		0.00	0.01

Robust standard errors in parentheses. Female-oriented durables consist of washing machines, sewing machines, electric iron, kitchen appliances, air conditioners, fans, and stoves. Other durables include vehicles, motorcycles, and entertainment items (i.e., CD players, TV, and radio). Marginal effects reported for probit specifications.

* Significant at 10%.
*** Significant at 1%.

assigned to treatment makes individuals *more* likely to report feeling regret over their spending and savings decisions.[18] Note that only 28% of those offered SEED took up, and of those only about one-third regularly used the account. Hence it follows that although SEED helped 10% of the treatment group save more (and generate an overall positive intent-to-treat effect), the mere *offer* of the SEED account generated, on average, a feeling of remorse. Perhaps those who did not take up and use felt remorse, and those who did take up and use did not feel remorse, but the average effect is an increase in remorse because of the relative size of these two groups. Perhaps a second marketing would have been more successful than the first, if the first offer made individuals more aware of their inability to save as much as they would like.

4. CONCLUSION

Even when husbands appropriate their wives' loans, microcredit is thought to empower women in household decision-making processes (Mizan, 1993). Policymakers frequently cite these arguments as a key motivation for targeting microfinance and microsavings interventions to women. On the other side, some have argued that microfinance usage and the subsequent need to repay (e.g., in order to protect her reputation amongst her peers) may subjugate women to the power of their spouses, hence potentially increasing domestic violence

(Rahman, 1999). Evidence (albeit weak) points both ways, and naturally may depend largely on the region-specific economic and social setting.[19] The effects of microcredit and, more generally, microfinance, which includes savings and/or insurance products, on female empowerment remain unclear, in large part because studies of it tend to suffer from a pronounced selection bias in the type of women who access microcredit (Pitt et al., 2006).

Using a randomized controlled trial, we evaluate the impact of a commitment micro-savings account. We find that the commitment product positively impacts both household decision-making power for women (i.e., the household is more likely to buy female-oriented durables), self-perception of savings behavior (time-inconsistent females report being more disciplined savers), as well as actual consumption decisions regarding durables goods.

The offering of the commitment savings product could change household dynamics through several mechanisms. First, the commitment product could have affected bargaining power through the various forms of control (both legal and normative/psychological) over decisions to withdraw and to roll-over balances. A second person may still apply pressure to influence withdrawal decisions, or exert pressure on other margins in response to the account, and unwind the control gained by the account. Nonetheless, in restricting legal control to one individual, the product creates a formal barrier to second persons that the account holder can use in bargaining.[20]

Table 6. *Impact on consumer durables. OLS, Probit. Sample Framework: Those whose spouses are living in the same house.*

