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Microfinance and Women's Empowerment: An Empirical Evidence in Vietnam

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Abstract

The study measures an impact of microfinance on women's empowerment with a case study on TYM Funds, a Vietnamese microfinance program initiated by Vietnam's Women Union. The purpose of the study is to examine whether microfinance participants are more empowered than non-members, and whether membership duration enhances the degree of empowerment among the clients. The author constructs the empowerment indices based on three subdimensions: Economic Security, Household Major Decision, and Community Involvement. The empirical data is built on TYM Funds' impact assessment survey, which was conducted on 544 women including in-training clients, new clients and mature clients. A logistic regression model is used to analyze the data. It is found that microfinance members are overall significantly more empowered than non-members in every dimension, but there is little evidence to corroborate the monotonous relationship between membership duration and the degree of empowerment among the mature clients. Also, it is found that higher score in the empowerment indices is partially influenced by the number of household members who earn regular income, and married women appear to be less likely to be empowered than non-married borrowers in every dimension.

Keywords

microfinance, women's empowerment, Vietnam, logistic model

Subject Categories

Finance | Growth and Development

MICROFINANCE AND WOMEN'S EMPOWERMENT

AN EMPIRICAL EVIDENCE IN VIETNAM

BY

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ABSTRACT

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The study measures an impact of microfinance on women’s empowerment with a case study on TYM Funds, a Vietnamese microfinance program initiated by Vietnam’s Women Union. The purpose of the study is to examine whether microfinance participants are more empowered than non-members, and whether membership duration enhances the degree of empowerment among the clients. The author constructs the empowerment indices based on three subdimensions: Economic Security, Household Major Decision, and Community Involvement. The empirical data is built on TYM Funds’ impact assessment survey, which was conducted on 544 women including in-training clients, new clients and mature clients. A logistic regression model is used to analyze the data. It is found that microfinance members are overall significantly more empowered than non-members in every dimension, but there is little evidence to corroborate the monotonous relationship between membership duration and the degree of empowerment among the mature clients. Also, it is found that higher score in the empowerment indices is partially influenced by the number of household members who earn regular income, and married women appear to be less likely to be empowered than non-married borrowers in every dimension.

1. INTRODUCTION AND PURPOSE OF THE STUDY

Women's empowerment has been one of the United Nation's eight Millennium Development Goals which seek to "combat poverty, hunger, disease, illiteracy, environmental degradation, and discrimination against women" ("MDGs", n.d.). Comprehensive women's advancement in every aspect of life is viewed as an imperative call since not only it is by nature that men and women should have equal status, opportunities, and rights; but also, empowering women is a starting point to achieve gender equity at national level and improve the well-being of the whole society. Although the mandate of improving women's social and economic presence has been listed in many countries' agenda, in many developing and underdeveloped regions, this segment is still underrated and somewhat suppressed by the surrounding patriarchal system. On one hand, it is the government that should be responsible, though sometimes unexcited, to impose legal framework to improve gender relations and promote gender equality. On the other hand, this responsibility has been partially conferred to microfinance as the sector is believed to play an important role in boosting economic dependency for women and enable them to gain greater social capital (Ackerly, 1995; Sujatha & Malyadri, 2015). Thus, it is not unusual to see microfinance as a platform to elevate women's social standing relative to their male counterparts, and such ability to facilitate women's advancement in either domestic or social sphere has also been considered as one of a microfinance institution's (MFI) successes as well.

Vietnam is one of a few developing countries that are eager to comply with the UN's gender development agenda by establishing legal framework to promote gender equality and women's advancement (Schuler et al., 2006). The role of improve women's status nationwide has been conferred to Vietnam Women's Union (VWU), which is the country's Communist Party's arm serving to extend the communication and disseminate its policy to the mass.

Although VWU has long been organizing discrete, informal micro-lending programs in rural regions, it was not until 1992 that it decided to establish a large-scale, registered microfinance program called TYM Funds to serve rural Vietnamese women.

Since previous studies only focused on the VWU itself instead of TYM Funds, and since there is a scarcity in the literature regarding measuring the degree of empowerment among Vietnamese microfinance clients as well, the purpose of this study is to examine whether microfinance participants are significantly more empowered that non-members, and whether membership duration enhances the degree of empowerment after joining the program. The study will use the TYM Funds as a case study and after this evaluation, it is hoped that the result will help to answer to what extent microfinance has fulfilled the Party's commitment in promoting gender equality in Vietnam, as well as to suggest an improvement in TYM Funds' operation.

