The impact of gender and business training for female microfinance clients in Vietnam

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Note to readers

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Acknowledgements

Executive summary

This study documents the impact of offering a gender and business training to female microfinance clients in Vietnam using a randomization control trial (RCT). A specific feature of the study is that a random group of female borrowers were allowed to take their husbands to the trainings. The study explicitly tests whether the impact of the training is conditional on the presence of husbands. The study also differentiates between short term effects and longer term effects of the training.

We consider impacts on a range of outcomes, varying from knowledge to profits, and "unpack" profits by distinguishing between the returns to different activities. We also consider the impact on different dimensions of female empowerment. Our results provide support for the finance-plus approach to development. We find that the gender and business trainings improve knowledge, increase the uptake of new business practices, and after some delay cause an increase in profits. We also find that the magnitude of the measured impact varies over time, and that measuring the impact on downstream variables like profits is likely to result in under-estimates of the true impact if data are collected too early after the end of the training. We also document effects at the extensive margin, and find that participating in the training may increase the start-up of new economic activities and slow-down the exit of existing ones. In addition, we provide evidence that female borrowers who receive access to training experience more internal control beliefs, less relational friction, and more intra-household decision making power. Finally, we document that the general business training significantly increased the returns to agricultural practices, even if agriculture was not specifically targeted – an example of a household-level spillover across economic sectors.

Not all our hypotheses were supported by the data. Most importantly, we do not document statistically robust effects of including husbands in the training for most of our outcome variables. However, we are careful not to dismiss the potential contribution of participating husbands too lightly. First, while the differences across treatment arms are not statistically significant, we consistently find that estimated treatment effects on profits are larger when men are involved in the trainings. Second, their participation was appreciated by the women, and it is possible that positive outcomes emerges along other dimensions (i.e. beyond business-related variables). We show that the attendance of man can have a (small) positive effect, but we don't have enough information about the impacts of "own husbands". Future research needs to examine this with a larger sample, or using more salient incentives, so that a larger share of the target population of men participates in the trainings.

Policy recommendations

- **Provide business training in addition to microfinance.**
  The study clearly suggests that providing business training to microfinance clients is beneficial for clients, especially for clients with low levels of business knowledge.

- **Add a gender component to the business training.**
  The study suggests that adding a gender component to the trainings is relevant.

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Abbreviations and acronyms

DD	Differences-in-difference estimation technique
Endline	Refers to the endline survey, the second follow-up
FGD	Focus group discussions
G&B training	Gender and Business training
GET Ahead	Gender and Entrepreneurship Together Ahead
GGGI	Global Gender Gap Index
ILO	International Labour Organization
ITT	Intention-to-treat
MDE	(Standardized) minimum effect size
MFI	Microfinance Institution
Mid	Refers to the midline survey, the first follow-up
LFS	Labour Force Survey
Post	Post-treatment survey, referring to midline or endline survey
RCT	Randomized control trial
Rho	Intra-class correlations
TOT	Treatment-on-the-treated
TYM Fund	Tao Yeu May (people loving people) Fund
T1	Treatment group in which women can join training with their husband
T2	Treatment group in which women can join training individually
USD	US dollar
VCGA	Vietnam Country Gender Assessment
VHLSS	Vietnam Households Living Standard Survey
VND	Vietnamese dollar

1. Introduction

Microfinance has expanded rapidly since it started in the late 1970s. "There is mounting evidence to show that the availability of financial services for poor households – microfinance- can help achieve the Millennium Development Goals" (CGAP, a branch of World Bank, on its website FAQ section). However, it has been suggested that microfinance alone is not enough to increase economic opportunities of the poor and helps them get out of poverty (Banerjee et al., 2014; Karlan and Zinman, 2010). Previous experiments in Sri Lanka (De Mel et al., 2008, 2009) and in Ghana (Fafchamps, 2011), for instance, suggest that physical capital alone is unable to help micro-entrepreneurs to raise income above a subsistence level, especially in case of enterprises owned by women. Many researchers argue that management and business skills are crucial to increase productivity and growth of micro and small businesses (Bloom et al., 2010; Bruhn et al., 2010). Consequently, business training programs have been developed to improve business outcomes. However, there is not much rigorous evidence on the impact of these trainings available. Yet, several evaluations of business trainings have been conducted recently. McKenzie and Woodruff (2014) provide an overview of these evaluations. They point out that many evaluations suffer from low statistical power due to small sample sizes in combination with a high variability of the outcome variables that are analyzed (such as profits).

Several studies document that the impact of business trainings differs considerably for female and male firm owners (Berge et al., 2011; Giné and Mansuri, 2012; Bruhn and Zia, 2013). Compared to men, women encounter more barriers such as social norms or laws that limit their full economic participation (Buvinic, 2013). These studies suggest that raising awareness for gender equality is important to boost self-esteem of women, to improve female bargaining power, to reduce household domestic violence and to promote development among female entrepreneurs.

This study conducts an impact evaluation of a Gender and Business training provided to female clients of TYM, a large microfinance institution in the North of Vietnam. A distinguishing feature of the training is that it combines modules focusing on gender issues and business knowledge in one gender and business training. Several studies argue that, in order to improve the status of women and to promote gender equality, more attention should be paid to increasing the involvement of men and boys when addressing gender issues (World Bank, 2011). Moreover, an earlier small scale pilot evaluation of a gender and business training given to female members of TYM recommended to invite husbands to the trainings as well. Following this advice, this study provides attention to the relevance of inviting husbands to the trainings in terms of the impact of the training on business and gender outcomes for females.

Our study evaluates the impact of the G&B training on female clients of a microfinance institution (MFI), TYM fund – the largest MFI in the North of Vietnam. We use the training materials developed and adapted from the GET Ahead for Women in

Enterprise Training Package and Resource Kit of ILO. The GET Ahead training package has been introduced and used since 2004 in over dozen countries. Following suggestions of McKenzie and Woodruff (2014), we conducted a baseline survey before the intervention and two post-treatment follow-up surveys to trace the trajectories of the impacts by capturing both short and long term effects of the training.

1.1 Background

We collaborate with TYM fund to evaluate the impact of a gender and business training to poor female clients. The TYM fund is the largest microfinance organization, operating since 1992, in the North of Vietnam. Its main mission is to improve the quality of life and the status of poor women and their families by providing them financial and non-financial services. The fund started as a microfinance project of the Vietnam Woman Union in 1989. TYM is partner of RIMANSI, a network of micro-insurance mutual benefit associations that provides quality microfinance products to poor people in Asia. Beyond this partnership, RIMANSI has 12 partner organizations in the Philippines and 2 in Cambodia.

The TYM fund operates mainly in areas with high ratios of poor households. As of September 2011, it ran operations in 10 poor areas in the northern Vietnam through 43 branches (for their locations, see Appendix H). It also has established 1,450 training centers, each serving 30–40 female clients, for a total of approximately 48,000 female clients. These clients receive financial and non-financial services; in return, they must become members of a lending center. All the services are provided at weekly or monthly center meetings, in which loan officers assess loan application forms and collect repayments and savings. Center meetings also allow TYM members to exchange experiences and information about production and business, as well as enable TYM staff and external experts to disseminate knowledge on family, gender, and other issues. Finally, the centers host social activities.

The TYM fund offers three main financial products: loans, savings, and mutual assistance funds. First, loans are designated to be disbursed without collateral; instead, they follow a cycle with increasing loan amounts (minimum loan amount is VND 1 million). The cycles range from 10 to 100 weeks. Principal and interest adjust weekly. Most of these loans are used for income-generating activities and housing repairs. In addition, the TYM offers multipurpose (emergency) loans of smaller amounts and with shorter terms, which can be used for consumption and other purposes. Second, TYM requests all clients to deposit compulsory savings of VND 3,000 ($0.19) every week. Clients earn interest from these compulsory savings and can withdraw the funds when they reach a certain minimum amount. It also encourages clients to deposit additional voluntary savings, starting with a small amount of VND 5,000 ($1.30) every week. In the near future, it intends to introduce more comprehensive voluntary savings products to not only TYM clients but also poor people in the general public. Third, in 1996 TYM introduced its mutual assistance fund package to clients, in response to their demand and in an attempt to strengthen the mutual links and assistance among

clients. This package includes two products: life mutuality and loan mutuality. This offer is deeply appealing to clients and has attracted significant participation.

Our study is conducted in the North of Vietnam. In Vietnam a major socio-economic transformation from one of the poorest countries in the world to a middle income country takes place. In addition, Vietnam was characterized as a deeply patriarchal society, which had traditional gender norms based on interweaving of Confucianism and Buddhism (Duvvury et al., 2012). In the Confucian traditions, men are the head of families and have responsibilities of ancestor worship, so they are always respected. Based on the Vietnam Country Gender Assessment (VCGA) (World Bank, 2011), Vietnam has made remarkable progress on gender equality but gender differences still remain. Vietnam also has passed laws and policies on gender equality and domestic violence but the implementation is far from satisfactory. According to the Labor Force Survey (LFS) 2009, 69 percent of women were vulnerably employed compared to only 54 percent of men (ILO, 2010). Data from LFS 2009 also shows that 36.2 percent of men and 42.9 percent of women are classified as unskilled workers. In addition, data from the Vietnam Households Living Standard Survey (VHLSS) 2008 shows that agriculture accounted for 64 percent of working women in rural areas compared to 53 percent of men. Another study conducted by UN Women shows that Vietnam experienced a productivity loss due to domestic violence by nearly 1.78 percent of GDP in 2010. These results indicate that women confronted with domestic violence earned 35 percent less (Duvvury et al., 2012). The 2013 Global Gender Gap Index (GGGI), published by the World Economic Forum, ranks Vietnam 73th out of 136. The Global Gender Gap Index ranks countries based on their gender gaps between men and women in economic participation and opportunity, educational attainment, political empowerment and health and survival. Other countries in Southeast Asia showed improvements, such as Thailand and China. Thailand showed improvements in political empowerment and China's overall score increased. Contrary, Vietnam's GGGI decreased due to huge wage inequalities[1]. Vietnam ranked 73th in 2013, seven places lower than in 2012.

1.2 Related literature

The emerging literature is summarized by McKenzie and Woodruff (2014). While most studies confirm that training programs affect knowledge levels, there is much weaker evidence for the hypothesis that it also affects business practices. Some evaluations, but not all, find that trainings affect firm survivorship or start-up rates. Evidence for the hypothesis that trainings affect firm profits or entrepreneurial income is weakest. However, and importantly, McKenzie and Woodruff (2014) point to various shortcomings of existing studies, compromising the ability of these studies to find impact. For example, most studies tend to suffer from low statistical power due to small sample sizes combined with highly variable outcome variables and heterogeneous firms. Most studies also focus on impacts in the "short term"—often endline data are

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[1]See detail The 2013 Global Gender Gap
http://www3.weforum.org/docs/WEF_GenderGap_Report_2013.pdf

collected within months after completing the training. Arguably, many "downstream effects" will materialize later. They also argue in favor of analyzing improved outcome measures, and propose that future analyses should seek to test which elements of content matter most for transforming the lives of micro-entrepreneurs.

Berge, Bjorvatn, and Tungodden (2012); Bjorvatn and Tungodden (2010); Karlan and Valdivia (2011) find a positive effect of business training on knowledge and business practices, but no effect of training on sales and profits. Training does not affect business activities at the extensive margin, i.e., the probability of starting new activities and shutting down existing businesses is not significantly affected by training (Bruhn and Zia, 2013). Drexler, Fischer and Schoar (2010) show significant improvements in business practices and revenues during bad weeks with simple rules-of-thumb training. Yet, formal accounting training to entrepreneurs from the Dominican Republic does not have any effect on business performance. The overall impression signaled by the existing evaluations is that business trainings have positive effects on business knowledge, but only minor effects on business outcomes. Obviously this may be due to the fact that changes in business outcomes may take time, and most studies only focus on short term effects.

Randomized control trials with assignment of microfinance and/or training to treatment groups provide insight in the interaction of training and credit supply on business outcomes for micro-entrepreneurs. Giné and Mansuri (2011) find no improvements in business sales and profits when microfinance clients obtain access to more credit. Business training leads to an increase in business knowledge, improvements in business practices, operations and sales, as well as income and assets for male microfinance clients. Moreover, business failure is lower for males who receive business training. Although business knowledge of women increases either, women do not put their knowledge into practice. As a result, training does not increase income and assets of female microfinance clients. Thus, Giné and Mansuri (2011) show that the impact of business training is gender dependent. According to de Mel et al. (2014) business training improves business practices of (potential) female entrepreneurs, but the improvement does not result in more business profits, sales or capital stock. In addition, they show that training for women in combination with a cash grant improves short-term profitability, but profitability returns to pre-training levels after two years.

Most studies including males and females conclude that the effect of training on women is less pronounced than the effect on men. However, studies focusing on female entrepreneurs do find positive effects of training on business outcomes (Calderon, Cunha and de Giorgi, 2012; Field, Jayachandran and Pande, 2010; Valdivia, 2013). According to Calderon et al. (2012) business training increases profits, revenues and the amount of clients served due to improvements in business knowledge and practices, i.e., formal accounting techniques and tax payments. Valdivia (2013) concludes that women with general business training are more likely to stop losing business activities. Women receiving personal assistance plan and execute more innovations, which result in a more than eighteen percent increase in sales.

The studies mentioned above also address gender inequality problems of doing business by female entrepreneurs. For example, most businesswomen faced time constraints since they had main responsibilities in terms of housework. Giné and Mansuri (2011) showed that Pakistani businesswomen spent 6.4 hours on doing housework while businessmen spent only 2 hours. Similarly, Tanzanian female entrepreneurs spent less than approximately ten hours on their businesses than male entrepreneurs (Berge et al., 2011). Beside time constraint, the studies in Pakistan and Tanzania also pointed out that female entrepreneurs had limited flexibility as they needed to take care of household chores. Therefore, most of these female entrepreneurs are primarily engaged in operating businesses close to their home. In addition, a large proportion of business women from Pakistan and Tanzania mentioned that most of the important household and business decisions were made by their spouses. Women also faced internal constraints like aversion of willingness to compete (Berge et al., 2011). Taken together, it is not surprising that the training led to limited or even no improvements of female business performance due to both external and internal constraints. Previous studies also pointed out that the training had no impacts on reducing external constraints for women (Berge et al., 2011).

These findings suggest that targeting women is not enough. It may be crucial to include men rather than ignore them, and gender equality must be added to intervention programs (Johnson, 2005). Excluding husbands may trigger frustration and invite intra-household conflicts (Allen et al., 2010) possibly eroding the impact of the training. In addition, it is expected that the presence of men, who bring their own expertise and experience to the event, changes the nature and depth of the discussions during the training.

In a field experiment in southern Mexico with Karlan and Mullainathan, information asymmetry and family tension in households decrease when husbands participate in credit meetings (Armendariz and Roome, 2008). Men tend to overestimate the amount of money women are handling and reduce their contributions to household expenditures when women receive credit. Yet, invited men are less likely to do so, and consequently, women have more money to invest. Secondly, an increase in tensions can arise when women spend less time on housekeeping due to increasing business activities (Armendariz and Roome, 2008). Time constraints can result in a decrease in quality or quantity of services provided, i.e., in meals or household chores. Men attending credit meetings help their spouses more with business activities and household chores both. Although husbands' attendance at credit meetings is different from husbands' attendance at a business training, this finding might be relevant for the effect of participating husbands in training meetings either. One of the aims of this study is to explicitly investigate the relevance of inviting husbands to the trainings in terms of female outcomes.

1.3 Female empowerment

Female empowerment is a multidimensional concept that includes different aspects such as financial decision making, access to resources, or psychological feelings of efficacy. One important aspect that all definitions have in common is the fact that women expand their ability to make strategic life choices in a context where this ability was previously denied to them (Kabeer, 1999). Also recent research defines female empowerment as a process of change enabling individuals or groups with limited choice, freedom, and power to gain and leverage power that enhances their ability to exercise choice and freedom in ways that positively contribute to their well-being (Ganle, Afriyie, & Segbefia, 2015). In line, research suggests that female empowerment results from both a change from a condition of disempowerment as well as a sense of personal agency and choice (Malhotra, Schuler, & Boender, 2002). Indeed, research on the theorization of empowerment stresses that empowerment should be seen as a multi-sided construct. Empowerment may then be reflected in an expansion of resources, redistribution of power, enlargement of decision-making ability, and increased psychological agency.

Microfinance is heralded by proponents as the silver bullet to female empowerment (e.g., Armendáriz & Morduch, 2010; Duvendack et al., 2014). However, the exact relation between microfinance and empowerment still remains unclear. Previous research found that women participating in a microfinance intervention showed stronger financial and self-confidence compared to a control group (Kim et al., 2007). However, several recent papers reported no relation between access to microfinance services and women's decision-making power within the household (Banerjee, Duflo, Glennerster, & Kinnan, 2015; Crépon, Devoto, Duflo, & Pariente, 2015; Tarozzi, Desai, & Johnson, 2015). These papers, however, evaluated access to microcredit offered to both men and women and not exclusively targeted women. In contrast, recent research on the impact of access to group lending offered solely to women provided evidence that access to microfinance services increased female intra-household decision-making power (Angelucci, Karlan, & Zinman, 2015).

A recent meta-analysis showed that female empowerment has commonly been studied as women's control over intra-household spending. While this is an important proxy of female empowerment, it is only an intermediary dimension in the larger process of female empowerment (Duvendack et al., 2014). Research on the conceptualization of female empowerment reviewed above stressed the multidimensionality of the concept and the need to assess more than just one aspect such as control over intra-household spending (e.g., Kabeer, 1999; Klein, 2014). Psychological research provided evidence that personal (i.e., control beliefs about life outcomes) and social (i.e., access to social networks) empowerment effects are intermediary steps of the development of female empowerment in the long-run (Hansen, 2014).

Offering training to women alone might put them at heightened risk for intimate partner violence. Previous research points to an increased risk of intimate partner violence resulting from more liberal ideas about gender roles as a result of education (Jewkes,

Levin, & Penn-Kekana, 2002). Women's transgression from conservative gender roles or challenges to male privilege may thus result in increased relational friction because men use violence to reconfirm their position of power (Jewkes, 2002). It becomes clear that promoting empowerment for women without the support of men could put women at increased risks. In line, it is suggested that empowering women can only be protective if husbands become aware of their wives' equal rights (Rahman et al., 2011). Women's status can thus only be successfully advanced if both parties in the relationship are involved (Jewkes, 2002). Also to decrease intra-household conflict resulting from microfinance services it previous research suggests to involve the husbands of female borrowers in these services (Allen et al., 2010).

The remainder of this report is structured as follows: Section 2 explains the intervention in detail and our theory of change of the intervention; Section 3 elaborates on the context and Section 4 presents a timeline. Section 5 states the study design; Section 6 states the program implementation and Section 7 discusses the method and results of the impact analysis. Section 8 follows with a discussion and Section 9 provides policy recommendations.

2. Intervention, research questions and theory of change

2.1 Intervention

The trainings provided through TYM fund are 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). It also has been modified to fit the Vietnamese context. The program centered on promotion gender equality, basic enterprise management, developing women's confidence, grasping opportunities in the business environment. Particularly, the first module covered basics on gender and entrepreneurship, promotion of equality between men and women, the life cycle of people and enterprises. The second module stressed on business woman and her self-confidence. The third module focused on business woman and her environment, self-development and business mapping. The fourth module discussed business project including business ideas, opportunities and challenges. The fifth module went over marketing and how to sell with success. The sixth module covered calculations and how to calculate interest rates. The seventh module focused on managing cash. The eighth module discussed how to record accounts receivable and accounts payable. The ninth and final module covered how to calculate cost of production and cost of goods sold.

The training took place during nine monthly center meetings. Each module requires 45–60 minutes. Because the trainees lack strong educational backgrounds, TYM's trainers use many support tools, such as role play, color cards, and pictures, to help trainees understand and remember the content. In addition to the monthly training module, the trainers organize discussions and consultations on client-specific problem solving for the trainees every week, for about 15–30 minutes, during the times that TYM clients came to pay their debts. Some of the staff members at TYM's

headquarters were trained by ILO about the GET training package. Before the training started, all loan officers in treatment groups attended "training of trainers" courses taught by the TYM's headquarters staff. The training was free of charge and voluntary; clients might leave after they made their loan payment and before the training began.

2.2 Research questions

We aim to evaluate the economic and social benefits of the gender and business (G&B) training for female microfinance clients in Vietnam. More specifically, we focus on the following questions. What is the impact of the G&B training on gender and business outcomes? What is the relevance of inviting husbands to the G&B trainings?

To answer these questions we estimate the effects of training with and without participating husbands on women's business activities and women empowerment. To determine the impact of training on business outcomes, we measure business knowledge, business practices and business results. In addition, we estimate the impact of the intervention on business entry and business exit of women. Secondly, this study tests for changes in gender knowledge, women's self-esteem, intimate partner violence and bargaining power due to business and gender training with and without participating husbands.