	House repair		Female-Oriented Durables		Other Durables	
	Probit (1)	Cost (2)	Total number (3)	Cost (4)	Total number (5)	Cost (6)
Panel A: Females with household decision-making power below median in baseline						
Treatment	−0.027	2,480.870	0.192[*]	1,456.938[**]	0.006	−3,887.597
	(0.063)	(2,133.872)	(0.108)	(654.295)	(0.073)	(4,109.914)
Marketing	0.081	−1,149.406	0.126	600.512	0.052	−4,446.125
	(0.075)	(1,676.488)	(0.142)	(786.664)	(0.088)	(3,691.585)
Constant		5,206.818[***]	0.386[***]	1,518.750[***]	0.273[***]	8,037.500[**]
		(1,276.748)	(0.069)	(359.206)	(0.058)	(3,550.889)
Observations	322	322	322	322	322	322
R-squared		0.01	0.01	0.01	0.00	0.01
Panel B: Females with household decision-making power above median in baseline						
Treatment	0.080	3,247.131	−0.008	−403.082	0.092	−623.256
	(0.063)	(3,231.059)	(0.131)	(552.084)	(0.075)	(2,436.893)
Marketing	−0.048	−625.615	−0.036	−702.348	0.029	926.486
	(0.077)	(3,433.478)	(0.148)	(586.010)	(0.077)	(3,346.618)
Constant		8,130.540[***]	0.580[***]	2,325.510[***]	0.250[***]	4,639.690[**]
		(2,145.179)	(0.094)	(458.549)	(0.046)	(2,202.953)
Observations	319	319	320	320	320	320
R-squared		0.00	0.00	0.00	0.00	0.00
Panel C: Males with household decision-making power below median in baseline						
Treatment	−0.006	−4,114.137	−0.080	−741.921	−0.092	−2,878.840
	(0.066)	(4,284.529)	(0.122)	(619.640)	(0.103)	(2,561.748)
Marketing	−0.052	−3,657.542	0.014	841.101	−0.212[**]	−4,822.457[**]
	(0.072)	(4,618.274)	(0.148)	(1,316.247)	(0.102)	(2,415.286)
Constant		9,718.987[**]	0.468[***]	2,072.152[***]	0.405[***]	6,301.975[***]
		(4,083.798)	(0.105)	(569.847)	(0.089)	(2,352.200)
Observations	296	296	296	296	296	296
R-squared		0.01	0.00	0.01	0.02	0.02
Panel D: Males with household decision-making power above median in baseline						
Treatment	−0.030	−1,795.457	−0.100	−259.666	−0.058	−1,881.499
	(0.079)	(2,829.019)	(0.132)	(666.850)	(0.094)	(2,182.161)
Marketing	0.093	104.123	−0.177	−288.920	0.023	−1,172.725
	(0.087)	(2,980.016)	(0.143)	(836.159)	(0.114)	(2,466.193)
Constant		7,517.544[***]	0.552[***]	2,059.448[***]	0.310[***]	5,377.586[***]
		(2,156.450)	(0.113)	(568.124)	(0.082)	(1,813.668)
Observations	244	244	245	245	245	245
R-squared		0.00	0.01	0.00	0.00	0.00

Robust standard errors in parentheses. Female-oriented durables consist of washing machines, sewing machines, electric iron, kitchen appliances, air conditioners, fans, and stoves. Other durables include vehicles, motorcycles, and entertainment items (i.e., CD players, TV, and radio).

[*] Significant at 10%.
[**] Significant at 5%.
[***] Significant at 1%.

Second, a commitment savings account could establish a norm within the household that the funds are to be used for certain purposes. Any norms created by the commitment savings account might not be unwound by ex-post reallocation of resources. Duflo and Udry (2003) find that crop revenues in Cote d'Ivoire are labeled as either male, female, or family, and shocks to one "mental account" remain in that account and are not reallocated fully ex-post. The mere labeling of this account as the wife's provided her with additional power to allocate those funds, which did not in turn crowd-out the allocation of other funds.

Third, it may also be the case that the woman actually got more control of liquid funds. Many who took up the savings product made use of a lock-box. These individuals were thus able to keep small amounts aside, giving the person the power to make decisions about the accumulated savings. Particularly given the small amount of individual deposits, it is possible

that accumulations in this account were generated without other household members being aware of the amount being saved (although note that the treatment effect on savings volume was not stronger for women than it was for men).

Fourth, the commitment savings treatment (or the marketing treatment, which had a positive but insignificant statistically impact on savings (Ashraf et al., 2006)), could have encouraged savings in general. The increased savings by woman could signal her outside option in case of a breakdown of marriage. Female savings in this setting functions as the female wage rate in previous cooperative bargaining models (Pollak, 2005). Although plausible in theory, note that the savings amounts here were small enough such that this theory is likely only true for marriages on the margin of breakdown. Greater savings or the opening of a non-joint savings account raises the threat point in bargaining, representing what could be earned in a non-cooperative outcome.