To quantify the degree of empowerment, the study will construct the women's empowerment index based on three dimensions: Economic Security, Household Major Decision, and Community Involvement. The data employed in this exercise is derived from TYM's 2007 AIMS/SEEP Impact Assessment Survey conducted on its 544 clients. Through this quantitative exercise, I will attempt to answer two following questions:

(i) Does a participation in a microfinance program help empower women economically and socially?

(ii) Does the duration of membership further enhance the degree of empowerment among microfinance clients?

The paper's structure will be as followed: Section 2 is a literature review which discusses the conceptualization and measurement of empowerment, as well as some issues regarding choosing the control group in an impact assessment, Section 3 presents the methodology, Section 4 summaries the descriptive statistics, Section 5 discusses the regression results, Section 6 concludes and wraps up main findings, and Section 7 will suggest some improvement for future study design.

2. LITERATURE REVIEW

2.1. Defining empowerment

As gender equality and social advancement of women worldwide have become a part of global development goal, it is necessary to construct a formal definition of women's empowerment and in what circumstances empowerment should be recognized. One noteworthy comment from previous studies is that empowerment is not an end point, but it is a process in which power is accumulated and emphasized over time (Bennet, 2002; Kabeer, 1999; Kabeer, 2005; Malhotra et al., 2002). Here, power should be exercised "from below" and carried out by an individual (Malhotra et al., 2002, p.5). In other words, while a systemic, institutional changes of the surrounding environment is necessary to sustain empowerment, it is not sufficient to assert that women have indeed gain their authority and relational power compared to men. One is considered empowered when she is able to "acquire the power to act freely, exercise their rights, and fulfill their potential as full and equal members of the society" (USAID, 2012, p.3).

The discussion of empowerment brings about a discourse of the difference between gender equality, gender equity, and women's empowerment, although these terms all exhibit an advancement of women's status. Gender equality refers to a concept that men and women are entitled to the freedom of choice and personality development without any impediment generated from "stereotypes, rigid gender roles and prejudices" (UNESCO, 2000). It admits that there are differences regarding the preferences and priorities between the two sexes, but there should be no gender discrimination toward their rights, opportunities, and responsibilities. The second concept, gender equity, relates to a practical implication of gender equality in real life. It could be achieved through a fair treatment to both men and women, by enacting some measures and strategies to ensure that all human beings are having a level playing field (UNESCO, 2000). Thus, by these definitions, gender equality is an end goal while gender equity is a mean to achieve that status.

While gender equity and women's empowerment both refer to a process of improving women's status, it should be noted that gender equity is usually done by some "external forces" such as government or an institution which get involved in issuing a protection and promotion of women's rights (Malhotra et al., 2002). On the other hand, empowerment emanates from an individual herself who is able to recognize her rights and opportunities; as well as to freely make "strategic life choices" (Kabeer, 2005, p.14) that she was used to be deprived of. Strategic life choices refer to those that significantly contribute to one's life consequences such as whether to marry, to choose her own husband, to have children, to send her children to school or to send them to hospital for a formal medical treatment. These choices should be "seen to exist" (Kabeer, 2005, p.14), or viable, since there are cases that women assume their submissive role and insignificance, hence suppress themselves from available choices such as initiating a divorce or defying her husband's abuse (Garikipati, 2013; Goetz & Gupta, 1996; Schuler et al., 2006).

It is noteworthy that sometimes, asking a woman a yes/no question regarding whether she has exercised such major decision-making process is insufficient to decide that she is empowered. For instance, if it is known that she has taken her child for immunizations in the last six months, further questions should be extended to determine if she did initiate this idea or she was only adhered to instructions from local health campaign. This action would be classified as sign of “genuine” empowerment only when she really realizes the long-term benefits of having her children immunized, and she has already weighted all the possible opportunity costs in terms of time and forgone money she could have earned (Santillan et al., 2004).

Through this example, it is shown that empowerment itself is a multidimensional concept and it requires a careful examination to interpret the purpose of one’s life choices. Following that, empowerment is divided into three following dimensions: outcome, agency, resources (Kabeer, 1999; Kabeer, 2005). Considering the example above, bringing children for immunization would indicate a favorable outcome but a further examination of her motivation belongs to agency dimension. In other words, outcome represents an observable achievement of a woman that she did not enjoy in the past. This dimension ranges widely from household level such as she is now having her own income-generating activity, legal claim on household assets, or being able to venture outside without husband’s permission; to community level such as she is now actively participating in community activities or holding a leadership role in women union. On the other hand, agency dimension emphasizes women’s “sense of self-worth” and requires women to be actors of their own actions; that is, every decision should convey a “meaning, motivation, and purpose” (Kabeer, 2005, p.14).