2.3 Theory of change

The main goals of the gender and business (G&B) training are to improve gender and business outcomes for poor microfinance clients. The main aim of inviting husbands to participate in the gender and business (G&B) training is to resolve issues that may arise with trainings to women-only groups and enhance the effects of training on women empowerment. Figure 1 presents an overview of the theory of change underlying our experiment regarding the effect of the G&B training.

Figure 1: Theory of change of the impact of gender and business training
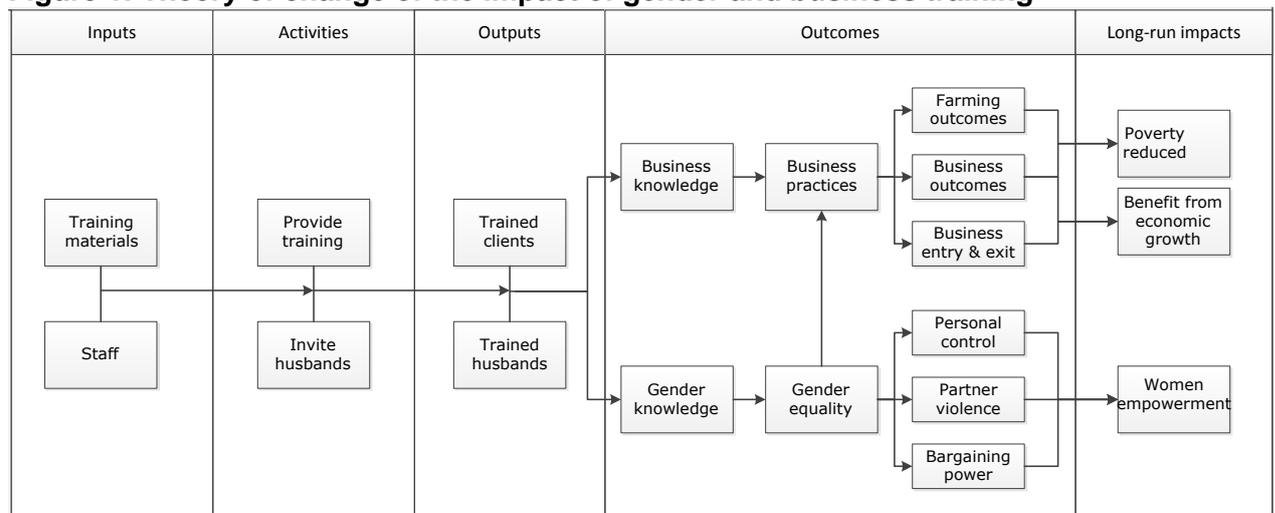
Training support business management by increasing business knowledge and discuss individual business problems. Next, the improved business knowledge will change women's behavior, mainly in terms of business practices. Due to improvements of business knowledge, women will be able to implement some new business practices, such as bookkeeping. Hence, the the (implicit) theory of change of TYM is that trainings build knowledge, which affects practices and business outcomes.
As a consequence, we expect that business training for female microfinance clients increases women's business knowledge. Moreover, we expect a positive effect of training on the amount of business practices implemented. An increase in business knowledge and practices of women may improve business activities and, eventually, increase business outcomes.

The gender and business training will also teach women on gender issues. Therefore, we expect an increase in gender knowledge for female clients. Furthermore, the improved knowledge of gender equality will improve gender outcomes such as women's self-perception and women's household bargaining power. Gender and business training may also reduce intra-household conflicts, such as relational oppression. Thus, women will be more actively involved in important household and business decisions.

The time period it will take before the training may have positive impacts is difficult to estimate ex-ante. Basically, this is an empirical question. Yet, we expect the training to have an almost immediate impact on business knowledge, but that it may take some time before the change in knowledge will induce changes in business practices. The impact on business outcomes, such as sales and profits, will probably even take more time. Our study will provide a first answer to this important question by differentiating between short and medium run impacts (6-12 months after the training).

As mentioned, we use two treatment arms to probe whether inviting husbands to participate in the training is a (scalable) approach to enhance the impact of the training. Importantly, we did not expect every woman to bring her husband along (even if this would have been welcomed). Some husbands are unlikely to participate, even when incentivized. Hence, our analysis captures the effect of the presence of (some) husbands—not necessarily one's own husband—on business knowledge, practices and outcomes. The presence of husbands may improve knowledge dissemination. The presence of men during the trainings may change the nature and depth of the discussions during the trainings since men bring their own expertise and experience to the event. In addition, if one'own husband attends the trainings, the contents of the training may be discussed at home by the women and their spouses. This may help to improve knowledge disseminations. Participating men may also be affected by the training themselves. In particular, the gender module might alter their outlook on gender inequality, affecting female entrepreneurship along multiple dimensions. For example, many businesswomen face time constraints and are limited in their (spatial) movements because they are responsible for the bulk of the housework (Giné and Mansuri 2014, Berge et al. 2014). Many business women also mention that key (household and business) decisions are made by their spouses. When men participate in trainings, such external constraints may be relaxed – improving female business outcomes.

Moreover, Doss (2011) argues that the benefits of new technologies, even when the technologies were designed specifically to target women, may be taken over by men, if women do not have enough bargaining power within the household. We also expect that inviting husbands may help to improve gender outcomes such as reduced intra-household conflicts and improved household bargaining power for women. The gender module may improve husbands' knowledge about gender issues. The improved knowledge about gender equality, in turn, will change husbands' behavior toward their spouses. The change in behavior of the husbands will reduce intimate partner violence. Consequently, the reduction in household frictions will improve female autonomy and household bargaining power for women. Additionally, we expect that women participating in a gender and business training together with their husbands may face less intimate partner violence, such as relational violence and relational oppression.

Table 1 presents the discussed outcome variables.

Table 1: Expected impact of training on business and gender outcome variables

	Exp	Description	Base, mid- or endline
Business knowledge			
Knowledge index 1 (BK1)	+	The amount of correct answers on 10 business and 7 financial literacy questions	B, M, E
Knowledge index 2 (BK2)	+	The amount of correct answers on 7 business, 5 marketing, 8 accounting and 5 production costs questions.	M, E
Business practices			
General practices	+	Index based on 7 business practices - 1st component of PCA	B, M, E
Innovation	+	Index based on 7 business practices - 2nd component of PCA	B, M, E
Marketing skills	+	Index based on 13 business practices - 1st component of PCA	M, E
Record and planning	+	Index based on 13 business practices - 2nd component of PCA	M, E
Farming activities			
Agri sales / month	+	Total sales of max. 3 agricultural activities	B, M, E
Agri profit / month	+	Total profit of max. 3 agricultural activities	B, M, E
Agri profit margin	+	Total sales divided by total profit	B, M, E
Business activities			
Business sales / month	+	Total sales of max. 3 business activities	B, M, E
Business profit / month	+	Total profit of max. 3 business activities	B, M, E
Business profit margin	+	Total sales divided by total profit	B, M, E
B1 sales / month	+	Sales of the main business activity present in all surveys	B, M, E
B1 profit / month	+	Profit of the main business activity present in all surveys	B, M, E
B1 profit margin	+	Sales of B1 divided by profit of B1 if B1 is reported in all surveys	B, M, E
Business entry	+	New business activities in midline or endline, not in baseline	B, M, E
Business exit	-	Main business activity reported in baseline, not present at midline and/or endline	B, M, E
Women empowerment			
Gender knowledge	+	The amount of correct answers on 4 gender issues	M, E
Personal control belief	+	Total points based on 4 control statements	B, M, E
Intimate partner violence			
Relational violence	-	Average of two violence statements	B, M, E
Relational oppression	-	Average of two oppression statements	B, M, E
Bargaining power		*(women=1; couple=0.5; men=0)*	

Household decision-making	+	Number based on 10 decision-making statements	B, M, E
Large expenditures	+	Number based on 7 decision-making statements	B, M, E
Daily domain	+	Number based on 3 decision-making statements	B, M, E

2.4 Risk analysis

For several reasons, the predictions may be overly optimistic. We recognize the following "risks". First, the training may be given by unqualified trainers. In this case, even if the training material is good, the impact of the training may encounter several risks. In the questionnaires, we added a separate block of questions related to the quality of the teachers to test for this risk.

Second, the training as such may not be relevant. The participants may believe that the training does not apply to their business practices or do not focus enough. The training also could be too theoretical. We added separate question blocks to the questionnaire to obtain more information about this risk.

Third, husbands may not like their spouses to attend the training, which increases intra-household conflicts and mitigates the positive impacts of training. Although, husband involvement may decrease intra-household conflicts, it also may lead to a loss of female autonomy. The reason is that when husbands obtain more details about the microfinance and training activities, they may feel that their authority over their wives is undermined. The result may be that they try to increase their bargaining power regarding household decision making. Additionally, due the presence of other men at the training, the husbands may become jealous and/or may think that it is "unsafe" for their spouses to join the training. This may provoke tension and frustration between men and their spouses, which may lead to increased violence. We will explicitly test for this possible risk.

Fourth, since most men are bread winners and have better experiences in doing business, they may generate "elite" group discussions among each other. Hence, if trainers do not organize the training discussions appropriately, women may be ignored in these "elite" group discussions. Consequently, women with limited knowledge level may not gain anything from the training. We added separate question to the questionnaire to ask women about whether they appreciate husbands' attendance.

Fifth, husbands may not be willing to join the trainings since opportunity costs may be high. For this reason, we incentivized invited husbands to attend the training by providing a financial compensation. Yet, it may be the case that the financial compensation is not high enough, or that husbands only attend to obtain some money, without actually being interested in the trainings.

3. Context

We evaluate a training provided to female clients of TYM. TYM fund has branches in 10 cities and provinces. We conducted our study in one branche in Ha Noi and three branches in Vinh Phuc. These areas are relatively close to the TYM headquarters, which are based in Ha Noi, so that we can economize on survey costs. The total amount of available financial funds restricted us in our choice of branches to be included in the study. Moreover, by focusing on two provinces only we avoid program placement biases, which helps to ensure a high internal validity of the study.

Obviously by focusing on 2 provinces in the northern part of Vietnam only, there is a possible tradeoff of a lower external validity. Vietnam is a very big country with 54 cities and provinces, all with their own characteristics. There are especially considerable differences between rural and urban areas, and between the Northern and southern part of Vietnam. Yet, our sample characteristics, in terms of percentages of rural and urban population, is in line with the country population. In our sample, 70 percent of the households are mainly involved in farming activities and 30 percent are mainly involved in non-farming businesses. This is close to population wide percentages: 80 percent of the households in Vietnam are mainly involved in farming activities.

Moreover, economic developments in Vinh Phuc, a booming region, are in line with developments in most other regions of Vietnam. In addition, the geographical conditions in Vinh Phuc and Ha Noi are comparable to the main provinces in Vietnam. These regions contain a mixture of plain, midland, and mountainous regions, though as a result of the industrialization strategy of the Vietnamese government, the importance of industrial and services sectors have increased substantially. A similar trend marks most other provinces in Vietnam. In addition, even though they experience strong economic growth, Vinh Phuc and Ha Noi, similar to other provinces in Vietnam, are facing many social problems, including high poverty rates for women. Therefore, there are no strong reasons to believe that impacts of the training will be entirely different in other parts of Vietnam.

4. Timeline

We collected data in this project by means of the following activities: 1) a baseline, a midline and endline survey, using direct interviewing; 2) focus group discussions (FGD); 3) behavioral games; 4) administrative data from TYM fund about loans and savings of female microfinance clients and 5) an additional post-treatment survey among a sample of husbands that was invited to join the training.

Data collection started in October and November of 2011, with a baseline survey before he treatment (Figure 2). During February and October 2012, the women received training and in March and April 2013 the midline was conducted. In October and November 2013 the endline survey was conducted. In November 2012 we organized behavioral games to examine underlying preferences –i.e. time and risk

preferences, female bargaining power and hiding behavior. In February 2013, six focus group discussions (F) with two women out of each group about the relevance and satisfaction of the training were conducted. The base and endline survey were conducted in the same months of the year to reduce seasonal effects in business results. All clients are interviewed in a timespan of two months for each survey.

The midline survey was conducted in the period March- May 2013, around 6 months after the end of G&B training. We expect female clients to make some changes to their businesses due to the business training quite soon after the trainings. Previous evidence suggests that firms may start to apply some business practices immediately after the training, but stop using them later. Hence, only collecting data quite a long time after the training may fail to provide some relevant short-term impacts of the intervention (McKenzie and Woodruff, 2014). To estimate the effect over time, a second post-treatment survey is conducted twelve months after the intervention.

Figure 2: Time line activities study
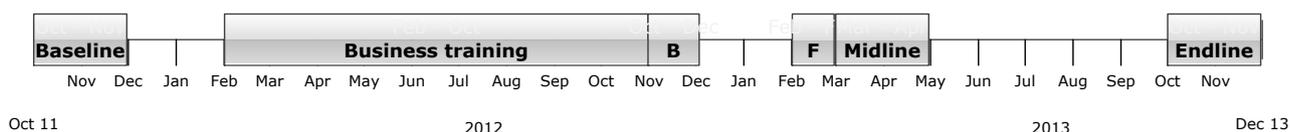
Note: 'B' refers to behavioral games; 'F' refers to focus group discussions

5. Study design

We evaluate the impact of providing the G&B training for female microfinance clients by using a randomized control trial. The pre-existing credit centers, each with an average of 30 female clients, were assigned randomly to the treatment and control conditions. We randomized the G&B training at the credit center level, which reduces the threat of spillover effects, and used a cluster sampling approach. Since we randomize at the center level, a reasonably large sample is needed to ensure enough power. Moreover, not all women and men invited to attend the trainings will actually participate.

In the three selected branches in Vinh Phuc and the one selected branche in Ha Noi, there are 187 credit centers in total. The randomization was stratified by lending branch; we took the same proportion of treatment and control groups. Initially, we planned to select 50 centers per treatment group and 87 centers for the control groups. However, due to concerns about the expected take-up rate among husbands, and the potential low power, we decided to oversample the treatment groups for which husbands were invited. Doing so we expected to obtain enough power to analyze the impact of intra-household relations and mixed group trainings. Our ultimate approach resulted in 70 credit centers in which male partners were invited to join the G&B training with female clients (so T1 contains 70 centers) and 31 credit centers for which only female clients were invited to join the training (T2 consists of 31 credit centers). The control groups C includes 86 credit centers.

To select a sample for the baseline survey, we excluded female clients who are workers since they had received permission from TYM not to attend the monthly, compulsory center meetings that took place during working hours. Because these clients lacked time to participate in the meeting, they had not received any benefits from the G&B training, which they did not attend. We randomly selected 23 members per center for the interviews, and hence did not interview all members per center. We followed this approach since for "power" considerations the sample size at the highest level is the main limiting characteristic (Snijders (2005)). A few centers had fewer than 23 clients, in which cases we interviewed all borrowers. Our list of interviewees of the baseline included 4,042 borrowers. We experienced some dropout after the baseline survey: 12.1%, 16% and 12.9%, respectively, for groups T1, T2 and C. Our midline sample contains 3,513 women. To increase our sample size for treatment group 2, we decided to interview all members per center (30 instead of 23) in this group during the midline interviews. The training was given at center meetings, so these "additional" women had been also treated.

We decided to add some behavioral experimental games to test the relevance of training offered to women-only versus mixed groups. Specifically, we conducted several post-treatment experiments with sub-samples of husbands and their wives. These experiments, conducted after the training, included a total sample of around 600 individuals. The games explicitly focus on the impact of time and risk preferences and intra household bargaining. We paid participants to encourage accurate answers. Since we are still in the process of analyzing the games we have not reported these results in this document. We also conducted a small post-treatment survey of 600 invited husbands, and organized several focus group discussions.

In order to deal with possible ethical issues, our study followed the standard ethical guidelines. That is before we started the evaluation, we thoroughly discussed possible ethical issues with TYM and the Vietnam Woman Union to ensure that our study does not violate any ethical issues. We also obtained an Ethical approval from the Vietnam Woman Union. In addition, we used "informed consent." That is, everybody involved in the study (both control and treated households) are informed about the study, and are explicitly asked whether they would be willing to participate in the surveys. Before conducting the interviews (in baseline, midline and again in endline), the enumerators read the following text (translated from Vietnamese):

"TYM is working with University of Groningen, the Netherlands on a new initiative to improve TYM services for our clients. Today, we are interested to hear your opinion. The whole interview today will take approximately 50 minutes. All information that you provide will be treated in strict confidentiality. For the questions, there are no right or wrong answers. What matters most to us is to receive your opinion. Can we conduct the survey with you? 1.Yes |___| 0.No |___|. If no, STOP the interview. It is always possible to stop the interview and/or not to answer certain questions".

Moreover, in order to deal with the "benice" principle, depending on the results of the evaluation, TYM plans to roll out the trainings to a much larger sample of TYM members, including those who participated as a control group in this study.

5.1 Identification strategy

We use multiple estimators to evaluate the impact of the training (with and without husbands) on business knowledge, practices, and outcomes. Random assignment occurs at the center level, so we cluster standard errors at the center level in all models. We include (baseline) controls to improve precision of our estimates. To address issues associated with non-compliance, we will compute both intention to treat (ITT) and local average treatment effects (LATE). Details are given in Section 7.

5.2 Data quality

Interviews were conducted at all three data collection points (baseline, midline, and endline). Twenty-three native enumerators interviewed the participants one-on-one to gather information about the client's individual characteristics, households, socio-economic status, business practices, gender knowledge, cognitive and non-cognitive skills, household decision making, loans, and intimate partner violence. All study materials were carefully pretested and adapted to the cultural context. Double data entry has been used.

Our study followed the standard ethical guidelines: before starting we discussed ethical issues with TYM and the Vietnam Woman Union, and obtained ethical approval from the Vietnam Woman Union. We also used "informed consent."

6. Programme implementation

6.1 Participation treatment groups

We monitored the attendance and the content of the monthly training sessions and the weekly discussions, by asking the loan officers to write brief training diaries for each training and discussion session. Moreover he/she made attendance lists. Table F.1 shows a participation rate per module of around 80% for women. The participation rate is lower for men than for women, despite a participation fee for men.

6.2 Quality assessment and take-up women

The group of treated women also reported their evaluations on different aspects of the training such as content, assignments, teaching methods, teaching tools, training time and training delivery. Women reported their evaluations on each quality item of the training by using a five point Likert scale from "strongly disagree" to "strongly agree". The evaluation results for each item are weighted to obtain an index for the "overall training quality". In addition, respondents provided information on several issues like the usefulness of the training; whether the training improved their current business;

whether the training made them aware of the fact that women and men have equal rights; whether the training induced women to better manage, improved their business plans, and induced women create records to manage the debts. Table F.2 shows that women who participated are highly satisfied about the quality of the training and would recommend it to others. Moreover, most women seem to prefer to combine the training and credit center meetings. Yet, only 16% of the women are willing to pay for the business training.

Women are also asked to rank the modules based on importance (Table F.3). Module 1, 7 and 8, which focused on gender issues, managing cash, managing records of account receivables and accounts payables, were considered to be most important. Module 6, which e.g. deals with compounded interest rates calculations was ranked lowest. These results were confirmed in our focus group discussion: most women appreciated the gender training modules very much, but found the module on how to calculate interest rates too difficult.

In addition, we asked whether the training impacted business practices, and if so, which activity has been affected most. Table F.4 present the results. The answers suggest that, in terms of changing business practices, the training has a considerable impact on keeping records.

Finally, by using a qualitative assessment we test whether woman appreciated husband's attendance. Table F.5 shows that most women highly value the attendance of their husbands.

6.3 Participation Quality assessment and take-up men

We use data from a small survey among a random sample of 609 invited husbands to evaluate the perceived quality by men and reasons to attend or not attend training modules. Reasons for men to participate in the training are willingness to improve their business activities. Even though 64 percent of the men who followed at least one training states they would do so without financial compensation, the results suggests that a financial compensation is also an important incentive. Additionally, around one third of the men report that his wife asked him to join the training. However, men report that a lack of time is the most important reason for non-attendance. This is in line with what we learned from the training diaries of the loan officers.

Overall, men seem positive about the quality and usefulness of the training. Between 87 and 97 percent of those men reported that they learnt something new from the training, and that they applied what they learnt from the training. Moreover, the training is regarded as useful for their spouses and men are willing to recommend the training to others. Another important remark is that the majority of men reports that the gender and business training changed their opinion about female rights.

6.3.1 *Determinants husbands' take-up*

We use two specifications to examine the determinants of husbands' take-up. For the first specification, we use data from a survey we conducted among a random subsample of husbands that were invited to the trainings. The first specification employs a LOGIT model, in which the dependent variable is a dummy equal to 1 when an invited husband followed at least one training, shown in column (1).
For the second specification, we combine data from the husbands survey with data collected during the trainings by the loan managers. This second specification uses an OLS estimate, in which the dependent variable measures the percentage of total training modules that a husband has joined observed by loan managers. Because some loan managers forgot to document whether a husband was present or not, the amount of observations for the two specifications differ. In both specifications are standard errors clustered within credit centers.