Table 7. *Impact on savings attitude. Ordered probit.*

Dependent variable	Although my income is low, I'm a disciplined saver		I never save		When I have a little cash, I spend it rather than save		I often regret spending, I wish I was more disciplined to save	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: All								
Treatment	0.025	−0.053	−0.104	−0.021	−0.095	−0.051	0.181***	0.160**
	(0.069)	(0.080)	(0.072)	(0.083)	(0.065)	(0.077)	(0.066)	(0.078)
Marketing	0.057	0.073	−0.105	−0.064	−0.084	−0.105	0.070	0.102
	(0.078)	(0.091)	(0.085)	(0.098)	(0.075)	(0.090)	(0.074)	(0.088)
Time inconsistent, baseline		−0.147		0.252*		0.109		0.043
		(0.126)		(0.138)		(0.115)		(0.120)
Treatment × time inconsistent, baseline		0.300*		−0.303*		−0.163		0.082
		(0.156)		(0.165)		(0.146)		(0.149)
Marketing × time inconsistent, baseline		−0.050		−0.152		0.064		−0.102
		(0.175)		(0.195)		(0.161)		(0.161)
Observations	1,629	1,626	1,629	1,626	1,629	1,626	1,629	1,626
Panel B: Female								
Treatment	−0.021	−0.136	−0.049	0.069	−0.104	−0.005	0.130	0.153
	(0.088)	(0.103)	(0.093)	(0.107)	(0.081)	(0.097)	(0.084)	(0.101)
Marketing	0.176*	0.160	−0.148	−0.082	−0.214**	−0.209*	0.118	0.184
	(0.103)	(0.123)	(0.112)	(0.132)	(0.099)	(0.123)	(0.096)	(0.118)
Time inconsistent, baseline		−0.310**		0.308*		0.216		0.069
		(0.158)		(0.173)		(0.136)		(0.140)
Treatment × time inconsistent, baseline		0.395**		−0.389*		−0.339*		−0.072
		(0.196)		(0.209)		(0.180)		(0.180)
Marketing × time inconsistent, baseline		0.040		−0.209		−0.018		−0.216
		(0.225)		(0.246)		(0.199)		(0.203)
Observations	970	968	970	968	970	968	970	968
Panel C: Male								
Treatment	0.105	0.065	−0.199*	−0.155	−0.084	−0.123	0.257**	0.170
	(0.112)	(0.128)	(0.116)	(0.133)	(0.110)	(0.126)	(0.109)	(0.121)
Marketing	−0.066	−0.007	−0.077	−0.066	0.073	−0.000	0.010	−0.001
	(0.118)	(0.135)	(0.131)	(0.148)	(0.118)	(0.134)	(0.117)	(0.134)
Time inconsistent, baseline		0.128		0.196		−0.118		−0.014
		(0.213)		(0.222)		(0.212)		(0.241)
Treatment × time inconsistent, baseline		0.133		−0.200		0.168		0.344
		(0.263)		(0.266)		(0.255)		(0.277)
Marketing × time inconsistent, baseline		−0.249		−0.080		0.285		0.066
		(0.283)		(0.312)		(0.279)		(0.288)
Observations	659	658	659	658	659	658	659	658

Robust standard errors in parentheses. Dependent variables are categorical, indicating how strongly the respondent agrees to each statement. The variable equals one if the respondent strongly disagree, two if somewhat disagree, three if neutral, four if somewhat agree, and five if strongly agree.
* Significant at 10%.
** Significant at 5%.
*** Significant at 1%.

Finally, even in the absence of an actual increase in savings, the simple act of having a bank staff member come to one's door and encourage one to set savings goals could in itself have increased a sense of "locus of control." The presence of the bank staff member may offer an external social reinforcement of the account holder's preferences for how deposits are to be spent. This is akin to the second mechanism detailed above, but works through the marketing process, not the design features of the savings product itself.

Our results suggest that *both* the marketing process and control over the asset through the product design seem important—although the product design effect is somewhat larger, we do not have the sample size to distinguish well between the two treatments. We do find, however, that the package of increased control over assets and direct encouragement via marketing to take control of goal-setting and savings caused a significant increase in empowerment for women, compared to a control group that did not receive any special asset or marketing.

Through continued experimentation, we can learn more about the factors that drive savings decisions in the household and thus also how to best design savings products that help individuals reach goals such as asset building and consumption smoothing. We also need continued measurement of how products impact household decision making, and how household decision-making affects the efficacy of different savings products.

The results here suggest that commitment features, in particular loss of liquidity combined with sole control of the

account, appeal to those with self-control and have positive impacts on female decision-making power. These are not contradictory findings, but rather point out that a simple design feature such as a restriction on withdrawals or encouraging savings through marketing or door-to-door deposits, can benefit both those in search of self control devices as well as those who desire to have more decision-making power in the household.

NOTES

1. See, for example, *Engendering Development* (World Bank, 2001). By "female empowerment" we mean increasing the bargaining power of the woman within the household, manifested through increased influence in household decisions and through household outcomes that greater reflect her preferences.