Salary employment of men reduces the probability of participating in the training (Column 1 in Table F.7). The take-up rate is lower for Kinh men, but higher for men with own farming activities. These findings are in line with the reported lack in time of men to join their wife in attending meetings. Column (2) in Table F.7 shows that men with farming activities attend more modules and either for older men. Apparently, it is easier to attend the trainings for husbands engaged in farming.

6.3.2 *Price elasticity husbands*

Since we varied the financial compensation per training module, we are able to examine to what extent the financial compensation affects husbands' take up rates. We use data on husband's attendance, which was reported by the loan officers during the training modules. Hence the dataset contains attendance rates for the set of husbands that attended at the least one time. The resulting panel data set, contains information on attendance for each husband for each training module.

We paid the highest financial compensation of 100,000 VND (around 5 USD) for husbands who attended the first training module. The first module dealt with gender issues, and we really wanted husbands to attend this module. The financial compensation was gradually reduced by 10,000 VND (0.5 USD) for the next modules. Thus, if men followed training module number 6, he would receive 50,000 VND (2.5 USD). We did not pay any compensation for the last three training modules (modules 7, 8 and 9).

We employ simple (husbands) fixed effects regression to estimate the "compensation" elasticity of husbands' take up. The dependent variable will take a value equal to one if a husband joined a specific training module and zero otherwise. We also add training module dummies to control for "time" fixed effects. In addition, we cluster all standard errors within credit centers. We find that the joint test in which the dummies of all training modules are equal to 0 cannot be rejected.

Table F.8 reports the "compensation" elasticity for husbands' take-up. We find significantly positive results of compensation on husbands' take up. Particularly, if the compensation increases by 10,000 VND (0.5 USD), the take up rate will increase 2.7 percent. This clearly shows how important it is to financially compensate husbands as incentive to attend the trainings. Hence, a financial compensation seems crucial to encourage husbands to join the training.

7. Impact analysis and identification strategy

7.1 Estimation method

We use multiple estimators to evaluate the impact of the training (with and without husbands) on business knowledge, practices, and outcomes. Random assignment occurs at the center level, so we cluster standard errors at the center level in all models. We include (baseline) controls in all specifications to improve precision of our estimates.

7.1.1 Post-treatment analysis (ITT)

The post-treatment analysis estimates the differences between the control and both treatment groups after the latter receive the treatment:

$$Y_{ijt} = \beta_0 + \beta_1 T2_{ij} + \beta_2 T1_{ij} + \beta_3 \mathbf{X}_{ij0} + \varepsilon_{ijt} \tag{1}$$

where Y_{ijt} refers to an outcome variable for an individual *i* in centre *j* at the midline or endline survey (t=1 or t=2); β_0 is a constant, $T2_{ij}$ is a dummy variable that takes the value one if the woman is selected to receive business training individually; $T1_{ij}$ is a dummy equal to one if training is offered to a woman as well as to her husband (group T1); $\mathbf{X}_{ij0}$ is a vector of baseline control variables age, household size, marital status and region and ε_{ijt} is an error term. We use equation (1) to estimate the effects of the intervention for the midline and the endline separately. The coefficients of interest are β_1 and β_2; beta 1 estimates the effect of training at the midline (or endline) survey and beta 2 estimates the effect of training and participating husbands on females' outcomes. The additional effect of inviting husbands can be gathered by subtracting β_1 from β_2.

Covariates are included in equation (1) because we do not want to find differences driven by one of these demographic variables. Treatment effects on outcomes only measured at the midline and endline, can be estimated with a post-treatment analysis, because the dependent variable of the baseline is not included in this estimation method. Post-treatment analysis is often used to estimate the effects of business training on business outcomes, for example, Berge et al. (2011); Bjorvatn and Tungodden (2010); Bruhn and Zia (2013); Field et al. (2010); Giné and Mansuri (2011) and Karlan and Valdivia (2011).

7.1.2 Difference-in-differences estimation   (ITT)

Even though groups are supposed to be similar due to randomization, pre-existing differences can confound treatment effects. If time trends differ between groups, post-treatment estimates are biased. For policy evaluation, we are interested in the difference for an individual with and without treatment, but knowing what the outcome would be for an individual without treatment if an individual received a treatment and vice versa is of course impossible. The difference-in-differences estimator is defined as the difference in average outcome in the treatment group before and after treatment minus the difference in average outcome in the control group before and after treatment. Thus, time dummies control for time trend effects and dummies per treatment group control for differences before the treatment.

The difference-in-differences estimation reads as:

$$Y_{ijt} = \beta_0 + \beta_1 \text{Mid}_t * \text{T1}_{ij} + \beta_2 \text{Mid}_t * \text{T2}_{ij} + \beta_3 \text{End}_t * \text{T1}_{ij} + \beta_4 \text{End}_t * \text{T2}_{ij} + \beta_5 \text{T1}_{ij} + \beta_6 \text{T2}_{ij} + \beta_7 \text{Mid}_t + \beta_8 \text{End}_t + \beta_9 \mathbf{X}_{ijt} + \varepsilon_{ijt}$$

(2)

where Mid_t is a dummy equal to one if the observation belongs to the midline survey; T1_{ij} is a dummy equal to one if men and women are invited to the training together; T2_{ij} is a dummy equal to one if a woman is assigned to receive training, but her husbands is not allowed to join the training; End_t; $\mathbf{X}_{ijt}$ and ε_{ijt} are defined above. The coefficients of interest are beta 1, beta 2, beta 3 and beta 4. Beta 1 estimates the short-term effect for women with participating husbands; beta 2 estimates the short-term effect of training for women without their husbands' attendance. The effect of business training in the endline is estimated for group T1 by beta 3 and for group T2 by beta 4. Calderon, Cunha and de Giorgi (2012); Karlan and Valdivia (2011); Valdivia (2013) estimates the effect of business training on business performance with a difference-in-differences model either.

Besides the total effect of the intervention per treatment group we also estimate the additional effect of participating husbands as well as the additional impact over time with difference-in-differences. We can rewrite equation (2) and reformulate it as follows:

$$Y_{ijt} = \beta_0 + \beta_1 \text{Post}_t * \text{T}_{ij} + \beta_2 \text{End}_t * \text{T}_{ij} + \beta_3 \text{Post}_t * \text{T1}_{ij} + \beta_4 \text{End}_t * \text{T1}_{ij} + \beta_5 \text{T}_{ij} + \beta_6 \text{T1}_{ij} + \beta_7 \text{Post}_t + \beta_8 \text{End}_t + \beta_9 \mathbf{X}_{ijt} + \varepsilon_{ijt}$$

(3)

where Y_{ijt} is an outcome variable for an individual *i* in centre *j* at time *t*; Post_t is a dummy equal to one if the observation belongs to the mid and endline survey; End_t is a dummy equal to one if it is an endline observation; T_{ijt} is a dummy equal to one if the individual is assigned to receive training; T1_{ij} is a dummy equal to one if the woman's husband is invited to the training; $\mathbf{X}_{ijt}$ is a vector of control variables age, household size, marital status and region in time *t*, and ε_{ijt} is an error term. Time index *t* is zero, one or two for an observation belonging to the baseline, midline or endline survey. The effect of business training is estimated by beta 1 and the additional effect of business

training between mid and endline survey is given by beta 2. Estimator beta 3 tests the additional effect of inviting husbands. Lastly, the additional effect of husband participation between mid and endline survey is estimated by beta 4.

7.1.3 Logit estimation of business entry and exit (ITT)

Similar to Bruhn & Zia 2013, we analyze the impact of training on the extensive margin for business activities either. We estimate the effect of training with and without participating husbands on women's probability to start new business activities and their probability to stop their main business activity with a logistic regression:

$$D_{ijt} = \frac{1}{1 + e^{-(\beta_0 + \beta_1 T2_{ij} + \beta_2 T1_{ij} + \beta_3 X_{ijt})}} + \varepsilon_{ijt} \tag{4}$$

where D_{ijt} is a dummy for business start-up (S_{ij}) or business failure (F_{ij}); $T2_{ij}$ is a dummy equal to one if the individual is assigned to receive training; $T1_{ij}$ is a dummy equal to one if the woman's husband is invited to the training; X_{ijt} is a vector of covariates age, household size, marital status and region; ε_{ij} is an error term. The coefficients of interest are β_1 and β_2. Beta 1 estimates the effect of training on business start-up and business failure and beta 2 estimates the effect of husband invitation to women's business entry and business exit.

7.1.4 Post-treatment analysis for local average treatment effects (LATE)

We also estimate the impact on (a sub-sample of the) treated individuals, namely those females who were enticed to actually participate in the training after receiving the invitation. We adopt an instrumental variable (IV) approach, using assignment to treatment groups (T1 and T2) as an instrument for the percentage of attended training sessions.

$$Z1_{ij} = \propto_0 + \propto_1 T1_{ij} + \propto_2 T2_{ij} + \propto_3 X_{ij0} + \varepsilon_{ijt} \tag{5a}$$

$$Z2_{ij} = \propto_0 + \propto_1 T1_{ij} + \propto_2 T2_{ij} + \propto_3 X_{ij0} + \varepsilon_{ijt} \tag{5b}$$

$$Y_{ijt} = \beta_0 + \beta_1 \widehat{Z1}_{ij} + \beta_2 \widehat{Z2}_{ij} + \beta_3 X_{ij0} + \varepsilon_{ijt} \tag{5c}$$

where $Z1_{ij}$ is the participation rate of women i in center j in group T1; $Z2_{ij}$ is the participation rate of women in group T2; and where $\widehat{Z2}_{ij}$ and $\widehat{Z1}_{ij}$ are the predicted participation rates. The coefficients of interest are β_1 and β_2, estimating the effect of women from group T1 and group T2 attending training sessions. We again estimate LATE for midline and endline data separately. The subscript t reflects time period: 0 is baseline; midline =1; endline =2.

It is important to notice that the (incomplete) attendance of husbands is not captured by this specification. The LATE estimator for treatment group 1 estimates the effect of attending a training in the presence of some men (and not necessarily of the own husband).

As an additional result we ask whether the presence of a woman's own husband matters for training outcomes (for example because attending the training affects his preferences and attitudes). For this purpose we also did an extra analysis based on two new variables we created: *self*ᵢ which captures the percentage of the trainings attended by female client i and *husband*ᵢ which captures the percentage of trainings attended by client i's husband. Note that *self*ᵢ equals $Z1_{ij}$ plus $Z2_{ij}$ and thus measures the impact of attending trainings by women, irrespective of whether the women is invited alone or with her husband. The coefficient associated with *husband*ᵢ measures the additional effect of the percentage of training followed by her husband. In a 2SLS model we next regress *self*ᵢ and *husband*ᵢ on the two instrumental variables T1 and T2, and use the predicted values to explain variation in outcomes variables. When estimating these models, we never found that the husband variable entered significantly (results are therefore not reported). In other words, the presence of a client's own husband does not seem to be correlated with knowledge, practices or profits. Yet, it may be the case that due to the low husband participation, the sample of our study is simply too small to pick up positive impacts of "own husbands".

7.1.5 Probing the theory of change

Finally, we seek to assess the plausibility of the (implicit) theory of change of TYM, namely that trainings build knowledge, which affects practices and business outcomes. To do this, we estimate an IV model where we first regress our first business knowledge indices on the treatment dummies, and then use predicted knowledge levels to explain variation in business practices adopted, and variation in profits:

$$Business\ Knowledge_{ij} = \propto_0 + \propto_1 T1_{ij} + \propto_2 T2_{ij} + \propto_3 \mathbf{X}_{ij0} + \varepsilon_{ij} \tag{6a}$$

$$Practices_{ij} = \beta_0 + \beta_1 \widehat{Business\ knowledge}_{ij} + \beta_2 \mathbf{X}_{ij0} + \varepsilon_{ij} \tag{6b}$$

$$Profits_{ij} = \beta_0 + \beta_1 \widehat{Business\ knowledge}_{ij} + \beta_2 \mathbf{X}_{ij0} + \varepsilon_{ij} \tag{6c}$$

7.2 Balance test

We use equation (1) to estimate differences between the control and treatment group before the intervention. Results of a balance test in Table I.1 provide evidence for random assignment of women into treatment groups.

Table I.1 shows that demographic and other baseline variables per treatment group are not significantly different from the control group at the baseline. Furthermore, Table I.1 presents several variables of business knowledge, business practices and business results. Except from significant differences in profit and profit margin of business activities in a regular month, business outcomes of the treatment groups do not differ from the control group at the baseline survey. Additionally, the balance test shows that there are neither differences between groups related to women empowerment measured by gender knowledge, personal control belief, intimate partner violence and bargaining power.

7.3 Impact of the G&B training on business outcomes

We report the impact of the G&B training on business outcomes in the midline and in the endline with considering a possible differential effect of inviting husbands. Business outcomes are divided in business knowledge, business practices, sales and profit of agricultural activities and business activities, and business entry and exit. Tables I.2.1 – I.2.5 show the total effects per treatment group estimated with a first-differences (post-treatment) and difference-in-differences estimation method. Moreover, Table I.3 presents the additional effects of inviting husbands estimated with a difference-in-differences method. Table I.3 also presents additional endline effects. Lastly, Table I.4 provides local average treatment estimates to measure the effect of actual training participation. Thus, we report five different effects: training effect in midline (1), training effect endline (2), the additional impact of the endline (3), additional impact of inviting husbands (4), and treatment-on-the-treated effects (5).

7.3.1 *Effects of the G&B training on business and gender knowledge*

Table I.2.1 demonstrates that the G&B training has a large impact on our measures of business knowledge and gender knowledge. For all our knowledge indices we find that, across estimators, participating in the training increased performance. All results are statistically significant at the 1% level. Table I.3 reveals that inviting husbands does not matter for knowledge accumulation: the coefficients of the T1 treatment arm are statistically indistinguishable from the coefficients of the T2 treatment arm. Moreover, extending the impact period from 6 to 12 months also does not have a significant effect on the depreciation or accumulation of knowledge. As expected, the impact of the G&B training on the measures of knowledge for the sub-sample of females who were enticed to actually participate in the training after receiving the invitation is even somewhat larger, as is shown in table I.4.

The impacts on the knowledge variables are also economically significant, as can e.g. be seen by considering the post-treatment estimates for "End*.T2" with the constant. The constant reflects the mean value for the control group at the endline, whereas "End*T2" reflects the "additional impact on the treatment arm T2 at the endline. A simple calculation than shows that", compared to endline values for the control group, the increases in the knowledge indices correspond to approximately 22% (2.30/10.66) for the first knowledge index; to approximately 18 % (2.60/14.72) for the second knowledge index and to approximately 31% (0.84/2.70) for the gender index. The increase in the first knowledge index also corresponds with more than one standard deviation of this variable at baseline.

7.3.2 *Effects of the G&B training on business practices*

Table I.2.2 summarizes our impact estimates for the adoption of key business practices: record-keeping, marketing efforts, innovation behavior, and general business practices. We again find economically meaningful and statistically significant effects across our estimators. Moreover, these positive results emerge for both our midline

and endline datasets. All estimated coefficients are significant at the 1% level, and impacts exceed one standard deviation of the dependent variable of interest (at the baseline).

Unlike the results for the knowledge indices, we now find an apparent additional effect of extending the impact analysis from six to twelve months. Our endline estimates of impact on business practices are significantly greater than our estimates of impact on business practices at the midline ($p<0.05$ for all measures), which reflects that adopting new practices takes time. For example, consider our general practices measure. An additional six months delay in impact measurement results in an increase in the index score of approximately 0.8, or almost 60% of a standard deviation (when measured at the baseline). The impact on innovation is even much larger. Hence, these results suggest that limiting the analysis to short-term data, collected within 6 months of the training, would hugely underestimate the true effect of the training. From Table I. 3 it is clear that inviting husbands does *not* significantly change the effect of training on business practices. Table I.4 shows that the impact on business practices on the sub-sample of women who were enticed to actually participate in the training is again, as expected, somewhat larger than suggested by the ITT estimates.

7.3.3 *Effects of the G&B training on farming results*

While the training does not contain a module concentrating on farming activities, we expect that some of the business lessons "spill over" to the domain of agriculture. The training may also improve the efficiency of other activities, increasing time available for farming (or draw effort away from farming if it encourages a shift to business activities). We lack details to test via which channels the training affects farming outcomes, but do observe (see Table I.2.3) that the training has a positive impact on both farming sales and profits at the endline. Moreover, this effect is in several cases significantly larger if husbands were invited ($p<0.05$). The biggest impacts are measured at the endline, when husbands were also invited. In these cases, the increase in profits and sales corresponds to approximately 0.20 standard deviation of the dependent variable of interest (at the baseline).

7.3.4 *Effects of the G&B training on business results*

The impact of a gender and business training on sales, profit and profit margin of business activities is shown in Table I.2.4. First, sales, profit and profit margin are aggregated for all business activities together (business). Secondly, sales, profit and profit margin for women's main business activity (B1) is reported if the business activity is present during all three surveys. Because the first measure aggregates all reported activities, the results are driven by both changes in the amount of business activities and changes per activity . The second measure determines whether a woman's main activity expand and/or becomes more profitable.

Not surprisingly, these "downstream" results are a lot more variable than the earlier ones. Nevertheless, while more tentatively, we believe the findings tell a compelling story. First of all, in terms of extra sales, the training does not seem to have a (robust) significant effect. In several cases, the coefficients for sales are significant and negative, perhaps suggesting that participating in the training and following-up on the lessons learned during the sessions was at the expense of day-to-day running of the business. But this result is not robust. Likewise, we do not detect a robust difference the two treatment arms – inviting husbands does not significantly affect sales.

The results for profits are somewhat more encouraging—even if not fully robust either. Specifically, while we fail to document any significant impact based on the midline data, we now document a number of positive and significant coefficients based on the endline estimates. The ITT estimates are only significant for T1 where husbands were invited to participate, but these coefficients are not significantly different for those of the T2 treatment ($p>0.10$). The difference-in-differences estimator also suggests a significant impact on profits and again we cannot reject the hypotheses that the estimated coefficients are the same across models. The magnitude of the effect on profits is relatively small and perhaps only detectable because our sample is rather large. For the diff-in-diff models, we find an average effect of 0.15 standard deviations of last month's profits (measured at the baseline). The effect on profits in a normal month is 0.10 standard deviations. The combination of an insignificant sales effect and a positive profit effect suggests the training reduces costs. This suggestion is confirmed by the positive and significant impacts on profit margin in several cases. Yet, in line with the othe rrsults, imapcts on profit margin are not robust.

When we consider the LATE, we again find evidence of a significant effect only at the endline. Moreover, as for the ITT estimates, this significant effect only materializes in the treatment arm with husbands. However, a simple t-test (again) reveals we cannot distinguish between the coefficients of the T1 and T2 treatment, so the additional effect on profitability of including husbands is too small to be picked up by our sample.

Interestingly, the positive outcomes in terms of enhanced profits is *not* necessarily explained by improved performance in the main economic activity of the respondents. While we consistently document positive coefficients across our range of estimators, we observe that only a few are statistically significant. For example, the training significantly affects profits of the main economic activity for women in the group with invited men.

The relatively small impact of the training on profits is in line with the existing literature, surveyed by McKenzie and Woodruff (2014). Only few studies find significant positive effects of trainings on profits, partly because of low power of most studies. Interestingly, while we find that the impact of the training on profits increases over time, other studies suggested these gains tend to dissipate over time (e.g. Berge et al. 2012 and De Mel et al. 2014).

7.3.5 *Effects of the G&B training on business entry and survival*

Does the training affect business activity at the extensive margin, by speeding up or delaying the start-up of new economic activities, and the exit of existing ones? Vietnam's business community is dynamic, as illustrated by the simple fact that no less than 194 women in our sample reported to start new business activities at the midline (and no less than an additional 170 activities have been started between mid- and endline). Most of these activities involved retail trading. Table I.2.5 shows that trained women were more likely to start new activities (significant at the 1% level). This finding is not unexpected, given that modules 3 and 4 of the training focused on self-development, business mapping and business opportunities. Moreover, we find that the effect is larger for the treatment arm where husbands were not invited to participate in the training (p<0.05). This would be consistent with a story emphasizing that husbands prefer their women around the house, working on chores, rather than starting up new businesses. If so, it appears as if the aim to promote gender equality by inviting husbands may have backfired. But this interpretation is presumably too negative, as additional data we have collected on female empowerment—including proxies for personal control beliefs and relations oppression – do not suggest that participating in the trainings made men more oppressive. Nevertheless, additional research into the intra-household implications of participating in gender trainings seems worthwhile (see also Allen et al. 2010).

Exit of business activities is defined as business activities reported at the baseline which were subsequently abandoned at the midline or endline. Some 1338 women reported to undertake one or more business activities at the baseline. Of these women, 281 stopped one or more economic activities at the midline, and an additional 252 women stopped an activity between the mid- and endline. Variation in the probability of stopping with an economic activity is correlated with participating in the training, but only significantly so for treatments where husbands were not invited. Training may promote exit if the abandoned activities generated net losses for the household (see also Valdivia 2013), but we find the opposite effect – participating in the training reduced exit. This would be consistent with the interpretation that the incidence of loss-generating activities is reduced by the training. Unfortunately, we lack information about the profitability of the activities that were abandoned, so cannot assess this issue further.

7.4 Impact on women empowerment

7.4.1 *Effects of the G&B training on personal control beliefs*

The variable personal control beliefs measures the extent to which women believe they can control their lives (internal control) or whether their live is controlled by the environment (external control). The scale is based on the Rotter Internal-External Locus of Control Scale (Rotter, 1966) and a higher score is related to more personal (internal) control.

We expected that female borrowers who received access to gender-focused and business training would develop more internal control beliefs; Table I.2.6 partly confirms this expectation. The post-treatment regressions indicated that training increased internal control beliefs at the endline but not at the midline for female borrowers with access to training without their husbands. The double difference regressions provided similar results. The results clearly suggest that it may take some time before training changes women's personal control beliefs; the endline effects are consistently stronger than the midline effects. For the post treatment model at the end line, we find an average effect of approximately 0.10 standard deviations of control beliefs (measured at the baseline). Compared to the mean value of the control group at the endine, the training seems to increase control beliefs at the endline by approximately 30%. Table I.4 shows that the LATE estimates provide similar results. Yet, these estimates suggest that the impact of the training on internal control beliefs at the endline is larger if husbands do not come to the training. Hence, to increase control beliefs, it may be better for women to come to the training alone.

7.4.2 *Effects of the G&B training on domestic violence*

Domestic violence is measured by relational violence and relational oppression. Columns (4) – (9) in Table I.2.6 shows that the effect of gender and business training on both variables is quite similar. Table I.2.6 shows that training reduces relational violence at the endline but not at the midline, across both estimation methods. We also did not find any difference for individual or joint training. The effects were similar for relational oppression. Again, it may take time before the training starts to exert an impact. We did not find different impacts if husbands participated. For the post treatment model at the end line, we find average effects ranging between 0.3 and 0.4 standard deviations of relational oppression and relational violence (measured at the baseline). The LATE estimates provide similar results.

7.4.3 *Effects of the G&B training on bargaining power*

Bargaining power is measured in three different ways: general intra-household decisions, large expenditures decision-making and daily domain decisions. Table I.2.7 shows that training does not change women's bargaining power after six months. Hence, for decision making dynamics, it again appears to take time before the training has an effect. Moreover, the training seems to have more positive effects on bargaining power if the husbands were also invited. However, positive effects predominantly seem to materialize for large expenditures (important purchases). For the post treatment model at the end line, we find an average effect of 0.22 standard deviations of large expenditures(measured at the baseline) for the treatment arm where hsubands were also invited. Although we predicted that training would improve women's positions regarding daily decision making, we found no evidence in support of this assertion.

7.5 Probing the theory of change

In a final bit of analysis we probe the theory of change, and try to establish whether the effects on the adoption of new business practices and profits is indeed caused by augmented knowledge levels. Representative results, based on *Business knowledge 1*, are summarized in Tables I.5.1 and I.5.2. Table I.5.1 contains the effect of (predicted) business knowledge on the adoption of practices measured at the midline. The estimated coefficients are consistently greater than zero ($p<0.01$) so that we indeed observe that enhanced knowledge is one channel via which adoption is encouraged.

<< Insert Table I.5.1 and I.5.2 about here >>

In Table I.5.1 we consider the downstream effects on profits, distinguishing between overall profits (last month and in a normal month) and profits from the main economic activity, also evaluated last month as well as in a normal month. All these profit measures were collected at the endline. We now find mixed support for the thesis that enhanced knowledge boosts profits – while all coefficients have the "right sign" we only document significant effects in two out of four regression models. Specifically, knowledge has positively affected overall profits as well as profits from the main economic activity in the last month.

7.6 Heterogeneous treatment effects

The testing of the theory of change suggests that the training mainly affects outcomes via enhanced knowledge. It is therefore interesting to analyze whether there are heterogeneous treatment effects in terms of knowledge adoption. That is, the impact of the training on knowledge enhancement may differ depending on the characteristics of the participants of the training. We gauged whether there are differential treatment effects depending on baseline values for business knowledge (knowledge index 1), years of schooling and age. More in particular, we probed whether the change in business knowledge (knowledge index 1) differs for TYM members that have above or below baseline medium values for these characteristics. In order to not sacrifice too much "power" we do not differentiate between the two treatment arms, but only consider impacts of being invited to the training as such. Table I.6. 1 presents the results. The table shows that impact of the training on business knowledge is higher for women with below than baseline median values of business knowledge, schooling years and age. However, for schooling years and for age, the difference in impact is not significant. This result suggests that the impact of the training is higher for women with low business skills than for women who already possess business skills to a reasonable level.   We next tested whether the impact of the training for women with below median business skills also translates into bigger impacts on business practices. Table I.6.2 suggests that this is indeed the case: the improvement in business practices is higher for women with below median baseline business knowledge. Heterogeneous downstream effects on profits, sales and profit margins (not presented) again do not show a consistent picture. Yet, overall the heterogeneous treatment effect analyses suggests that the training, in terms of changing business practices, is most successful for women with low levels of business knowledge.

7.7 Impact analysis administrative data

We conducted some analysis with administrative data. More specifically we considered impacts of the training on repayment rates, loan take up and savings. These analyses suggest that the training only had a minor impact on loan repayments and loan sizes for impacts are insignificant. Concerning savings, we do find a small positive effect of the trainings on endline savings with TYM.

7.8 Impact analysis behavioral games

We added several experimental games to test the relevance of training offered to women-only versus mixed groups. Specifically, we conducted post-treatment experiments with sub-samples of husbands and their wives. These experiments, conducted shortly after the training, included a total sample of around 600 individuals. The games explicitly focus on the impact of time and risk preferences and hiding behavior, including intra household bargaining.

7.8.1 Hiding and bargaining game

We conducted an experimental hiding and bargaining game to probe the determinants of intra-household decision-making. Consistent with several recent studies we find evidence of non-cooperative decision making within the household, and document a positive willingness to pay for income hiding.

More specifically, we use the games to examine whether participation in the business and entrepreneurship training affects income hiding. Our main results are that (i) participating in the training on average increases income hiding by women, but (ii) only robustly when husbands also participated in the training. We find no support for the hypotheses that this effect is due to income shocks or changes in the intra-household bargaining position of women. While the stated objectives of the intervention are to raise female income and empower women, we were unable to detect significant effects of the training on income or bargaining power. This results partly differs from the results of the RCT, probably due to the fact that we conducted the game, and measured our outcome variables one month after completion of the training. Especially for the business-related variables, this may be too shortly after the training.

The reduction in asymmetric information about the profitability of the wife's business is a natural explanation for the finding that participating in the training causes income hiding. If husbands learn about the profitability of their wife's enterprise, women have to contribute more to the common pot, distorting the balance between consuming private and household goods. Moreover, our theory suggests husbands should raise the compulsory contribution (reflecting that the consumption of household goods for them becomes cheaper). This, in turn, invites "tax evasion" through income hiding by their wives in domains where their income is (relatively) difficult to observe. While our empirical results thus provide some support for hybrid models of household decision-

making, we believe additional research is necessary to establish the merits of such models and examine the various channels via which income hiding can be affected. This requires studying income hiding in contexts with sufficient exogenous variation in bargaining power and income. Our intervention was not sufficiently strong to achieve this.

Overall the findings of our experimental hiding and bargaining games represent a mixed message for NGOs seeking to advance the livelihoods of rural women via training interventions. Our evaluation results suggests it may be difficult to "empower" women or enhance female earning capacity via information and training campaigns. Moreover, while inviting husbands to trainings may attenuate concerns about intra-household frictions, this innovation may simultaneously generate intra-household flows of information that could invite women to hide a greater share of their (remaining) unobserved income. The overall welfare effects of a transition towards non-cooperative modes of decision-making in the household, even in the presence of potential direct beneficial effects of interventions, are potentially ambiguous. Understanding how the participation of husbands in training interventions for women affects both the efficiency and equity outcomes of these interventions appears an important topic of future research.

7.8.2 Intertemporal preferences game

We conducted an intertemporal preference game to examine whether the business training affect intertemporal consumption behavior. To obtain measures of time preferences and consumption smoothing, we use the Convex Time Budget experiment (CTB).

The results of the game demonstrate evidence of inefficient consumption smoothing among our sample of Vietnamese microfinance clients. Specifically, and somewhat in contrast to "conventional wisdom" in the literature on underdevelopment, we find these women tend to save too much at the expense of short-term consumption (relative to their own preferences). Our second result is that attending business trainings helps to reduce such inefficiencies. Trained women behave more "rational" than untrained ones, and we present tentative evidence that this is (partly) due to the transfer of knowledge. Our third result is that trainings in which husbands participate appear more effective in reducing inefficiencies than (standard) treatments from which men are banned (even if this difference is not significant across regression specifications). Hence, our results not only support recent attempts to create human capital among microfinance clients, they also provide a natural suggestion to improve the impact of such trainings. Finally, we find no evidence that attending business trainings is "transformative" in the sense that the level of impatience of our respondents is affected. We also find that the curvature of the utility function is unaffected by the trainings.

7.9 Focus group discussion and in-depth interviews

We conducted 6 focus group discussion groups to evaluate the training, including 3 groups of women of T1 (men were invited to the training) and 3 groups of women of treatment arm T2 (without men). The FGDs lasted from around 1.5 hours. The discussions were done by Nhung Vu and one assistant. Loan officers and other TYM's headquarter members were not allowed to join these FGDs. The following issues were discussed: Did you attend the training? How often? How many training modules did you attend? Which training modules did you attend? Which training modules did you like? Why? Which training modules did you not like? Why? How do you evaluate the training quality including: content, teaching method, teaching time, teachers? Are you satisfied with the training? What did you change in your business due to the trainings? Are you willing to pay for a similar training? And for treatment arm T1 we also discussed the following issues: Did you like to invite husbands to join the training? Do you think your husband changes his behavior on gender issue due to the training? Do you feel it is easier to change your business practices due to the fact that your husband attended the training? Did the class discussions change due to the presence of husbands? Beside we had in depth interviews with 2 women in 2 treatment groups. The women we interviewed were satisfied with the content and design of the training. In addition, as we have mentioned above, in the questionnaire for the midline and endline surveys, we had blocks of questions asking women to provide feedback on the trainings.

Moreover, after the final workshop in December 2014, we organized some additional in-depth interviews. These in-depth interviews with beneficiaries and employees of TYM were conducted as an additional qualitative component of the larger research project. We aimed to complement and compare findings of the survey data on the opinion of beneficiaries and staff on the benefits of access to the GET-Ahead training using face-to-face interviews with structured questionnaires. We interviewed participants from each of the three treatment groups. Two microfinance borrowers with access to the GET-Ahead training for which their husbands were invited (T1); three microfinance borrowers with access to the GET-Ahead training individually (T2); and two microfinance borrowers without access to the GET-Ahead training (C). To complement the opinions of the microfinance borrowers we interviewed three employees of TYM, one technical staff member who is in charge of the center meetings and training; one branch director; and the deputy head of department of department of research and communication.

The FGDs suggested that female microfinance borrowers without access to the GET-Ahead training that they would be very interested in business skill, vocational, and life skill training. They would be in favour of inviting their husbands to this training but preferred to only invite their husbands to one yearly training while monthly training should be offered to the women. Female borrowers from the two training conditions made a similar suggestion to improve the husbands' attendance rate at the training.

In general, female microfinance borrowers with access to the GET-Ahead training or with access to the GET-Ahead training for which their husbands were invited were very

appreciative of the offered training. All women with access to training indicated that participation in the training strongly increased their business skills as they learned how to manage their existing business but also how to adapt their business to the demands in their neighbourhood.

Additionally, these women indicated that training participation influenced their position within the household. Some of the female borrowers with access to the training individually believed that this resulted from the fact that their husband saw that they managed their businesses well. Female borrowers whose husbands were invited to the training believed that this change resulted from the fact that they and their husband learned to work together as a family in the business but also in the household. Further it was suggested that this change resulted from the fact that the couple could spend more time on discussing and applying the content of the training, which reduced the time spend quarrelling. Lastly, with regard to the gender-focused modules, women in both training conditions strongly appreciated the content of these modules as it taught them that the gender-division in the workforce can be less strict and that men and women can work together. However, women in both training conditions indicated that without the participation of their husbands the relational dynamics would not change. Similar ideas were expressed by the TYM staff who appreciated the training in general but also underscored the importance of involving the husbands in the offered training to encourage active participation in the training sessions, the application of the taught knowledge and skills, and gender equality.

8. Discussion

8.1 Attrition

Compared to other studies, attrition rates in our study are relatively low: for example, attrition rates are up to 24 percent in Karlan and Valdivia (2011), 26 percent in Calderon et al. (2012) and 28 percent in Klinger and Schündeln (2011).

Table 2: Attrition rate

	C	T2	T1
Midline	13%	16.0%	13.0%
Endline	0.1%	0.2%	0.0%

Most of the clients who dropped-out are followed and were asked for the reason to quit in the endline survey. Data of these women is included in this study, because they dropped out after the treatment. We use a logistic regression to study differences in attrition across groups. A dummy for attrition is equal to one if households are not interviewed in at least one of the two follow-up surveys. Since attrition between mid to endline was almost zero, the attrition analyses predominantly refer to attrition between baseline and midline. Table 3, column 1 reveals that attrition is not significantly different between the treatment and control groups (treatment dummy is not significantly different from zero). In terms of observables, however, we find that younger people and people living in Hanoi are more likely to drop out of the study ($p < 0.10$). The Wald test,

testing the joint significance of parameters, suggests the parameters estimated in column 1 are jointly insignificant. In the 2nd column of the table we test whether there is a difference in attrition between T1 and T2. Women in treatment group T1 are more likely to drop out of the study ($p<0.10$) then women from group T2. We now also find that the estimated parameters are jointly significant at the 1% level.

Table 3: Test for random attrition

	1	2
Treatment	-0.04 (0.147)	0.239 (0.215)
T1		-0.422 (0.220)*
Business knowledge 1	0.022 (0.033)	0.0221 (0.033)
Age	-0.0098 (0.006)*	-0.0101 (0.006)*
Household size	-0.0612 (0.039)	-0.060 (0.039)
Married	-0.111 (0.148)	-0.122 (0.147)
Region (Hanoi)	-0.398 (0.236)*	-0.405 (0.232)*
Constant	Yes	Yes
N	3941	3941
Wald (Prob>Chi2)	9.13 (0.17)	18.62 (0.01)***

Note: robust clustered standard errors between parentheses. *** denotes significance at the 1% level; ** at the 5% level and * at the 10% level

9. Summary results and policy recommendations

9.1 Summary results

In this project, we test the impact of providing a gender and business training to female microfinance clients in Vietnam, and test whether the impact of providing the gender and business training is conditional on the presence of husbands. Our findings suggest that combining a gender and business training leads to significant improvements in gender and business knowledge of attending women. Furthermore, the trainings seem to have improved business practices. Our results are in line with previous studies, which show that business trainings have positive effects on business knowledge and business practices (Karlan and Valdivia, 2011; Valdivia, 2013; De Mel et al., 2014, Drexler et al., 2014; Bruhn and Zia, 2013; Giné and Mansuri, 2011; Berge et al., 2011). Most of these studies, excepting Bruhn and Zia (2013), provide further evidence that the increased business knowledge and adoption of better business practices did not lead to an improvement of business performance in terms of profits or sales of female entrepreneurs. In contrast to the existing literature, we, however, find that the gender and business training has a positive impact on business performances of female-run businesses. We provide evidence that offering a gender and business training leads to improvements of business profits and profit margin among surviving businesses. Moreover, we provide some new evidence that the gender and business training improves personal control belief of treated women. In addition, the training increases women household decision-making power on large purchase investment decisions and reduces the levels of physical domestic violence within families.

While the midline survey took place only six months after the completion of the entire training, we still find promising short-term impacts of the training on gender and business knowledge, business practices and business outcomes. The impact of

training after twelve months differ with respect to business practices, farming outcomes and gender empowerment. There are significantly more business practices implemented in twelve months compared to six months. Our findings confirm the importance of tracing out the trajectory of the impact of the intervention (De Mel et al., 2014).

Furthermore, after twelve months bargaining power is only significantly affected for women following training together with their husbands. Even though the additional impact of inviting husbands is not significant, these results suggest that the involvement of men might improve the impact of the training in the longer run, especially regarding gender issues. However, while we do find some evidence of positive effects of inviting husbands, more research seems to be needed for our behavioral experiments suggests it may be difficult to "empower" women or enhance female earning capacity via information and training campaigns. Moreover, the experiments suggest that while inviting husbands to trainings may attenuate concerns about intra-household frictions, this innovation may simultaneously generate intra-household flows of information that could invite women to hide a greater share of their (remaining) unobserved income. The overall welfare effects of a transition towards non-cooperative modes of decision-making in the household, even in the presence of potential direct beneficial effects of interventions, are potentially ambiguous. In some way, our results are in line with Allen et al. (2010), who also did not find evidence that the inclusions of husbands in microfinance solidarity groups helped to improve women bargaining power. However, at the same time, the qualitative evaluation suggests that most women appreciated the involvement of husbands in the trainings very much. In order to scale-up the intervention later, women in the treated group recommended that men should follow only the gender training module. This training module is considered as the most valuable one for them. While the regression results show positive effects of inviting husbands on several outcome variables, the additional effects are not statistically significant, possibly due to a low power of the estimates, in combination with small effect sizes on account of the short time period under consideration.

9.2 Policy recommendations

- **Provide business training in addition to microfinance.**
  The study clearly suggests that providing business training to microfinance clients is beneficial for clients, especially for clients with low levels of business knowledge.

- **Add a gender component to the business training.**
  The study suggests that adding a gender component to the trainings is relevant.

9.3 Dissemination

We aim to disseminate results of our study via policy and academic channels. We are working directly with the management board of TYM fund to modify and implement the training program. We also work with the Vietnam Women Union at the national level and disseminate the results to other microfinance organization in Vietnam via the

Microfinance Working Group. We also plan to disseminate the main results via the ILO. The ILO will add our main results to their yearly report. More specifically, their report includes a chapter on SME and its role in productive employment creation. This is a chapter to be discussed during next years International Labour Conference and should shed some more light on what the ILO should do in SME promotion. In this chapter a review of credible (RCT or quasi experimental) evidence on business trainings is added, including ours. The results of the study will be presented by Robert Lensink at a workshop organized by the ILO in Geneva: "What in entrepreneurship development helps women entrepreneurs to succeed? - What the evidence is telling us – " ILO – Geneva, Switzerland (September 18, 2015).

In terms of academic channels, the three co-principal investigators have presented the results at a variety of conferences around the world. Details of these presentations can be found in the bi-annual progress reports submitted to 3ie. We also organized workshops on gender and business trainings and microfinance for TYM, and other interested MFIs in Vietnam. We will integrate results of our study in international courses on development economics and microfinance at the University of Groningen and Wageningen University. We will also include results of the study in courses at the School of Economics and Business Administration, Can Tho University, Vietnam. We will submit working papers from this project to international journals. Additionally, the results of the midline evaluation will also be published as part of the PhD thesis of Nhung Thi Hong Vu. The endline evaluation on gender empowerment will be published as part of the MSc thesis of Marloes Huis. She will also write a chapter for her PhD thesis based on the impact of the training on female empowerment. The endline evaluation on business outcomes will be published as part of the MSc thesis of Rosine van Velzen.

Appendices
A. Field notes

A.1 New idea from the gender and business training course

Figure A.1: Ms. Nguyen Thi

Written by staff TYM

Ms. Nguyen Thi Anh, born in 1980, is a member of Center No. 21, Dao Duc ward, Binh Xuyen district, Vinh Phuc province.

Joining TYM since early 2012 when her family is learning the carpentry, she has been wondering how to develop her family's carpentry business. Right at that time, she participated in the course "Gender and Business" of 9 training organized by the Transaction Office No. 01 Binh Xuyen, Phuc Yen branch organized within the framework of 3ie Project.

The training course helped her to realize new opportunity for her family's business. She shared with us: "After the first training session about 'Gender and Business', I discussed with my husband, 'Women and men should have equal opportunities; so you should allow me to contribute opinions on what items to sell'. My husband smiled and agreed with me."

During all training sessions, she actively participated with other members in the Center while discussing with technical officers her questions and concerns. At the end of the sessions on 'How to pick up business ideas?", she discussed with her husband to open new business of selling wooden family furniture. Since then, she has been actively exploring and learning about local people's demands while expanding her business into sale of pillows, blankets and bed sheets. She told us at the Center: "After attending the training, I changed my thoughts about business. Thanks to the knowledge gained after 9 sessions along with my personal skills, now my family has a fairly good business, which brought us decent money.

Her business progressed well and she participated more actively in the Center's activities. At the end of 2013 she was elected as deputy head of ward women unit and the Center's leader.