2. See Garikipati (2008) as an example of other work posing a similar question with respect to credit. In that work, the author finds that women with longer durations in a lending program do not experience higher levels of empowerment. Further work to separate selection and tenure effects from the impact of credit would help to link those findings to ours to understand whether the results are inconsistent or not.

3. Anderson and Eswaran (in press) find that income needs to be in the control of women – not just generated by them – in order to impact their bargaining power in the household. The relevant threat point in their context, as in ours where divorce is uncommon, is non-cooperative behavior.

4. The commitment savings product also incorporated the option to keep a locked box (for which only the bank had the key) into which cash and coins could be deposited.

5. Exceptions are allowed for medical emergency, in which case a hospital bill is required, for death in the family, requiring a death certificate, or relocating outside the bank's geographic area, requiring documentation from the area government official. The clients who signed up for the SEED product signed a contract with the bank agreeing to these strict requirements. After six months of the project, no instances occurred of someone exercising these options. For the amount-based goals, the money remains in the account until either the goal is reached or the funds withdrawn or the funds are requested under an emergency.

6. SEED marketers reported instances of household visits in which the husband tried to influence the goal-setting process. Typically the marketers then asked that only the wife give her goal and this was recorded, but at no point did the marketer make an issue out of the goal setting process. Green Bank prohibits spouses from being able to withdraw from each others' accounts, unless the account was explicitly opened as a joint account. No SEED accounts were opened as joint accounts.

7. Fiestas are large local celebrations that happen at different dates during the year for each barangay (smallest political unit and defined community, on average containing 1,000 individuals) in this region. Families are expected to host large parties, with substantial food, when it is their barangay's fiesta date. Families often pay for this annual party through loans from local high-interest-rate money-lenders.

8. To facilitate deposits, clients also were offered automatic transfers from a primary checking or savings account into the SEED account. This feature was not popular. Many clients reported not using their checking or savings account regularly enough for this option to be meaningful. Even though preliminary focus groups indicated demand for this feature, only 2 of the 202 clients opted for automated transfers.

9. Because individuals were randomly selected, marketers were trained to ask only for that person and ensure that the individual was the one setting goals and, in the case of SEED, opening the account (i.e., the privilege went to the individual, not to their spouse or others in the household, even if they wanted to be the ones setting the goals (as happened in the case of a few husbands).

10. In only one instance an individual in the control group opened a SEED account. This individual is a family member of the owners of the bank and hence was erroneously included in the sample frame. Due to the family relationship, the individual was dropped from all analysis.

11. See Pitt, Khandker, and Cartwight (2006) for a discussion of alternative constructions of a household decision making index. Our results are robust to summing across the measures, and to specifications that measure changes, rather than controlling for baseline levels as we report in the text. Furthermore, since the factor analysis drops observations for which any answer is missing, we also examine the first measure of equal weights but omit all observations for which any one answer is missing. Results for the equally weighted mean index do not change on this smaller sample of individuals.

12. This applies to married women whose spouses live at home with them. Fifty-three of 696 married women had no spouse in the house in both baseline and follow-up; 24 of 541 married men had no spouse during both surveys. These married individuals were not included in our analysis.

13. If we were to examine each question individually, we would find positive impacts of the SEED treatment for women on 8 of the 9 variables in the decision making index, two of which were significant at the 90% level. The significant results are from survey questions asking who makes the primary decision on expensive purchases in the household and the number of children to have. Positive results were also found for the use of family planning, giving assistance to other family members, buying items for personal use, spending money on personal recreational (movies, liquor, gambling), family purchases, working outside the household, and schooling for children.

14. The treatment effect in terms of standard deviations is calculated by dividing the point estimates on the coefficient of interest (0.056 and 0.198 from Table 2) by the standard deviation for the dependent variable of each index for married women, as found in Table 1.

15. In Table A2 we test the impact for married women for each of the nine household decision categories that comprise the indices used in Table 2.

16. These goods were classified as female-oriented durables after consultations with qualitative and quantitative social science researchers at the Research Institute for Mindanao Culture (RIMCU) at Xavier University, and conversations in focus group discussions.