A.2 Story of a member graduated from gender and business programme

Written by: staff of TYM branch in Me Linh

Ms. Nguyen Thi Tam, member of Center No. 29, Van Yen ward, Me Linh district, is a very active member of TYM. Being a member of TYM since 2007, she and her family has availed loans from TYM, deposited savings, benefited from Family Assistance Fund, and her family's economic situation has improved a lot.

In 2012, she and her husband, Mr. Nguyen Van Linh, were invited by TYM to participate in 'Gender and Business' training course of 9 sessions, co-organized by Groningen University, Netherlands and 3ie organization. During the training course, they both actively participated in training activities on different topics: Introduction about gender and business; Gender prejudices and gender role; business environment; pick up business ideas; book keeping; marketing and promotion; etc. After the course, their awareness was greatly improved. Mr. Linh has helped Ms. Tam so that she could have time to run her tofu selling business while he focused on their pig raising business and other housework like making tofu, cultivating and harvesting rice; all cost and expense calculating were shared between them to reach consent. He visited families of same business activities to learn best practices in raising pigs; she visited neighboring households and restaurants to introduce her tofu thus increasing her sale. As of now, their family's economic status has improved significantly; every year they sell 3 packs of pig, each of 16-20 pigs, while she sells 50kg of tofu a day. Besides, they have enough rice for eating and husbandry without having to buy additional supplies. To achieve today's economic status, they must build on their awareness change, learn how to apply appropriate lessons on their family situation, and with their hard working and strong will to strive to overcome poverty. When we visited her family, they express gratitude towards TYM and the project for bringing new knowledge to members, to give them opportunity to learn and to develop for a better today.

Figure A.2 : Pictures of Ms. Nguyen Thi Tam's family

B. Sample design

We conducted this project in three selected branches in Vinh Phuc and one in Ha Noi. There are 187 credit centers in total. The randomization was stratified by lending branch; each branch experienced the same proportion of two treatments and one control group. Initially, we planned to select 50 centers for each treatment group and left the rest of the 87 centers in the control groups. However, concerns about the expected take-up rate among husbands, the potential effect on power calculations, and the question of how to deal with households with no men led us to adjust our sample size. Approximately 18 percent of the female clients in our sample were not living with male partners, because they were single, widowed, divorced, or separated. In addition, the take-up of husbands may be low despite the compensation they would receive for participating. Because the statistical power of the intervention depends on the actual participation of husbands, we decided to oversample the treatment groups in which husbands were invited. We expected that by doing so we should have enough power to analyze the impact of intra-household relations and mixed group trainings. The sample therefore was randomly assigned to three groups. Treatment group T1 included 70 credit centers in which male partners were invited to join the G&B training with female clients. Treatment group T2 consisted of 31 credit centers in which only female clients were invited to join the training, male partners were not allowed to join the training. The rest is control groups C including 86 credit centers that received no additional services, beyond credit and savings.

To select a sample for the baseline survey, we excluded female clients who are workers since they had received permission from TYM not to attend the monthly, compulsory center meetings that took place during working hours. Because these clients lacked time to participate in the meeting, they had not received any benefits from the G&B training, which they did not attend. Therefore, we excluded clients who worked for other firms from the baseline interview survey. Next, we randomly selected only 23 members per center for the interviews and not interviewed all of members of centers. A few centers had fewer than 23 clients, in which cases we interviewed all borrowers. With a certain amount of budget, we may choose between two options to select sample size. The first option is to reduce the number of centers and interview all clients per center. The second one is to keep all centers and interview fewer clients per center. Snijders (2005) mentioned that "power of statistical tests generally depends on sample size and other design aspects; on effect size or, more generally, parameter values; and on the level of significance. In multilevel models, however, there is a sample size for each level, defined as the total number of units observed for this level". The author also emphasized that the sample size at the highest level is the main limiting characteristic of the design. We follow his suggestions select the second option, i.e. we decided to interview less clients per center, but stick to the original number of credit centers. Our list of interviewees of the baseline included 4,042 borrowers.

C. Survey instruments

We collect data in this project via the following sources: baseline, midline and endline surveys using direct interviewing, focus group discussions, behavioral games, and administrative data at TYM fund about loans and savings.

For all three round surveys, the process of interviewing was organized over 2 - 2.5 months with a team of around 23 experienced surveyors. We employed double data entry to reduce mistakes. The questionnaire included questions about members and member's households. In addition to the usual set of demographic variables, such as age, education, and marital status, we collected individual characteristics, such as measures of business knowledge, business practices, cognitive and non-cognitive skills, time preferences, decision-making autonomy across various household outcomes, outstanding loans, physical and psychological partner violence, health, social network, and social trust. Household characteristics included information about wealth, past and current saving, and insurance held by household members. Business and farming activity characteristics included age, location, and types of business activities; hired workers; and monthly sales, costs, and profits. The survey also contained information on lending center cohesion, such as the number of center members living nearly, borrowing and lending among members in a center, and helping among members in a center. We also included one section on how participants evaluate the quality of the G&B training. Beside direct interviewing female clients, we conducted a small survey of invited husbands after the training finished to know more information about those men.

D. Map of operating areas TYM

Figure D. 1: Map of operating areas TYM
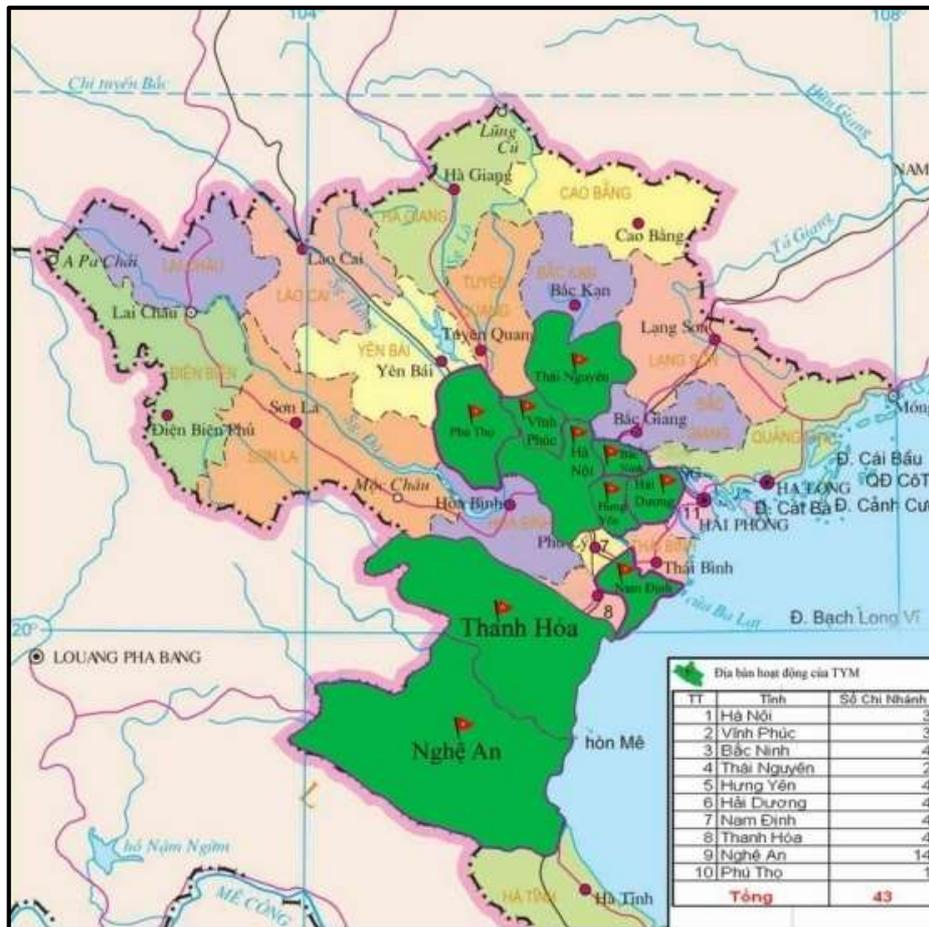
E. Sample size and power calculations

Before starting the study we conducted some power calculations, using the "Optimal Design" software. The variety of output variables we analyze makes it impossible to provide very detailed calculations per output variable. Rather, we made some rough estimates, based on common assumptions. We utilized the two-level cluster randomized trials design option since we randomized at the center level.

In all calculations we use alpha = 0.10, power of 80%, and n = 23 (equal to the amount of clients per center that we interviewed). We calculated the (standardized) minimum effect size (MDE) for intra-class correlations (rho) between 0.05 and 0.20. We did this for a total amount of clusters of 187 (the amount of centers we have). The calculation with 187 clusters provided some information about the power of our estimates if we wanted to compare treatments, without differentiating between the two types of treatments, and the control groups without the trainings. The calculations with 100 clusters provided some information about the power if we wanted to compare the two treatment groups with each other.

Table E 1: Power calculations

rho	MDE	Clusters
0.05	0.11	187
0.10	0.14	187
0.15	0.16	187
0.20	0.18	197
0.05	0.15	100
0.10	0.19	100
0.15	0.21	100
0.20	0.24	100

In particular, we randomly assigned 187 centers to three groups. Group 1 contained 70 centers. In group 1, we invited husbands to participate in the training. Group 2 contained 31 centers. Also in group 2 the members received training, but we did not invite husbands to take part in the G&B training. Group 3 included 86 centers. Members from group 3 did not receive the training. As we discussed in the previous sections, concerns about the expected take-up rate among husbands, the potential effect on power calculations, and the question of how to deal with households with no men led us to oversample the treatment groups in which husbands were invited compared to treatment groups without husbands.

Since our power calculation is based on our assumption of intra-class correlations (rho), using information from our baseline survey, we were able to estimate intra-class correlations (rho) for different key variables in our study and check whether our assumptions of intra-class correlations (rho) are reasonable, see Table E.2 below. Overall, the estimated of intra-class correlations (rho) are in the range of our assumption (0.05 to 0.2).

Table E 2: Results of intra-class correlations

	Rho	Standard errors	Confidence interval (95%)	
Average household income	0.14	0.02	0.11	0.17
Business knowledge index	0.19	0.02	0.16	0.23
Business at baseline	0.19	0.02	0.15	0.23
Number of business activities	0.20	0.02	0.16	0.23

F. Take-up rate training and quality assessment

Table F 1: Participation training in percentages per treatment group

		Women T2		Women T1		Men T1	
		n	%	n	%	n	%
1	Gender and gender equality	877	79.0	1294	84.6	1132	39.0
2	The business woman and her self-confidence	877	74.6	1294	81.8	1132	35.6
3	The business woman and her environment	877	81.5	1294	84.5	1132	32.1
4	The business project: Business ideas	877	82.9	1294	83.8	1132	30.2
5	The business project: Marketing and how to sell with success	877	78.4	1294	82.5	1132	26.1
6	The business project-finance: Calculations and how to calculate interest rate	877	82.9	1294	84.6	1132	25.8
7	The business project-finance: Managing cash	877	82.3	1294	84.0	1132	12.1
8	The business project-finance: How to record accounts receivables and payables	877	81.0	1294	84.2	1132	8.7
9	The business project: How to calculate costs of production and cost of goods sold	877	78.2	1294	80.9	1132	7.2
All		877	36.3	1294	39.8	1132	1.7

Table F 2: Descriptive statistics of quality assessment women

	Mean	Std	N
Number of total modules that a woman participated	7.388	1.9772	2171
Percentage of total modules that a woman participated	0.821	0.2197	2171
Followed discussions every week	0.902	0.2968	2172
Benefited from the course (1=not at all to 10=a lot)	8.446	2.5311	2175
Overall training quality was good	0.931	0.2542	2176
Overall discussion quality was good	0.928	0.2588	2176
Business changed due to the training	0.904	0.2941	2061
Good to combine training with center meetings	0.898	0.3027	2176
Willing to pay for the training	0.166	0.3718	2162

Table F 3: Training module ranking by women

Nr.	Content	Obs.	% 1st	% 2nd	% 3rd	% 4th	% 5th	% 6th	% 7th	% 8th	% 9th	Total points	Rank
			(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1	Gender and Gender Equality	1,919	41.74	12.66	11.36	11.88	7.14	4.53	3.39	2.76	4.53	17,271.00	1
7	Managing Cash	1,888	17.53	19.28	14.35	11.02	9.32	10.65	12.76	3.13	1.96	614.28	2
8	How to Record Accounts Receivable and Accounts Payable	1,887	11.61	15.69	14.20	12.08	11.76	10.44	8.96	12.82	2.44	557.41	3
4	The Business Project: Business Ideas	1,828	10.34	11.11	14.39	18.65	8.97	8.92	13.46	8.15	6.02	537.80	4
2	The Business Woman and Her Self-Confidence	1,811	6.57	21.59	8.34	13.58	13.64	9.44	9.44	11.26	6.13	534.64	5
5	Marketing and How to Sell with Success	1,803	5.32	8.37	12.76	11.20	20.47	11.87	10.87	11.87	7.27	484.81	6
3	The Business Woman and Her Environment	1,748	7.32	10.41	16.25	8.58	8.58	13.50	13.33	11.04	10.98	484.34	7
9	How to Calculate Cost of Production and Cost of Goods Sold	1,785	6.67	7.00	10.59	12.44	10.81	12.38	9.41	11.04	19.66	438.34	8
6	Calculations and How to Calculate Interest Rate	1,722	4.47	5.75	8.65	11.27	14.34	18.64	10.92	10.86	15.10	430.24	9

Note: Columns (1) to (10): Percentage of women in the treated groups evaluated a specific training module as the first to ninth rank. We assign points to the rank of each item: item ranks highest receives 9 points, the item ranks lowest receiving 1 point. Points of each item at each rank = assigned points * percentage of women evaluated each item at each rank. Column (10) the aggregated points of each module; Column (11) rank of each module is based on the total points.

Table F 4: Evaluation women of business practices

		Obs. 1st	% 1st	Obs 2nd	% 2nd	Obs 3rd	% 3rd	Total points	Rank
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Keep written business/ farming records	815	0.550	813	0.098	651	0.058	1.90	1
2	Re-invest profits for growth or continuity of your business	815	0.205	813	0.284	651	0.166	1.35	2
3	Actively discuss all business/ farming activities with your husbands and family members	815	0.064	813	0.198	651	0.275	0.86	3
4	Set a target set for sales and profits	815	0.045	813	0.112	651	0.123	0.48	4
5	Visited at least one of its competitor's businesses	815	0.059	813	0.127	651	0.034	0.46	5
6	Advertised in any form (last 6 months)	815	0.048	813	0.079	651	0.054	0.35	6
7	Review the financial performance of your business and analyze where there are areas for improvement	815	0.012	813	0.060	651	0.160	0.32	7
8	Decorate your place, product or service to entice a customer to visit your stand, shop or other premises	815	0.013	813	0.032	651	0.063	0.17	8
9	Have any activities to strengthen business network with suppliers, customers	815	0.004	813	0.010	651	0.029	0.06	9
10	Other	0	0.000	0	0.000	651	0.038	0.04	10

Note: Colum (1), (3), (5) Number of treated women evaluated a specific business practices as the first to third rank. Columns (2), (4), (6) Percentage of women in the treated groups evaluated a specific business practices as the first to third rank. We assign points to the rank of each item, with the highest ranking item receiving the highest number of points (3 points), the lowest ranking item receiving the lowest number of points (1 point). Points of each item at each rank = assigned points * percentage of women evaluated each item at each rank. Column (7) the aggregated points of each item. Column (8) rank of each module is based on the total points.

Table F 5: Qualitative assessment women of inviting husbands to attend trainings

	Obs	Mean	Median	Std. Dev.	Min	Max	Strongly disagree (%)	Disagree (%)	Neither disagree or agree (%)	Agree (%)	Strongly agree (%)
I appreciated the fact that husbands were allowed to follow the trainings	1311	4.086	4	0.586	1	5	1.98		1.30	80.85	15.87
Due to the attendance of husbands, the discussions during the trainings were more interesting	1311	4.130	4	0.565	1	5	1.53		1.14	78.64	18.69
Due to the fact that husbands attended the trainings, the intra household bargaining position of the women will be improved	1311	4.081	4	0.574	1	5	1.30	0.61	3.13	78.64	16.32

Table F 6: Evaluation training by husbands

	Number	Mean	Std. Dev.	Min	Max
Still joined the training without financial compensation	366	0.642	0.480	0	1
Main reason to attend trainings:					
It is paid	389	0.249	0.433	0	1
Their spouses asked to attend	389	0.344	0.476	0	1
The trainings may help to improve business	389	0.362	0.481	0	1
Some of friends were also attending	389	0.039	0.193	0	1
Evaluation training:					
Learned something new	376	0.963	0.190	0	1
Use what learned	354	0.873	0.334	0	1
The training is useful for their spouses	382	0.963	0.188	0	1
Recommend to others	353	0.898	0.303	0	1
Changed opinion female rights	372	0.954	0.209	0	1
Main reason not to attend any training modules:					
At the time the trainings took place, I had other activities to do	215	0.912	0.284	0	1
The compensation is too low	215	0.023	0.151	0	1
Living too far away from the center were trainings took place	215	0.009	0.096	0	1
Followed BDS training before	215	0.019	0.135	0	1
Not interested in the gender and business training	215	0.005	0.068	0	1
Their wives did not want them to come	215	0.014	0.118	0	1
Somebody else advised them not to go	215	0.019	0.135	0	1

Table F 7: Determinants of husbands' take -up

	Attendance husband[a] Logit estimates	% of modules attended[b] OLS estimates
	(1)	(2)
Age of husband	0.002	0.003**
	(0.838)	(0.0397)
Self-employment	-0.439	-0.059
	(0.474)	(0.506)
Salary employment	-1.347**	-0.157
	(0.048)	(0.102)
Primary school	0.103	-0.030
	(0.701)	(0.397)
Own business	-0.163	-0.030
	(0.678)	(0.454)
Own farming activity	0.945***	0.134***
	(0.006)	(0.002)
Ethic (Kinh)	-1.113***	0.051
	(0.000)	(0.359)
Religion Christian	-0.574	0.024
	(0.233)	(0.756)
Household size	0.0213	-0.002
	(0.769)	(0.833)
Region (Hanoi)	-0.378	-0.080
	(0.323)	(0.162)
Constant	1.455	0.07
	(0.125)	(0.603)
Observations	585	572
Pseudo R2 / R-squared	0.058	0.075

Note: Robust cluster pval in parentheses; *** p<0.01, ** p<0.05, * p<0.1;
(a) using data from subsample husbands' survey; (b) using data from participation list of loan officers

Table F 8: Price elasticity on husbands' take up

	Attendance Husbands
Compensation	2.69e-06***
	(0.000)
Constant	0.121***
	(0.000)
Observations	10,188
Number of households	1,132
R^2	0.122
Training module dummies	Yes

Note: Robust cluster pval in parentheses; *** p<0.01, ** p<0.05, * p<0.1

G. Definitions outcome variables

Table G 1: Construction business knowledge indices

		Index 1	Index 2
Bus.1	You should improve or expand your business to smooth sales over time	1	
Bus.2	Only price determines sales	1	
Bus.3	Sales records are needed for product mix evaluation	1	
Bus.4	It is better to produce what you are good, than what your customers demand	1	
Bus.5	When a new competitor starts selling at a lower price, you should decrease prices as well	1	
Bus.6	If you charge more than competitors, customers will not buy from you	1	
Bus.7	Advertisements are not necessary for villagers with small businesses	1	
Bus.8	Word-of-mouth does not affect the sales of business	1	
Bus.9	Many businesses lose part of their products because of poor storage facilities	1	
Bus.10	It is not necessary to separate money used for business and money used for household	1	
Fin.1	What is 400 plus 300?	1	
Fin.2	What is one tenth of 100?	1	
Fin.3	In a sale, a shop is selling all items at half price. Before the sale a TV costs 4,000,000 VND. How much will it cost in the sale? *4,000,000 / 3,000,000 / 2,000,000 VND*	1	
Fin.4	If you sold two items for 8,000 VND each and your customer gave you 20,000 VND, how much balance do you owe the customer? *12,000 / 4,000 / 8,000 VND*	1	
Fin.5	Imagine that five brothers are given a gift of 1,000,000VND. If the brothers have to share the money equally how much does each one get? *1,000,000 / 500,000 / 200,000 / 100,000 VND*		1
Fin.6	Now imagine that you get a gift of 1,000,000VND, and you put it in the drawer at home for 12 months. After one year you can buy with this *more/ same/ less/ depends on inflation*		1
Fin.7	You lend 1,000,000VND to a friend one evening and he gives you **exact** 1,000,000VND back the next day. How much interest has he paid on this loan? *More/ Equal/ Less than 0%*		1
Fin.8	Suppose you had 1,000,000 VND in a savings account with an interest rate of 2% per year. What is the account balance after one year (incl. interest payment, but no other payments or withdrawal)? *More/ Exactly/ Less than 1,020,000 VND*		1
Fin.9	Assume again: 1,000,000 VND with 2% interest rate. What is the account balance after five years (incl. interest payments, but no other payments or withdrawal)? *More/ Exactly/ Less than 1,100,000 VND*	1	

Fin.10	With an interest rate of 1% per year and 2% inflation per year. How much can you buy after one year? *More/ Same/ Less than today*	1
Fin.11	'An investment with a high return is likely to be risky.' *True/ False*	1
Fin.12	'High inflation means that the costs of living increase rapidly?' *True/ False*	1
Fin.13	It is less likely that you will lose all of your money if you invest it in more than one project.' *True/ False*	1
Mar.1	Good methods to attract more customers are: posters, home visits, loudspeakers, radio, handbills, clear signs, and interesting 'look' of your place of business. *Product/ Price/ Place/ Promotion (4P)*	1
Mar.2	It is important to review the price of your product or service on a regular basis. *(4P)*	1
Mar.3	Your product or service must meet customers' needs. *(4P)*	1
Mar.4	Things to think about when you set your price: your costs, your production level, your competition, and your customers. *(4P)*	1
Mar.5	Your place of sales should be near your customers. *(4P)*	1
Acc.1	Cost of pork meat	1
Acc.2	Money taken to pay school fees for Ms. Hoa's son	1
Acc.3	Payments for hiring an assistant to transport pork meat from suppliers to the market	1
Acc.4	Money taken to buy food for her family	1
Acc.5	Payment for hiring the kiosk in the market	1
Acc.6	A loan given to her friend to assist her wedding party	1
Acc.7	Telephone calls to friends to check on their health	1
Acc.8	Salary to assistant cleaning the kiosk at the end of the day	1
Prod.1	Total costs per product	1
Prod.2	Percentage of profit you expect	1
Prod.3	Education fee for your children	1
Prod.4	Competitor's price of similar products	1
Prod.5	Price client is willing to pay	1

Note: The indices are constructed by taking the sum of correct answers

Table G 2: Weights per statement for business practices by principle component analysis

		General	Innovation	Marketing	Record & Planning
1	Records sales, withdrawals or payments to workers	0.397			
2	Discuss with anyone about how to improve activity	0.413			
3	Diversify and improves quality in last 6 months	0.419			
4	Makes sales on credit	0.495			
5	Has an idea for innovation in business		0.685		
6	Use an activity to increase customers or products in last 6 months		0.701		
7	Reinvests profits for growth or continuity business	0.502			
8	Use records for cash				0.422
9	Use records for debt				0.322
10	Use records to know profit per unit				0.414
11	Visits competitor to compare products and prices			0.421	
12	Asks customers which other products need to sell or produce			0.415	
13	Asks former customers why they stopped buying			0.389	
14	Advertises in last 6 months			0.368	
15	Cooperates with other people to sell or distribute together			0.411	
16	Decorates place to entice customer to her shop			0.347	
17	Actively discuss business with husband and family members				
18	Has a business target for sales in next year				0.455
19	Has a business budget for costs in next year				0.445
20	Reviews financial performances and analyzes areas for improvement				0.366

Note: Abs (loading)<0.300 are expressed as blanks. The weights per statement in two indices are constructed with a PCA on 7 business practices questioned at the baseline and two indices constructed with a PCA on 13 practices statement questioned in the midline.

Table G 3: Construction of gender knowledge index

		Gender knowledge
Gen.1	Men and women should have equal opportunities in enterprise development	1
Gen.2	Only men can launch a new business	1
Gen.3	Only women are responsible for the housework and children	1
Gen.4	Boys should have more chances to access to education and training than girls	1

Note: The indices are constructed by taking the sum of correct answers

Table G 4: Construction of personal control belief

	Internal locus of control (1 point)	External locus of control (0 point)
1	What happens to me is my own doing	Sometimes I feel that I don't have enough control over the direction my life is taking
2	When I make plans, I am almost certain that I can make them work	When I make plans, it is not always wise to plan too far ahead, because many things turn out to be a matter of good or bad fortune anyhow
3	Getting what I want has little or nothing to do with luck	Many times I might just as well decide what to do by flipping a coin
4	It is impossible for me to believe that chance or luck plays an important role in my life	Many times I feel that I have little influence over the things that happen to me

Note: The index is constructed by taking the sum of points gathered per statement

Table G 5: Construction of intimate partner violence indices

	Relational violence	Relational oppression
Verbal aggression	1	
Physical assault	1	
Insisted on knowing where you are at all times		1
Wanted you to ask permission before doing anything		1

Note: The index is constructed by taking the average of points for the relevant statements

Table G 6: Construction of bargaining power indices

Who makes most decisions about:	Intra-household decision-making	Large expenditure decision-making	Daily domain decision-making
Asking for a loan?	1	1	
Consumer durable items?	1	1	
What health expenditures to make?	1	1	
Saving for business and for household?	1	1	
Expenses for home purchase, improvement or repair?	1	1	
Where to invest surplus money?	1	1	
How to assist family members?	1	1	
What food items to purchase?	1		1
What educational expenditures to make (tuition, etc)?	1		1
What clothing items to purchase?	1		1

Note: The index is constructed by taking the sum of points (Woman=1; Couple=0.5; Husband=0)

H. Descriptive statistics
Table H 1: Descriptive statistics outcome variables

	N	Mean	St.dev	Min	Max
Age (years old)	4035	43.77	10.33	19.00	72.00
Schooling (years)	4030	6.82	2.91	0.00	18.00
Married	4041	0.82	0.39	0.00	1.00
Ethnic group (Kinh)	4041	0.94	0.23	0.00	1.00
Household size	3943	4.74	1.56	1.00	15.00
City (Hanoi)	4041	0.26	0.44	0.00	1.00
Credit access TYM	4037	1.10	0.70	0.00	2.00
Interest in training	4037	0.76	0.43	0.00	1.00
Monthly income	4037	6,064.50	3,418.23	0.00	50,000.00
Agricultural activity	4036	0.78	0.41	0.00	1.00
Land size	4041	1,439.44	1,116.41	0.00	7,200.00
Business activity	4035	0.33	0.47	0.00	1.00
Knowledge index 1	4041	8.94	1.72	0.00	14.00
General practices	4036	0.00	1.42	-2.50	2.60
Innovation	4036	0.00	1.12	-0.37	14.42
Agri sales	4041	2,006.99	8,062.21	0.00	270,000.30
Agri profit	4041	186.89	3,374.76	-66,666.66	108,333.30
Agri profit margin	1982	-0.14	3.18	-134.36	0.93
Business sales	4039	15,697.59	75,024.85	0.00	3,300,000.00
Business profit	4039	2,600.80	26,837.27	-420,000.00	1,500,000.00
Business profit margin	1356	0.25	0.51	-14.00	1.00
B1 sales	4039	15,201.54	73,820.09	0.00	3,300,000.00
B1 profit	4039	2,536.61	26,799.53	-420,000.00	1,500,000.00
B1 profit margin	1360	0.25	0.51	-14.00	1.00
Personal control belief	3240	2.32	0.88	0.00	4.00
Relational violence	4017	0.28	0.44	0.00	3.00
Relational oppression	4030	0.14	0.41	0.00	3.00
Household decisions	4037	6.41	2.14	0.00	10.00
Large expenditures	4037	4.03	1.55	0.00	7.00
Daily domain decisions	4037	2.39	0.77	0.00	3.00

I Results impact analysis

Table I 1: Balance test control and outcome variables

	Age (years old)	Schooling (years)	Married	Ethnic group (Kinh)	Members hh	City (Hanoi)	Credit access TYM	Interest in training	Monthly income	Agricultural activity	Land size	Business activity
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
T2	-0.08	-0.05	0.01	0.00	-0.06	0.01	-0.07	-0.02	457.62	-0.02	-63.22	0.00
	-0.901	-0.849	-0.651	-0.892	-0.577	-0.909	-0.189	-0.618	-0.212	-0.643	-0.587	-0.993
T1	-0.52	-0.18	-0.01	-0.01	-0.04	-0.01	0.00	0.02	53.85	0.00	36.59	-0.03
	-0.409	-0.268	-0.521	-0.611	-0.688	-0.888	-0.896	-0.624	-0.805	-0.909	-0.708	-0.327
Constant	43.98	6.90	0.82	0.94	4.76	0.26	1.11	0.76	5,968.09	0.79	1436.30	0.34
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
N	4,035	4,030	4,041	4,041	3,943	4,041	4,037	4,037	4,037	4,036	4,041	4,035
R^2	0.001	0.001	0.000	0.000	0.000	0.000	0.002	0.001	0.002	0.000	0.001	0.001

	Personal control beliefs	Relational violence	Relational oppression	Overall intra-household decision making	Large expenditure decision-making	Daily domain decision-making
	(25)	(26)	(27)	(28)	(29)	(30)
T2	-0.07	-0.01	0.12	-0.24	-0.17	-0.07
	(0.493)	(0.846)	(0.059)*	(0.179)	(0.137)	(0.454)
T1	-0.09	-0.01	0.03	0.02	0.00	0.02
	(0.208)	(0.728)	(0.423)	(0.869)	(0.992)	(0.748)
Constant	2.36	0.29	0.11	6.45	4.05	2.39
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
N	3,240	4,017	4,030	4,037	4,037	4,037
R^2	0.002	0.000	0.010	0.002	0.002	0.002

	Knowledge	Business Practices		Agricultural activity			Business activity			Main business activity		
	Business 1	General	Innovation	Sales	Profit	Profit margin	Sales	Profit	Profit margin	Sales	Profit	Profit margin
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)
T2	-0.13	-0.30	0.18	24.38	-55.48	0.13	3,947.69	-413.98	-0.03	3,568.54	-426.40	-0.03
	(0.519)	(0.114)	(0.061)*	(0.965)	(0.790)	(0.459)	(0.486)	(0.416)	(0.315)	(0.513)	(0.386)	(0.371)
T1	-0.08	-0.08	0.04	75.23	-65.00	0.20	1,362.34	15.27	-0.12	1,707.53	51.35	-0.12
	(0.633)	(0.510)	(0.427)	(0.797)	(0.657)	(0.211)	(0.729)	(0.989)	(0.009)***	(0.648)	(0.962)	(0.008)***
Constant	8.99	0.08	-0.05	1,974.83	220.40	-0.24	14,531.16	2,664.08	0.29	13,969.40	2,588.49	0.29
	(0.000)***	(0.335)	(0.153)	(0.000)***	(0.034)**	(0.118)	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
N	4,041	4,036	4,036	4,041	4,041	1,982	4,039	4,039	1,356	4,039	4,039	1,360
R^2	0.001	0.005	0.003	0.000	0.000	0.001	0.000	0.000	0.010	0.000	0.000	0.011

Table I 2 1: Impact on business and gender knowledge

ITT	Business knowledge 1			Business knowledge 2		Gender knowledge	
	midline	endline	DD	midline	endline	midline	endline
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Mid * T2	2.05		2.23	2.71		0.98	
	(0.278)***		(0.331)***	(0.539)***		(0.132)***	
Mid * T1	2.23		2.32	2.73		1.08	
	(0.231)***		(0.263)***	(0.415)***		(0.102)***	
End * T2		2.30	2.42		2.62		0.84
		(0.373)***	(0.415)***		(0.547)***		(0.157)***
End * T1		2.52	2.62		3.05		1.10
		(0.278)***	(0.304)***		(0.428)***		(0.127)***
Mid			1.18				
			(0.201)***				
End			1.25				
			(0.195)***				
T2			-0.14				
			(0.210)				
T1			-0.09				
			(0.178)				
Age"	-0.00	-0.00	-0.01	-0.00	-0.01	0.00	-0.00
	(0.004)	(0.005)	(0.003)*	(0.009)	(0.007)	(0.002)	(0.002)
Household size"	0.01	0.05	-0.01	0.04	0.09	-0.01	0.02
	(0.031)	(0.030)	(0.018)	(0.051)	(0.046)**	(0.015)	(0.015)
Married"	0.17	-0.17	0.14	0.06	-0.43	0.04	-0.03
	(0.110)	(0.106)	(0.073)*	(0.224)	(0.153)***	(0.052)	(0.052)
Region"	-0.68	-0.94	-0.49	-0.15	-0.73	-0.12	-0.30
	(0.228)***	(0.320)***	(0.187)***	(0.386)	(0.490)	(0.100)	(0.139)**
Constant	10.40	10.66	9.34	18.51	14.72	2.57	2.70
	(0.332)***	(0.331)***	(0.209)***	(0.585)***	(0.513)***	(0.140)***	(0.178)***
N	3,503	4,192	11,934	3,503	4,192	3,503	4,191
R^2	0.230	0.228	0.361	0.115	0.171	0.240	0.184

Table I 2 2: Impact training on business practices

	General			Innovation			Marketing		Record	
ITT	Midline	endline	DD	midline	endline	DD	midline	endline	Midline	endline
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Mid * T2	1.26		1.45	3.17		3.11	2.00		2.04	
	(0.167)***		(0.194)***	(0.592)***		(0.575)***	(0.222)***		(0.224)***	
Mid * T1	1.25		1.32	2.96		2.92	1.69		1.93	
	(0.128)***		(0.143)***	(0.422)***		(0.418)***	(0.196)***		(0.180)***	
End * T2		1.74	2.03		6.07	5.9		2.94		2.62
		(0.135)***	(0.240)***		(0.596)***	(0.594)***		(0.230)***		(0.209)***
End * T1		1.82	1.88		5.68	5.63		3.11		2.74
		(0.104)***	(0.162)***		(0.438)***	(0.435)***		(0.173)***		(0.173)***
Mid			0.12			1.27				
			-0.104			(0.175)***				
End			0.03			2.04				
			-0.104			(0.281)***				
T2			-0.29			0.18				
			-0.181			-0.112				
T1			-0.07			0.05				
			-0.118			-0.064				
Age"	-0.01	0.00	-0.01	-0.03	0.00	-0.01	-0.02	0.00	-0.01	0.00
	(0.003)***	-0.002	(0.002)***	(0.010)***	-0.009	-0.005	(0.004)***	-0.004	(0.004)***	-0.003
Household size"	0.03	0.02	0.02	0.01	-0.01	0.01	0.02	0.04	0.00	0.04
	(0.015)**	-0.013	(0.009)**	-0.052	-0.053	-0.027	-0.022	(0.023)*	-0.022	(0.020)**
Married"	0.34	0.26	0.40	0.18	0.36	0.31	0.22	0.22	0.22	0.20
	(0.078)***	(0.065)***	(0.050)***	-0.226	(0.204)*	(0.111)***	(0.099)**	(0.085)**	(0.088)**	(0.085)**
Region"	-0.35	-0.17	-0.37	0.58	0.57	0.35	0.03	0.00	-0.23	0.07
	(0.146)**	-0.113	(0.096)***	-0.415	-0.452	-0.255	-0.172	-0.159	-0.18	-0.156
Constant	0.29	-0.11	0.03	2.03	1.69	-0.08	-0.51	-1.24	-0.73	-1.17
	-0.205	-0.153	-0.126	(0.596)***	(0.603)***	-0.285	(0.252)**	(0.220)***	(0.234)***	(0.212)***
N	3,492	4,180	11,909	3,492	4,180	11,909	3,487	4,145	3,487	4,145
R^2	0.204	0.382	0.296	0.122	0.329	0.41	0.219	0.445	0.288	0.44

Table I 2 3: Impact training on agricultural activities

	Sales Agri						Profit Agri					
	Last month			Normal month			Last month			Normal month		
ITT	midline	endline	DD	midline	endline	DD	midline	endline	DD	midline	endline	DD
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mid * T2	61		-275	157		-133	-60		-127	-22		-5
	(350)		(639)	(345)		(623)	(157)		(281)	(138)		(222)
Mid * T1	203		-22	223		132	32		128	31		105
	(287)		(418)	(260)		(336)	(123)		(227)	(105)		(168)
End * T2		1,158	1,029		976	902		454	469		375	464
		(644)*	(677)		(647)	(662)		(291)	(384)		(295)	(333)
End * T1		1,866	1,604		1,559	1,435		719	803		568	632
		(542)***	(663)**		(478)***	(559)**		(230)***	(326)**		(180)***	(238)***
Mid			-297			-254			-23			47
			(245)			(221)			(140)			(109)
End			-223			-6			-59			129
			(254)			(237)			(161)			(121)
T2			179			121			7			-63
			(697)			(675)			(319)			(256)
T1			231			96			-95			-75
			(425)			(345)			(242)			(176)
Age''	-0	14	11	-1	8	7	-2	6	2	0	1	-1
	(10)	(11)	(9)	(9)	(10)	(8)	(4)	(5)	(4)	(3)	(4)	(3)
Household size''	166	216	123	144	222	98	37	37	30	21	51	24
	(60)***	(67)***	(49)**	(53)***	(62)***	(39)**	(25)	(35)	(23)	(18)	(29)*	(17)
Married''	428	564	919	450	413	798	138	192	255	168	73	172
	(262)	(249)**	(160)***	(220)**	(255)	(141)***	(89)	(122)	(71)***	(65)**	(118)	(53)***
Region''	-955	1,177	-64	-848	1,192	-3	1	677	192	-24	745	196
	(271)***	(725)	(376)	(254)***	(669)*	(353)	(131)	(315)**	(174)	(112)	(280)***	(155)
Constant	1,476	-66	773	1,273	225	881	283	-336	29	54	-163	-36
	(626)**	(627)	(587)	(526)**	(596)	(518)*	(285)	(257)	(301)	(174)	(218)	(221)
N	3,036	3,767	10,405	3,036	3,767	10,405	3,036	3,767	10,405	3,036	3,767	10,405
R^2	0.010	0.024	0.009	0.011	0.031	0.011	0.002	0.023	0.006	0.002	0.046	0.012

ITT	Profit margin Agri Last month			Normal month		
	midline	endline	DD	midline	endline	DD
	(13)	(14)	(15)	(16)	(17)	(18)
Mid * T2	-0.05		-0.20	-0.08		-0.25
	(0.082)		(0.134)	(0.105)		(0.206)
Mid * T1	0.02		-0.10	-0.04		-0.25
	(0.068)		(0.127)	(0.083)		(0.180)
End * T2		-0.05	-0.16		0.02	-0.11
		(0.097)	(0.151)		(0.100)	(0.205)
End * T1		0.02	-0.12		0.12	-0.10
		(0.071)	(0.133)		(0.072)	(0.178)
Mid			0.09			0.15
			(0.117)			(0.171)
End			0.12			0.20
			(0.116)			(0.165)
T2			0.12			0.14
			(0.118)			(0.183)
T1			0.13			0.21
			(0.112)			(0.166)
Age"	0.00	0.00	-0.00	-0.00	0.00	-0.00
	(0.002)	(0.002)	(0.002)	(0.003)	(0.002)	(0.002)*
Household size"	0.01	-0.01	-0.01	0.01	-0.00	-0.01
	(0.011)	(0.014)	(0.009)	(0.017)	(0.014)	(0.011)
Married"	0.00	-0.03	-0.03	-0.01	-0.01	-0.04
	(0.049)	(0.044)	(0.030)	(0.060)	(0.045)	(0.039)
Region"	-0.06	0.07	0.03	-0.12	0.16	0.04
	(0.076)	(0.075)	(0.047)	(0.104)	(0.061)**	(0.062)
Constant	-0.04	-0.01	0.04	-0.11	-0.08	-0.00
	(0.127)	(0.111)	(0.085)	(0.161)	(0.114)	(0.099)
Observations	2,036	2,932	7,081	2,029	3,033	7,137
R^2	0.003	0.002	0.002	0.004	0.010	0.003

Table I 2 4: Impact training on business activities

ITT	Sales business						Profit business					
	Last month			Normal month			Last month			Normal month		
	midline	Endline	DD	midline	endline	DD	midline	endline	DD	midline	endline	DD
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mid * T2	-8,503		-22,834	-5,703		-16,661	378		1,578	1,670		2,776
	(4,174)**		(15,180)	(3,795)		(10,785)	(1,298)		(1,785)	(1,162)		(1,274)**
Mid * T1	-4,111		491	-3,180		-6,862	1,473		3,580	1,221		1,214
	(5,482)		(9,622)	(4,161)		(9,592)	(2,062)		(2,670)	(1,205)		(2,979)
End * T2		-5,622	-17,057		-7,039	-15,029		1,588	3,331		1,930	3,400
		(6,915)	(16,831)		(6,530)	(12,407)		(1,400)	(1,944)*		(1,435)	(1,787)*
End * T1		1,454	6,367		-2,067	-5,446		2,438	4,582		2,171	2,235
		(7,145)	(10,174)		(6,665)	(10,271)		(867)***	(1,727)***		(1,304)*	(3,028)
Mid			-9,048			-4,571			-4,467			-4,281
			(7,274)			(5,694)			(1,633)***			(1,031)***
End			-5,560			2,220			-3,400			-2,993
			(9,118)			(7,914)			(1,246)***			(1,424)**
T2			10,807			7,440			-1,747			-1,460
			(16,076)			(11,324)			(1,587)			(923)
T1			-5,006			3,176			-2,148			-66
			(8,492)			(8,642)			(1,659)			(2,694)
Age"	-323	-533	-523	-379	-451	-597	-25	-55	-93	-54	-83	-129
	(198)	(205)**	(149)***	(149)**	(199)**	(174)***	(76)	(30)*	(36)***	(39)	(40)**	(58)**
Household size"	1,381	1,712	16	1,071	1,370	394	562	-218	-109	253	-511	-41
	(1,261)	(1,248)	(934)	(1,014)	(1,105)	(651)	(405)	(245)	(200)	(275)	(511)	(201)
Married"	-611	5,389	9,959	1,334	5,428	8,037	-817	-231	222	-1,014	223	79
	(3,968)	(3,977)	(2,885)***	(3,165)	(3,686)	(2,244)***	(1,019)	(898)	(944)	(743)	(599)	(703)
Region"	-5,107	-16,204	-17,299	167	-12,663	-14,461	-2,625	-2,282	-2,678	-591	-1,459	-2,159
	(4,495)	(5,352)***	(3,526)***	(4,353)	(5,280)**	(3,395)***	(1,158)**	(835)***	(626)***	(939)	(866)*	(651)***
Constant	45,825	53,436	63,997	41,907	49,379	57,181	3,989	9,409	13,747	4,555	9,784	12,969
	(13,788)***	(11,683)***	(9,456)***	(10,082)***	(11,445)***	(8,696)***	(5,211)	(1,705)***	(2,898)***	(2,572)*	(2,999)***	(3,326)***
N	1,355	1,619	4,612	1,355	1,619	4,612	1,355	1,619	4,612	1,355	1,619	4,612
R^2	0.006	0.014	0.018	0.008	0.011	0.015	0.004	0.017	0.009	0.005	0.006	0.006