17. Individuals defined as present-biased time-inconsistent when in hypothetical time preference questions in the survey, they revealed a higher discount rate for tradeoffs between now and 30 days than tradeoffs between 6 months and 7 months. We measured this by posing questions about two hypothetical situations involving winning a raffle cash prize. In the first, respondents are asked whether they would like to receive the winnings now or a larger amount of money in 30 days. In the second situation, respondents are asked to choose between receiving the winnings in 6 months or a larger amount in 7 months.

18. Interestingly, agreeing with this statement is also correlated with being time-inconsistent when answering hypothetical time preference questions.

19. Recent evidence from a randomized controlled trial in South Africa finds no impact from access to *credit* on household decision making (Karlan & Zinman, 2007). See Chapter 7 of Armendariz de Aghion and Morduch (2005) for more discussion on this.

20. Particularly, the threat of roll-overs, combined with illiquidity, may enhance bargaining power, even in the absence of any positive savings impact.

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APPENDIX

See Tables A1–A4.

Table A1. *Qualitative feedback from SEED account holders*

	Frequency
Those that did not withdraw: reason for not withdrawing	
Argued with spouse	1
Bad bank service/bank is far	3
Could not save	43
Damaged passbook	1
Destroyed ganansiya box	2
Did not need money	1
Did not like terms/low interest	3
Forgot about it	13
Inconvenience	8
Money stolen (7)/lost (1)	9
Never joined/not a member	5
Nobody collected	2
Not interested	1
Not to term	51
Rolled over	3
Total	149
Those that withdrew: spent SEED money on	
Fiesta	7
Children's schooling	6
Other/did not say	4
Add to capital of business/sari-sar	2
Birthday (own, child, grandchild, missus, etc)	5
Child is giving birth	1
Children's graduation	2
Christmas	3
Contruction of house/repair of kitchen	2
Everyday needs/necessities/groceries	4
Medical treatment	2
Reached time goal (3 months)	1
Refrigerator	1
Supplement mothers budget	2
Total	42
Spent money on original goal	26
Spent money on different goal from original	14

Table A2. *Impact on household decision making, components. Ordered probits. Sample: Women whose spouses/partners are living in the same house*

Dependent variable	What to buy in market (1)	Expensive purchases (2)	Number of children (3)	Family planning (4)	Assist family members (5)	Personal use (6)	Recreation (7)	Family purchase (8)	Schooling for children (9)
Panel A: Female									
Treatment	−0.004	0.203*	0.217*	0.023	0.143	0.013	0.112	0.174	0.162
	(0.117)	(0.109)	(0.114)	(0.110)	(0.113)	(0.118)	(0.107)	(0.111)	(0.125)
Marketing	−0.026	0.060	0.139	−0.117	0.046	−0.124	0.062	0.115	0.220
	(0.134)	(0.128)	(0.137)	(0.131)	(0.125)	(0.137)	(0.120)	(0.138)	(0.151)
Observations	641	642	639	641	642	643	642	641	609
Panel B: Females with household decision-making power below median in baseline									
Treatment	−0.005	0.409**	0.175	0.010	0.323**	0.243	0.229	0.237	−0.065
	(0.162)	(0.162)	(0.164)	(0.162)	(0.158)	(0.167)	(0.152)	(0.164)	(0.199)
Marketing	−0.154	0.148	0.165	−0.192	0.316*	−0.238	0.282*	0.150	−0.123
	(0.182)	(0.181)	(0.182)	(0.187)	(0.174)	(0.183)	(0.171)	(0.191)	(0.228)
Observations	320	321	321	321	321	322	321	320	306
Panel C: Females with household decision-making power above median in baseline									
Treatment	0.005	0.037	0.297*	0.033	−0.002	−0.222	0.022	0.136	0.328*
	(0.171)	(0.148)	(0.159)	(0.151)	(0.160)	(0.170)	(0.152)	(0.155)	(0.168)
Marketing	0.169	0.020	0.178	−0.048	−0.174	0.130	−0.143	0.127	0.509**
	(0.205)	(0.184)	(0.207)	(0.186)	(0.179)	(0.213)	(0.169)	(0.197)	(0.210)
Observations	321	321	318	320	321	321	321	321	303

Robust standard errors in parentheses. All regressions in this table control for the initial household decision-making power in the baseline. The value for each item takes zero if the decision making is done by husband, one if the decision making is done by the couple, and two if decision making is done by wife.
*Significant at 10%.
**Significant at 5%.