ITT	Profit margin business					
	Last month			Normal month		
	midline	endline	DD	midline	endline	DD
	(13)	(14)	(15)	(16)	(17)	(18)
Mid * T2	0.08		0.11	0.10		0.14
	(0.041)**		(0.058)*	(0.044)**		(0.057)**
Mid * T1	0.02		0.08	0.02		0.14
	(0.054)		(0.065)	(0.056)		(0.067)**
End * T2		0.01	0.03		0.03	0.07
		(0.042)	(0.052)		(0.029)	(0.049)
End * T1		0.04	0.10		0.04	0.15
		(0.028)	(0.039)***		(0.028)	(0.052)***
Mid			-0.15			-0.17
			(0.042)***			(0.040)***
End			-0.08			-0.09
			(0.029)***			(0.034)***
T2			-0.02			-0.03
			(0.039)			(0.034)
T1			-0.06			-0.12
			(0.032)*			(0.043)***
Age"	0.00	0.00	0.00	-0.00	0.00	0.00
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Household size"	-0.01	-0.01	0.00	-0.01	-0.01	0.00
	(0.009)	(0.008)	(0.003)	(0.011)	(0.007)	(0.004)
Married"	-0.04	0.00	-0.02	-0.04	0.02	-0.02
	(0.026)	(0.020)	(0.021)	(0.028)	(0.016)	(0.019)
Region"	0.03	-0.00	0.03	0.04	0.00	0.03
	(0.040)	(0.023)	(0.019)	(0.041)	(0.021)	(0.019)
Constant	0.22	0.23	0.30	0.25	0.23	0.28
	(0.059)***	(0.046)***	(0.038)***	(0.070)***	(0.049)***	(0.043)***
N	1,042	1,374	3,829	1,042	1,374	3,829
R^2	0.005	0.006	0.014	0.007	0.008	0.015

ITT	Sales B1						Profit B1					
	Last month			Normal month			Last month			Normal month		
	midline	endline	DD	midline	endline	DD	midline	endline	DD	midline	endline	DD
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
Mid * T2	-10,664 (5,364)**		-14,420 (18,876)	-7,346 (4,798)		-18,481 (16,447)	814 (1,883)		3,978 (3,047)	2,709 (1,752)		4,226 (2,339)*
Mid * T1	-1,298 (7,894)		-37 (15,004)	-1,204 (5,681)		-3,027 (11,379)	4,111 (3,257)		5,147 (4,498)	3,121 (1,806)*		5,694 (2,180)***
End * T2		-6,246 (8,753)	-9,700 (20,418)		-9,711 (7,169)	-19,908 (16,934)		3,095 (2,103)	5,949 (2,951)**		799 (1,177)	2,358 (1,966)
End * T1		-1,105 (6,770)	236 (13,462)		-6,011 (5,971)	-7,980 (10,684)		2,370 (1,256)*	3,485 (2,949)		157 (727)	2,744 (1,392)*
Mid			-11,037 (11,202)			-5,020 (8,476)			-4,991 (2,719)*			-5,443 (1,531)***
End			-8,140 (11,971)			2,417 (9,432)			-3,156 (2,120)			-1,522 (1,179)
T2			2,547 (19,947)			9,548 (16,341)			-2,959 (2,615)			-1,572 (1,493)
T1			-1,506 (12,905)			1,632 (9,435)			-1,078 (2,936)			-2,650 (1,225)**
Age"	-228 (337)	-714 (256)***	-714 (228)***	-368 (245)	-511 (209)**	-647 (179)***	5 (136)	-71 (50)	-124 (73)*	-77 (67)	-62 (28)**	-92 (41)**
Household size"	3,474 (1,904)*	3,110 (1,629)*	1,349 (1,383)	2,966 (1,533)*	2,617 (1,414)*	1,929 (1,122)*	1,172 (687)*	-410 (463)	-201 (401)	676 (475)	16 (165)	315 (198)
Married"	2,617 (5,913)	2,106 (5,495)	9,052 (4,888)*	3,432 (5,053)	2,908 (5,172)	7,035 (3,764)*	-1,130 (1,661)	-357 (1,818)	-284 (1,839)	-1,850 (1,285)	895 (601)	-153 (1,384)
Region"	413 (6,670)	-8,655 (6,167)	-14,471 (4,818)***	7,852 (6,499)	-4,756 (6,211)	-9,305 (4,155)**	-4,954 (1,770)***	-317 (1,804)	-3,001 (1,097)***	-1,646 (1,615)	-1,774 (552)***	-1,896 (659)***
Constant	39,705 (22,558)*	66,029 (12,705)***	78,827 (16,603)***	39,738 (16,142)**	56,970 (11,244)***	62,053 (12,241)***	1,166 (8,861)	12,115 (3,084)***	16,997 (5,660)***	4,556 (4,275)	8,499 (1,688)***	11,039 (3,688)***
N	797	797	2,391	797	797	2,391	797	797	2,391	797	797	2,391
R^2	0.007	0.021	0.015	0.014	0.022	0.018	0.010	0.014	0.007	0.013	0.015	0.012

ITT	Profit margin B1					
	Last month			Normal month		
	midline	endline	DD	midline	endline	DD
	(31)	(32)	(33)	(34)	(35)	(36)
Mid * T2	0.09		0.11	0.11		0.14
	(0.050)*		(0.075)	(0.053)**		(0.073)*
Mid * T1	0.08		0.13	0.08		0.19
	(0.047)*		(0.063)**	(0.049)		(0.066)***
End * T2		0.04	0.06		0.01	0.04
		(0.036)	(0.051)		(0.024)	(0.051)
End * T1		0.04	0.08		0.01	0.12
		(0.031)	(0.040)**		(0.021)	(0.052)**
Mid			-0.15			-0.18
			(0.056)***			(0.050)***
End			-0.07			-0.06
			(0.033)**			(0.030)**
T2			-0.02			-0.03
			(0.050)			(0.041)
T1			-0.04			-0.11
			(0.040)			(0.054)**
Age"	-0.00	0.00	-0.00	-0.00	-0.00	-0.00
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Household size"	-0.01	-0.02	-0.01	-0.01	-0.01	0.00
	(0.012)	(0.012)*	(0.005)	(0.014)	(0.004)***	(0.004)
Married"	-0.05	0.01	-0.03	-0.05	0.02	-0.03
	(0.033)	(0.019)	(0.020)*	(0.036)	(0.015)	(0.018)*
Region"	-0.02	-0.02	0.01	-0.01	-0.04	0.00
	(0.047)	(0.026)	(0.026)	(0.049)	(0.019)*	(0.025)
Constant	0.23	0.29	0.36	0.26	0.26	0.32
	(0.074)***	(0.048)***	(0.043)***	(0.090)***	(0.036)***	(0.042)***
N	797	797	2,391	797	797	2,391
R^2	0.012	0.013	0.016	0.013	0.017	0.017

Table I 2 5: Impact training on business entry and exit

Logistic regressions with control variables age, household size, marital status and region. 'T2' refers to women assigned to receive business training individually and 'T1' refers treatment group in which women and men are invited to attend trainings together. Column (1) shows the treatment effects on the probability that a women starts new business activities in a year for all women interviewed in the baseline. Column (2) shows the treatment effects on the probability that a woman stops her main business activity in a year for women with a business activity in the baseline. Standard errors, clustered at the centre level are shown in parentheses under the coefficients. *** Denotes significance at the 1%-level, ** at the 5%-level, and * at the 10% level.

Logit: ITT	Business entry	Business exit
	(1)	(2)
End *T2	1.40	-0.47
	(0.267)***	(0.214)**
End *T1	0.85	-0.19
	(0.227)***	(0.179)
Age	-0.03	-0.00
	(0.006)***	(0.007)
Household size	0.09	0.11
	(0.041)**	(0.037)***
Married	0.29	-0.44
	(0.177)	(0.183)**
Region	0.26	0.40
	(0.261)	(0.227)*
Constant	-2.68	-0.74
	(0.366)***	(0.399)*
N	4,234	1,338

Table I 2 6: Impact training on women empowerment, intimate partner violence and bargaining power

DD: ITT	Personal control			Relational violence			Relational oppression		
	midline	endline	DD	Midline	endline	DD	midline	endline	DD
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Mid * T2	0.15		0.15	-0.07		-0.07	-0.04		-0.14
	(0.153)		(0.160)	(0.048)		(0.061)	(0.033)		(0.085)
Mid * T1	0.02		0.11	-0.03		-0.02	0.04		0.00
	(0.085)		(0.108)	(0.039)		(0.050)	(0.041)		(0.056)
End * T2		0.37	0.44		-0.17	-0.17		-0.12	-0.25
		(0.125)***	(0.166)***		(0.055)***	(0.060)***		(0.050)**	(0.068)***
End * T1		0.26	0.35		-0.19	-0.18		-0.13	-0.16
		(0.105)**	(0.120)***		(0.045)***	(0.056)***		(0.043)***	(0.059)***
Mid			0.17			-0.03			-0.01
			(0.074)**			(0.033)			(0.032)
End			0.19			0.11			0.13
			(0.080)**			(0.037)***			(0.042)***
T2			-0.07			-0.01			0.12
			(0.094)			(0.042)			(0.063)*
T1			-0.09			-0.01			0.03
			(0.071)			(0.036)			(0.040)
Age"	0.00	0.00	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.002)***	(0.002)	(0.001)**	(0.001)***	(0.001)***	(0.001)***	(0.001)*	(0.001)	(0.000)***
Household size"	0.01	0.00	0.01	0.01	-0.00	0.01	-0.00	-0.01	-0.00
	(0.012)	(0.012)	(0.007)	(0.005)**	(0.006)	(0.003)*	(0.004)	(0.005)	(0.003)
Married"	0.02	-0.03	-0.00	0.12	0.13	0.18	0.09	0.10	0.12
	(0.044)	(0.047)	(0.032)	(0.019)***	(0.028)***	(0.015)***	(0.017)***	(0.024)***	(0.014)***
Region"	-0.14	-0.19	-0.17	-0.04	-0.17	-0.07	0.11	-0.05	0.03
	(0.079)*	(0.117)	(0.065)**	(0.041)	(0.039)***	(0.028)***	(0.054)**	(0.038)	(0.033)
Constant	2.27	2.51	2.26	0.24	0.48	0.28	0.09	0.23	0.10
	(0.115)***	(0.124)***	(0.083)***	(0.051)***	(0.053)***	(0.038)***	(0.044)**	(0.052)***	(0.033)***
N	3,403	4,049	10,982	3,453	3,800	11,470	3,453	3,799	11,482
R^2	0.012	0.034	0.050	0.036	0.081	0.061	0.035	0.038	0.035

DD: ITT	Intra-household decision making			Large expenditures decision-making			Daily domain decision-making		
	midline	endline	DD	Midline	endline	DD	midline	endline	DD
	(10)	(11)	(13)	(14)	(15)	(16)	(17)	(18)	(19)
Mid * T2	0.01		0.27	-0.04		0.17	0.06		0.10
	(0.177)		(0.247)	(0.125)		(0.171)	(0.091)		(0.100)
Mid * T1	0.22		0.17	0.13		0.11	0.08		0.05
	(0.122)*		(0.185)	(0.084)		(0.126)	(0.061)		(0.079)
End * T2		0.11	0.31		0.14	0.29		-0.03	0.02
		(0.155)	(0.217)		(0.121)	(0.153)*		(0.084)	(0.103)
End * T1		0.33	0.28		0.34	0.32		-0.01	-0.04
		(0.143)**	(0.197)		(0.104)***	(0.132)**		(0.068)	(0.092)
Mid			-0.08			-0.14			0.06
			(0.122)			(0.083)*			(0.053)
End			-0.31			-0.33			0.02
			(0.135)**			(0.096)***			(0.060)
T2			-0.18			-0.13			-0.05
			(0.174)			(0.112)			(0.087)
T1			0.06			0.02			0.03
			(0.133)			(0.084)			(0.066)
Age"	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.00
	(0.004)***	(0.004)***	(0.003)***	(0.003)***	(0.003)***	(0.002)***	(0.002)	(0.001)	(0.001)
Household size"	-0.07	-0.07	-0.10	-0.08	-0.06	-0.08	0.01	-0.01	-0.02
	(0.023)***	(0.021)***	(0.014)***	(0.018)***	(0.017)***	(0.011)***	(0.008)	(0.008)	(0.005)***
Married"	-1.47	-1.82	-1.51	-1.29	-1.58	-1.43	-0.18	-0.24	-0.07
	(0.157)***	(0.131)***	(0.112)***	(0.123)***	(0.104)***	(0.086)***	(0.044)***	(0.040)***	(0.034)**
Region"	-0.58	-0.20	-0.19	-0.31	0.13	0.03	-0.27	-0.32	-0.22
	(0.123)***	(0.146)	(0.094)**	(0.085)***	(0.119)	(0.065)	(0.071)***	(0.069)***	(0.057)***
Constant	7.77	7.69	7.90	5.08	4.93	5.31	2.69	2.76	2.59
	(0.261)***	(0.219)***	(0.175)***	(0.184)***	(0.171)***	(0.124)***	(0.104)***	(0.086)***	(0.075)***
N	3,400	4,176	11,806	3,403	4,177	11,810	3,499	4,187	11,925
R^2	0.118	0.158	0.121	0.144	0.181	0.169	0.041	0.066	0.032

Table I 3: Additional effects of husband participation and endline on outcomes

DD: ITT	Knowledge	Business Practices		Sales Agri		Profit Agri		Profit margin A	
	Business 1	General	Innovation	Last month	Normal month	Last month	Normal month	Last month	Normal month
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Post * T	2.23	1.45	3.11	-275	-133	-127	-5	-0.20	-0.25
	(0.331)***	(0.194)***	(0.575)***	(639)	(623)	(281)	(222)	(0.134)	(0.206)
Post * T1	0.10	-0.14	-0.19	1,303	1,035	596	470	0.03	0.14
	(0.313)	(0.191)	(0.668)	(650)**	(671)	(310)*	(309)	(0.109)	(0.107)
End * T	0.19	0.57	2.78	252	265	255	110	0.09	-0.00
	(0.269)	(0.191)***	(0.689)***	(680)	(635)	(300)	(231)	(0.084)	(0.129)
End * T1	0.11	-0.01	-0.08	323	268	78	58	-0.05	0.02
	(0.263)	(0.184)	(0.741)	(784)	(762)	(359)	(339)	(0.110)	(0.104)
Post	1.18	0.12	1.27	-297	-254	-23	47	0.09	0.15
	(0.201)***	(0.104)	(0.175)***	(245)	(221)	(140)	(109)	(0.117)	(0.171)
End	0.07	-0.09	0.77	75	248	-36	82	0.03	0.05
	(0.164)	(0.103)	(0.262)***	(187)	(176)	(90)	(63)	(0.061)	(0.067)
Treatment	-0.14	-0.29	0.18	179	121	7	-63	0.12	0.14
	(0.210)	(0.181)	(0.112)	(697)	(675)	(319)	(256)	(0.118)	(0.183)
T1	0.04	0.22	-0.13	52	-24	-102	-12	0.01	0.07
	(0.217)	(0.185)	(0.119)	(729)	(682)	(327)	(255)	(0.065)	(0.103)
Age	-0.01	-0.01	-0.01	11	7	2	-1	-0.00	-0.00
	(0.003)*	(0.002)***	(0.005)	(9)	(8)	(4)	(3)	(0.002)	(0.002)*
Household size	-0.01	0.02	0.01	123	98	30	24	-0.01	-0.01
	(0.018)	(0.009)**	(0.027)	(49)**	(39)**	(23)	(17)	(0.009)	(0.011)
Married	0.14	0.40	0.31	919	798	255	172	-0.03	-0.04
	(0.073)*	(0.050)***	(0.111)***	(160)***	(141)***	(71)***	(53)***	(0.030)	(0.039)
Region	-0.49	-0.37	0.35	-64	-3	192	196	0.03	0.04
	(0.187)***	(0.096)***	(0.255)	(376)	(353)	(174)	(155)	(0.047)	(0.062)
Constant	9.34	0.03	-0.08	773	881	29	-36	0.04	-0.00
	(0.209)***	(0.126)	(0.285)	(587)	(518)*	(301)	(221)	(0.085)	(0.099)
N	11,934	11,909	11,909	10,405	10,405	10,405	10,405	7,081	7,137
R²	0.361	0.296	0.410	0.009	0.011	0.006	0.012	0.002	0.003

	Business activities						Main business activity (B1)					
	Sales B		**Profit B**		**Profit margin B**		**Sales**		**Profit**		**Profit margin**	
DD: ITT	Last month	Normal month	Last month	Normal month	Last month	Normal month	Last month	Normal month	Last month	Normal month	Last month	Normal month
	(10)	(11)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
Post * T	-22,834	-16,661	1,578	2,776	0.11	0.14	-14,420	-18,481	3,978	4,226	0.11	0.14
	(15,180)	(10,785)	(1,785)	(1,274)**	(0.058)*	(0.057)**	(18,876)	(16,447)	(3,047)	(2,339)*	(0.075)	(0.073)*
Post * T1	5,776	1,632	1,753	625	-0.07	-0.08	4,721	-1,428	1,971	-1,868	-0.05	-0.10
	(6,238)	(5,967)	(1,494)	(1,622)	(0.059)	(0.049)	(8,216)	(6,723)	(2,275)	(1,645)	(0.060)	(0.055)*
End * T	23,324	9,799	2,002	-1,562	-0.03	-0.00	14,383	15,453	1,169	1,468	0.02	0.05
	(14,807)	(11,968)	(2,233)	(2,861)	(0.063)	(0.066)	(18,231)	(16,041)	(3,860)	(2,322)	(0.058)	(0.067)
End * T1	100	-216	-751	397	0.10	0.09	-4,448	-3,525	-3,633	-1,082	0.01	0.03
	(7,008)	(5,326)	(1,992)	(1,128)	(0.060)	(0.051)*	(10,629)	(7,558)	(3,176)	(1,636)	(0.037)	(0.035)
Post	-9,048	-4,571	-4,467	-4,281	-0.15	-0.17	-11,037	-5,020	-4,991	-5,443	-0.15	-0.18
	(7,274)	(5,694)	(1,633)***	(1,031)***	(0.042)***	(0.040)***	(11,202)	(8,476)	(2,719)*	(1,531)***	(0.056)***	(0.050)***
End	3,487	6,791	1,066	1,288	0.06	0.08	2,897	7,438	1,835	3,921	0.08	0.12
	(4,796)	(4,893)	(932)	(1,436)	(0.041)	(0.041)*	(3,938)	(3,931)*	(1,372)	(1,170)***	(0.051)*	(0.046)**
Treatment	10,807	7,440	-1,747	-1,460	-0.02	-0.03	2,547	9,548	-2,959	-1,572	-0.02	-0.03
	(16,076)	(11,324)	(1,587)	(923)	(0.039)	(0.034)	(19,947)	(16,341)	(2,615)	(1,493)	(0.050)	(0.041)
T1	-15,813	-4,264	-401	1,395	-0.04	-0.08	-4,053	-7,916	1,880	-1,079	-0.03	-0.08
	(14,871)	(12,102)	(1,063)	(2,634)	(0.037)	(0.048)*	(17,446)	(15,253)	(1,665)	(999)	(0.041)	(0.060)
Age	-523	-597	-93	-129	0.00	0.00	-714	-647	-124	-92	-0.00	-0.00
	(149)***	(174)***	(36)***	(58)**	(0.001)	(0.001)	(228)***	(179)***	(73)*	(41)**	(0.001)	(0.001)
Household size	16	394	-109	-41	0.00	0.00	1,349	1,929	-201	315	-0.01	0.00
	(934)	(651)	(200)	(201)	(0.003)	(0.004)	(1,383)	(1,122)*	(401)	(198)	(0.005)	(0.004)
Married	9,959	8,037	222	79	-0.02	-0.02	9,052	7,035	-284	-153	-0.03	-0.03
	(2,885)***	(2,244)***	(944)	(703)	(0.021)	(0.019)	(4,888)*	(3,764)*	(1,839)	(1,384)	(0.020)*	(0.018)*
Region	-17,299	-14,461	-2,678	-2,159	0.03	0.03	-14,471	-9,305	-3,001	-1,896	0.01	0.00
	(3,526)***	(3,395)***	(626)***	(651)***	(0.019)	(0.019)	(4,818)***	(4,155)**	(1,097)***	(659)***	(0.026)	(0.025)
Constant	63,997	57,181	13,747	12,969	0.30	0.28	78,827	62,053	16,997	11,039	0.36	0.32
	(9,456)***	(8,696)***	(2,898)***	(3,326)***	(0.038)***	(0.043)***	(16,603)***	(12,241)***	(5,660)***	(3,688)***	(0.043)***	(0.042)***
N	4,612	4,612	4,612	4,612	3,829	3,829	2,391	2,391	2,391	2,391	2,391	2,391
R²	0.018	0.015	0.009	0.006	0.014	0.015	0.015	0.018	0.007	0.012	0.016	0.017