Table A3. *Impact on the aggregate household decision-making power (marketing and treatment groups only). Sample: Individuals who have children and whose spouses/partners live in the same household*

	Index 1 (mean)		Index 3 (factor)	
	Level (1)	Change (2)	Level (5)	Change (6)
Panel A: All				
Treatment	0.022	−0.005	0.055	0.022
	(0.020)	(0.031)	(0.054)	(0.070)
Constant	0.822***	−0.091***	−0.008	0.022
	(0.034)	(0.025)	(0.044)	(0.057)
Observations	813	813	809	809
R-squared	0.12	0.00	0.10	0.00
Panel B: Female				
Treatment	0.040	0.002	0.115	0.049
	(0.027)	(0.042)	(0.078)	(0.098)
Constant	0.865***	−0.070**	0.052	0.102
	(0.051)	(0.036)	(0.066)	(0.083)
Observations	430	430	427	427
R-squared	0.13	0.00	0.12	0.00
Panel C: Male				
Treatment	−0.012	−0.018	−0.036	−0.030
	(0.028)	(0.046)	(0.075)	(0.098)
Constant	0.827***	−0.110***	−0.064	−0.057
	(0.044)	(0.036)	(0.059)	(0.078)
Observations	383	383	382	382
R-squared	0.08	0.00	0.08	0.00

Robust standard errors in parentheses. Dependent variable: Index of household decision-making power on what to buy at the market, expensive purchases, giving assistance to family members, family purchases, recreational use of the money, personal use of the money, number of children, schooling of children, and use of family planning. The value for each item takes zero if the decision making is done by spouse, one if the decision making is done by the couple, and two if decision making is done by the respondent. See notes under Table 1 for the exact definition of each index.
**Significant at 5%.
***Significant at 1%.

Table A4. *Impact on consumer durables (marketing and treatment groups only). Sample framework: Those whose spouses are living in the same house*

	House repair		Female-oriented durables			Other durables		
	Binary (1)	Cost (2)	Binary (3)	Total number (4)	Cost (5)	Binary (6)	Total number (7)	Cost (8)
Panel A: All								
Treatment	−0.011	1,565.317	0.016	0.026	−96.265	−0.003	0.019	200.554
	(0.034)	(1,391.052)	(0.033)	(0.067)	(454.382)	(0.030)	(0.041)	(1,050.847)
Constant		6,222.791***		0.479***	2,142.554***		0.281***	3,601.848***
		(1,013.413)		(0.054)	(408.977)		(0.032)	(757.422)
Observations	857	857	858	858	858	858	858	858
R-squared		0.00		0.00	0.00		0.00	0.00
Panel B: Females								
Treatment	0.005	3,891.893*	−0.001	0.048	561.176	−0.031	0.006	−415.112
	(0.048)	(2,008.677)	(0.047)	(0.105)	(519.888)	(0.044)	(0.059)	(1,726.796)
Constant		5,628.728***		0.527***	1,891.324***		0.304***	4,498.716***
		(1,361.465)		(0.085)	(413.268)		(0.046)	(1,279.057)
Observations	453	453	454	454	454	454	454	454
R-squared		0.01		0.00	0.00		0.00	0.00
Panel C: Males								
Treatment	−0.032	−1,127.198	0.032	−0.015	−835.347	0.024	0.027	711.343
	(0.049)	(1,852.180)	(0.046)	(0.083)	(726.221)	(0.043)	(0.058)	(1,142.098)
Constant		6,786.194***		0.432***	2,382.439***		0.258***	2,745.484***
		(1,495.551)		(0.069)	(695.914)		(0.046)	(834.237)
Observations	404	404	404	404	404	404	404	404
R-squared		0.00		0.00	0.00		0.00	0.00

Robust standard errors in parentheses. Female-oriented durables consist of washing machines, sewing machines, electric iron, kitchen appliances, air conditioners, fans, and stoves. Other durables include vehicles, motorcycles, and entertainment items (i.e., CD players, TV, and radio).
*Significant at 10%.
***Significant at 1%.

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