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	Women empowerment					
DD: ITT	Personal control beliefs	Relational violence	Relational oppression	Overall intra-household decision making	Large expenditure decision-making	Daily domain decision-making
	(23)	(24)	(25)	(26)	(27)	(28)
Post * T	0.15	-0.07	-0.14	0.27	0.17	0.10
	(0.160)	(0.061)	(0.085)	(0.247)	(0.171)	(0.100)
Post * T1	-0.04	0.05	0.14	-0.10	-0.06	-0.05
	(0.163)	(0.064)	(0.091)	(0.257)	(0.177)	(0.103)
End * T	0.29	-0.09	-0.11	0.05	0.12	-0.09
	(0.138)**	(0.061)	(0.059)*	(0.155)	(0.125)	(0.073)
End * T1	-0.05	-0.06	-0.06	0.07	0.08	-0.01
	(0.143)	(0.061)	(0.059)	(0.145)	(0.110)	(0.081)
Post	0.17	-0.03	-0.01	-0.08	-0.14	0.06
	(0.074)**	(0.033)	(0.032)	(0.122)	(0.083)*	(0.053)
End	0.01	0.14	0.14	-0.23	-0.19	-0.04
	(0.066)	(0.034)***	(0.033)***	(0.101)**	(0.084)**	(0.033)
Treatment	-0.07	-0.01	0.12	-0.18	-0.13	-0.05
	(0.094)	(0.042)	(0.063)*	(0.174)	(0.112)	(0.087)
T1	-0.02	-0.00	-0.09	0.23	0.15	0.08
	(0.098)	(0.042)	(0.066)	(0.183)	(0.117)	(0.089)
Age	0.00	-0.00	-0.00	0.01	0.01	0.00
	(0.001)**	(0.001)***	(0.000)***	(0.003)***	(0.002)***	(0.001)
Household size	0.01	0.01	-0.00	-0.10	-0.08	-0.02
	(0.007)	(0.003)*	(0.003)	(0.014)***	(0.011)***	(0.005)***
Married	-0.00	0.18	0.12	-1.51	-1.43	-0.07
	(0.032)	(0.015)***	(0.014)***	(0.112)***	(0.086)***	(0.034)**
Region	-0.17	-0.07	0.03	-0.19	0.03	-0.22
	(0.065)**	(0.028)***	(0.033)	(0.094)**	(0.065)	(0.057)***
Constant	2.26	0.28	0.10	7.90	5.31	2.59
	(0.083)***	(0.038)***	(0.033)***	(0.175)***	(0.124)***	(0.075)***
N	10,982	11,470	11,482	11,806	11,810	11,925
R^2	0.050	0.061	0.035	0.121	0.169	0.032

Table I 4: LATE Estimates

IV: TOT	Business knowledge 1		Business knowledge 2		Gender knowledge	
	midline	Endline	Midline	endline	midline	endline
	(1)	(2)	(3)	(4)	(5)	(6)
Mid * T2	2.48		3.27		1.18	
	(0.339)***		(0.630)***		(0.157)***	
Mid * T1	2.73		3.34		1.33	
	(0.285)***		(0.498)***		(0.129)***	
End * T2		3.17		3.61		1.16
		(0.529)***		(0.771)***		(0.221)***
End * T1		3.40		4.11		1.48
		(0.392)***		(0.596)***		(0.176)***
Age	-0.01	-0.0188	-0.01	-0.02	-0.00	-0.01
	(0.004)**	(0.005)	(0.009)	(0.007)8	(0.002)	(0.002)*
Household size	0.01	0.02	0.02	0.06	-0.01	0.01
	(0.032)	(0.031)	(0.050)	(0.048)	(0.015)	(0.016)
Married	0.09	-0.26	-0.04	-0.64	0.00	-0.07
	(0.107)	(0.114)	(0.220)	(0.159)***	(0.052)	(0.053)
Region	-0.82	-1.16	-0.32	-0.98	-0.18	-0.39
	(0.228)***	(0.331)***	(0.380)	(0.509)	(0.099)*	(0.140)**
Constant	10.79	11.30	18.99	15.49	2.75	2.96
	(0.317)***	(0.314)***	(0.557)***	(0.489)***	(0.136)***	(0.167)***
N	3,503	4,192	3,503	4,192	3,503	4,191
R^2	0.205	0.166	0.120	0.125	0.199	0.126

IV: TOT	General		Innovation		Marketing		Record	
	Midline	Endline	midline	endline	midline	endline	midline	Endline
	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Mid * T2	1.53		3.83		2.42		2.47	
	(0.204)***		(0.723)***		(0.272)***		(0.270)***	
Mid * T1	1.53		3.63		2.07		2.37	
	(0.158)***		(0.514)***		(0.235)***		(0.219)***	
End * T2		2.41		8.40		4.03		3.60
		(0.175***		(0.785)***		(0.303)***		(0.279)***
End * T1		2.44		7.73		4.18		3.69
		(0.142***		(0.598)***		(0.243)***		(0.247)***
Age	-0.01	-0.01	-0.03	-0.02	-0.02	-0.01	-0.02	-0.01
	(0.003)***	(0.002*	(0.010)***	(0.009)**	(0.004)***	(0.004)	(0.004)***	(0.003***)
Household size	0.03	-0.00	0.00	-0.00	0.01	0.01	-0.01	0.01
	(0.015)**	(0.014	(0.051)	(0.014)	(0.021)	(0.025)**	(0.022)	(0.021)
Married	0.29	0.20	0.08	0.20	0.16	0.11	0.15	0.10
	(0.076)***	(0.068	(0.224)	(0.068)***	(0.099)	(0.092)	(0.090)**	(0.090)
Region	-0.43	0.33	0.39	-0.33	-0.08	-0.26	-0.36	-0.16
	(0.148)**	(0.112***	(0.410)	(0.112)***	(0.168)	(0.154)	(0.181)	(0.156)
Constant	0.51	0.35	2.56	0.35	-0.21	-0.48	-0.39	-0.50
	(0.189)	(0.144*	(0.588)***	(0.144)**	(0.237)	(0.221)**	(0.232)***	(0.209)**
N	3,492	4,180	3,492	4,180	3,487	4,145	3,487	4,145
R^2	0.185	0.342	0.113	0.342	0.209	0.373	0.256	0.331

IV: TOT	Sales A				Profit A				Profit margin A			
	Last month		Normal month		Last month		Normal month		Last month		Normal month	
	midline	endline	midline	endline	midline	endline	midline	endline	midline	endline	midline	Endline
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Mid * T2	73		188		-72		-26		-0.06		-0.10	
	(418)		(413)		(188)		(165)		(0.096)		(0.124)	
Mid * T1	247		271		39		37		0.03		-0.05	
	(347)		(315)		(150)		(128)		(0.080)		(0.100)	
End * T2		1,574		1,328		617		510		-0.07		0.02
		(860)**		(865)**		(388)**		(395)		(0.134)		(0.137)
End * T1		2,519		2,104		971		767		0.02		0.16
		(725)***		(639)****		(308)***		(240)***		(0.096)		(0.097)
Age	-1.0	8	-1.0	3	-2	4	0	-1	0.00	0.00	-0.00	0.00
	(10)	(11)	(9)	(10)	(4)	(5)	(3)	(4)	(0.002)	(0.002)	(0.003)	(0.003)
Household size	165	200	143	208	37	31	21	46	0.01	-0.01	0.01	-0.00
	(60)***	(65)***	(52)***	(59)***	(25)	(34)	(18)	(28)*	(0.011)	(0.014)	(0.017)	(0.014)
Married	421	482	442	345	136	160	167	48	0.00	-0.03	-0.01	-0.02
	(261)	(249)*	(219)**	(257)	(90)	(122)	(64)****	(119)	(0.049)	(0.045)	(0.060)	(0.046)
Region	-964	1,035	-860	1,074	2	622	-25	701	-0.06	0.07	-0.12	0.15
	(268)***	(691)	(250)***	(635)*	(128)	(300)**	(110)	(265)***	(0.076)	(0.076)	(0.105)	(0.063)**
Constant	1,504	371	1,306	590	285	-167	58	-29	-0.04	-0.01	-0.12	-0.06
	(615)**	(588)	(519)**	(565)	(276)	(245)	(169)	(210)	(0.128)	(0.113)	(0.159)	(0.116)
N	3,036	3,767	3,036	3,767	3,036	3,767	3,036	3,767	2,036	2,932	2,029	3,033
R^2	0.011	0.031	0.011	0.040	0.002	0.029	0.003	0.042	0.003	0.002	0.003	0.010

IV: TOT	Sales B Last month		Normal month		Profit B Last month		Normal month		Profit margin B Last month		Normal month	
	Midline	Endline	midline	endline	midline	endline	midline	endline	midline	endline	Midline	endline
	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(21)	(22)	(23)
Mid * T2	-10,743 (5,309)**		-7,206 (4,791)		479 (1,627)		2,110 (1,441)		0.10 (0.049)**		0.13 (0.052)**	
Mid * T1	-5,134 (6,826)		-3,972 (5,184)		1,841 (2,562)		1,`526 (1,497)		0.03 (0.068)		0.03 (0.069)	
End * T2		-7,959 (9,780)		-9,963 (9,233)		2,246 (1,951)		2,731 (2,007)		0.01 (0.060)		0.05 (0.042)
End * T1		2,006 (9,762)		-2,830 (9,107)		3,348 (1,190)***		2,980 (1,783)*		0.06 (0.039)*		0.05 (0.038)
Age	-314 (193)	-531 (196)***	-372 (147)**	-436 (188)**	-28 (73)	-64 (29)*	-56 (38)	-92 (44)**	-0.00 (0.001)	0.00 (0.001)	-0.00 (0.001)	0.00 (0.001)
Household size	1,412 (1,254)	1,722 (1,268)	1,092 (1,006)	1,412 (1,130)	569 (401)	-242 (247)	247 (273)	-534 (521)	-0.01 (0.009)	-0.01 (0.008)	-0.01 (0.010)	-0.01 (0.008)*
Married	-629 (3,907)	5,119 (3,963)	1,333 (3,132)	5,327 (3,693)	-851 (972)	-328 (897)	-1,022 (733)	153 (614)	-0.04 (0.025)	-0.00 (0.021)	-0.04 (0.028)	0.01 (0.016)
Region	-4,999 (4,483)	-16,081 (5,279)***	243 (4,336)	-12,537 (5,204)**	-2,641 (1,159)**	-2,296 (834)***	-616 (932)	-1,481 (849)*	0.03 (0.040)	-0.00 (0.023)	0.04 (0.041)	0.00 (0.020)
Constant	45,279 (13,389)***	53,513 (10,812)***	41,493 (9,825)***	48,646 (10,518)***	4,160 (4,982)	9,996 (1,695)***	4,710 (2,491)*	10,327 (3,242)***	0.22 (0.057)***	0.24 (0.042)***	0.25 (0.069)***	0.24 (0.050)***
N	1,355	1,619	1,355	1,619	1,355	1,619	1,355	1,619	1,042	1,374	1,042	1,374
R^2	0.004	0.014	0.007	0.011	0.004	0.015	0.005	0.005	0.005	0.008	0.007	0.010

IV: TOT	Sales B1 Last month		Normal month		Profit B1 Last month		Normal month		Profit margin B1 Last month		Normal month	
	Midline	Endline	midline	endline	midline	endline	midline	Endline	midline	endline	Midline	Endline
	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(33)	(34)	(35)	(36)
Mid * T2	--13,117		-9,036		995		3,328		0.11		0.14	
	(6,554)**		(5,850)		(2,294)		(2,115)		(0.060)*		(0.064)**	
Mid * T1	-1,621		-1,504		5,135		3,898		0.10		0.10	
	(9,798)		(7,053)		(4,025)		(2,228)*		(0.059)*		(0.061)*	
End * T2		-7,682		-11,938		3,804		983		0.04		0.01
		(10,710)		(8,764)		(2,517)		(1,423)		(0.044)		(0.030)
End * T1		-1,380		-7,507		2,960		196		0.05		0.02
		(8,401)		(7,413)		(1,558)*		(902)		(0.039)		(0.026)
Age	-221	-710	-363	-498	-1	-76	-82	-63	-0.00	0.00	-0.00	-0.00
	(329)	(255)***	(240)	(207)**	(132)	(49)	(66)	(28)**	(0.001)	(0.001)	(0.001)	(0.001)
Household size	3,508	3,131	2,990	2,659	1,159	-425	660	13	-0.01	-0.02	-0.01	-0.01
	(1,881)	(1,629)*	(1,514)*	(1,413)*	(677)*	(463)	(472)	(165)	(0.011)	(0.012)*	(0.014)	(0.004)***
Married	2,612	2,107	3,432	2,952	-1,170	-375	-1,876	895	-0.05	0.01	-0.05	0.02
	(5,835)	(5,463)	(5,001)	(5,140)	(1,633)	(1,792)	(1,277)	(594)	(0.033)	(0.019)	(0.036)	(0.015)
Region	505	-8,591	7,924	-4,539	-5,001	-399	-1,747	-1,783	-0.02	-0.02	-0.02	-0.04
	(6,667)	(6,099)	(6,466)	(6,162)	(1,811)***	(1,802)	(1,603)	(553)***	(0.047)	(0.026)	(0.049)	(0.019)*
Constant	39,265	65,744	39,410	56,182	1,522	12,402	4,892	8,537	0.24	0.30	0.27	0.27
	(21,946*	(12,471)***	(15,714)**	(10,943)***	(8,573)	(3,041)***	(4,172)	(1,654)***	(0.073)***	(0.047)***	(0.089)***	(0.036)***
N	797	797	797	797	797	797	797	797	797	797	797	797
R^2	0.007	0.021	0.014	0.022	0.011	0.014	0.014	0.015	0.012	0.013	0.013	0.018

IV: TOT	Personal control		Relational violence		Relational oppression	
	midline	endline	midline	Endline	midline	Endline
	(37)	(38)	(39)	(40)	(41)	(42)
Mid * T2	0.18		-0.09		-0.05	
	(0.184)		(0.058)		(0.039)	
Mid * T1	0.03		-0.04		0.04	
	(0.103)		(0.047)		(0.050)	
End * T2		0.51		-0.23		-0.17
		(0.168)***		(0.076)***		(0.070)**
End * T1		0.35		-0.25		-0.17
		(0.139)**		(0.061)***		(0.058)***
Age	0.00	0.00	-0.00	-0.00	-0.00	0.00
	(0.002)***	(0.002)	(0.001)***	(0.001)***	(0.001)*	(0.001)
Household size	0.01	0.00	0.01	-0.00	-0.00	-0.01
	(0.012)	(0.012)	(0.005)**	(0.006)	(0.004)	(0.005)
Married	0.02	-0.03	0.13	0.14	0.09	0.10
	(0.044)	(0.047)	(0.019)***	(0.028)***	(0.016)***	(0.024)***
Region	-0.15	-0.22	-0.03	-0.16	0.11	-0.03
	(0.080)*	(0.118)*	(0.041)	(0.040)***	(0.054)**	(0.037)
Constant	2.28	2.59	0.24	0.43	0.09	0.19
	(0.110)***	(0.118)***	(0.049)***	(0.049)***	(0.042)**	(0.047)***
N	3,403	4,049	3,453	3,800	3,453	3,799
R^2	0.013	0.036	0.036	0.068	0.035	0.021

IV: TOT	Intra-household		Large expenditures		Daily domain	
	midline	endline	Midline	Endline	midline	Endline
	(43)	(44)	(45)	(46)	(47)	(48)
Mid * T2	0.01		-0.05		0.07	
	(0.213)		(0.151)		(0.110)	
Mid * T1	0.26		0.16		0.10	
	(0.150)*		(0.104)		(0.075)	
End * T2		0.16		0.20		-0.04
		(0.214)		(0.168)		(0.115)
End * T1		0.45		0.46		-0.01
		(0.192)**		(0.139)***		(0.091)
Age	0.01	0.01	0.01	0.01	-0.00	0.00
	(0.004)***	(0.004)***	(0.003)***	(0.003)***	(0.002)	(0.002)
Household size	-0.07	-0.07	-0.08	-0.06	0.01	-0.01
	(0.023)***	(0.021)***	(0.018)***	(0.017)***	(0.008)	(0.008)
Married	-1.48	-1.84	-1.29	-1.59	-0.18	-0.25
	(0.157)***	(0.131)***	(0.123)***	(0.104)***	(0.045)***	(0.040)***
Region	-0.59	-0.22	-0.31	0.10	-0.28	-0.32
	(0.123)***	(0.148)	(0.086)***	(0.122)	(0.071)***	(0.069)***
Constant	7.80	7.76	5.10	5.00	2.70	2.75
	(0.255)***	(0.210)***	(0.181)***	(0.163)***	(0.099)***	(0.080)***
N	3,400	4,176	3,403	4,177	3,499	4,187
R^2	0.117	0.156	0.144	0.177	0.039	0.067

Table I 5 1 : Theory of change I: knowledge and business practices

	(1)	(2)	(3)	(4)
VARIABLES	General	Innovation	Marketing	Record
Business knowledge 1	0.57 (0.083)***	1.38 (0.229)***	0.81 (0.113)***	0.90 (0.107)***
Observations	3,492	3,492	3,487	3,487

Notes: Second stage of a 2SLS model where business knowledge was instrumented by the treatment dummies.
Based on regression analysis that contain the following covariates: age, household size, married, region.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors between parentheses.

Table I   5 2: Theory of change II: Knowledge and profits

	(1) Profit main activity last month	(2) Profit main activity normal month	(3) Profit last month	(4) Profit normal month
VARIABLES				
Business knowledge 1	924 (431)**	120 (241)	745 (299)**	739 (459)
Observations	1,619	1,619	1,619	1,619
R-squared	0.010	0.000	0.022	0.003

Notes: Second stage of a 2SLS model where business knowledge was instrumented by the treatment dummies.
 Based on regression analysis that contain the following covariates: age, household size, married, region.
 * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors between parentheses.

Table I 6 1: Heterogeneous treatment effects: Impact on Knowledge Index 1 at endline

Sample	Baseline Knowledge Index 1		Baseline Schooling (Years)		Baseline Age	
	>9	≤9	>7	≤7l	>45	≤45
Treatment	2.16	2.67	2.25	2.57	2.41	2.46
	(0.274)***	(0.304)***	(0.284)***	(0.281)***	(0.282)***	(0.267)***
Constant	10.61	10.74	10.38	11.18	11.73	10.23
	(0.424)***	(0.419)***	(0.446)***	(0.446)***	(0.791)***	(0.473)***
Observations	2,001	2,191	1,719	2,473	1,972	2,220
R-squared	0.186	0.265	0.183	0.264	0.232	0.227

Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1;

Table I 6 2 : Heterogeneous treatment effects, based on baseline values of knowledge index 1: Impact on business practices

	General		Innovation		Marketing		Record	
Knowledge index 1	>9	≤9	>9	≤9	>9	≤9	>9	≤9
treatment	1.60	1.96	5.61	6.08	2.90	3.19	2.52	2.84
	(0.112)***	(0.122)***	(0.458)***	(0.449)***	(0.192)***	(0.184)***	(0.203)***	(0.178)***
Constant	-0.10	-0.04	1.12	2.47	-1.27	-1.09	-1.05	-1.19
	(0.189)	(0.189)	(0.761)	(0.736)***	(0.301)***	(0.246)***	(0.314)***	(0.223)***
Observations	2,004	2,176	2,004	2,176	1,983	2,162	1,983	2,162
R-squared	0.311	0.457	0.306	0.369	0.403	0.504	0.390	0.499

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1

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