The last dimension, resources, is a medium in which outcome is achieved. This could be seen as a “catalyst” (Malhotra et al., 2002, p.8) for empowerment to materialize and is usually measured through women’s ability to have access to credits, healthcare, education, or employment. For instance, an increasing amount of loan disbursed to rural women or an improved attendance rate among female students could represent a resource for empowerment in general; however, it is risky to assume that empowerment is guaranteed by simply relying on these optimistic figures as it fails to capture the full dynamics of women’s life. Consider an example of promoting educational outcomes among rural girls, while it is a sign that girls should have an equal opportunity as boys to have access to knowledge, it is still unsure that whether girls are treated fairly by teachers in class compared to boys or if the teaching curricula have stopped disseminating gender stereotypes or not (Kabeer, 2005).

Through a discussion about different dimensions of empowerment, it could be seen that the two domains, achievement and resources, are limited in telling if a woman is truly empowered as they largely rely on some assumptions prior to the study and data inferences. However, it does not mean that any attempts to measure empowerment through these two dimensions are futile, since it is impossible to capture the full dynamics of women's domestic and social life. Also, there is time constraint and budget limitation that prevent a meticulous study from being implemented. Since resources and achievement domains are easier to measure through surveys and secondary data, it is still appropriate to use the two dimensions, especially the outcome domain, as empowerment's proxies. Indeed, as Section 2.3 will present, a common approach in previous studies when linking microfinance and women's empowerment is to use outcomes generated from credit programs to quantify the degree of empowerment among the clients.

2.2. Microfinance and women's empowerment

Microfinance, in its simplest explanation, is a provision of credits and other ancillary financial services for the poor who do not access to formal banking system (Sujatha & Malyadri, 2015). Initiated by Professor Muhammad Yunus in the 1970s and later sprung to huge popularity in the following decades, it has been considered as an effective tool for poverty alleviation as well as financial inclusion for the poor and unbanked (Hossain, 1988; Rosenberg, 2009). Initially, it was only offered as a form of microcredit provider. Later, the sector started to incorporate other services such as savings, microinsurance, micro-scholarship, as well as financial and nonfinancial trainings into its operation, thus evolving into a comprehensive, pro-poor financial sector.

A majority of microfinance institutions' (MFIs) customers are female, who comprise of 92% of total borrowers in South Asia, the world's largest microfinance market (Khamar, 2016). Although a focus on women as credits recipients is not a strange approach nowadays, in the last century this idea was indeed abnormal as this countered the prevalent social and gender norms dominating many countries' patriarchal system. In Bangladesh, microfinance's home country, the 1980s had seen a building pressure from supporters of gender-related development agenda as well as from international donors to shift the focus on rural women's financial inclusion (Goetz & Gupta, 1996). Women, as they argued, would be benefited from credits provision by investing the money in income-generating activities, microenterprises, as well as their household's long-term well-being. Thus, promoting women's incomes should "improve the unique livelihood enhancement functions women perform for their households as brokers of the health, nutritional, and educational status of other household members" (Goetz & Gupta, 1996, p.46).

It should be noted that promoting women's empowerment is not every MFIs' "guiding goal" (Ackerly, 1995, p.56), as some of them, notably Yunus' Grameen Bank, only take a minimalist approach toward its operation. "Minimalist" credit programs, as opposed to those with holistic approach, primarily provide credits with little nonfinancial trainings and as in the case of Grameen Bank, its guiding goal is to have a "profitable lending to the rural poor on a large scale" rather than to directly empower their clients (Ackerly, 1995; Goetz & Gupta, 1996; Hashemi et al., 1996). One example of a holistic approach is that of BRAC, which offers women integrated, nonfinancial educational sessions such as health and nutrition, legal rights trainings, social awareness raising, as well as literacy trainings. However, it does not mean that clients would reap more benefits from holistic programs such as BRAC since some studies have shown that women are also empowered in minimalist program as well (Goetz & Gupta, 1996; Hashemi et al., 1996). Overall, regardless of what direction an MFI is aiming at, empowerment has started to be perceived as microfinance program's "presumed" result (Ackerly, 1995).

2.3. Measuring microfinance's impact on empowerment

Choosing the proxy for empowerment is a controversial task among researchers, and the result tends to vary greatly when changing from one dimension (outcome) to another dimension (agency). Initially, empowerment was associated with clients' high repayment rates and their continued demand for new loans, with an assumption that these increasing demands indicated that women had effectively utilized the money for her income-generating activities (Goetz & Gupta, 1996). This approach also made a bold assumption that money should be fully retained in the recipients' hands, which is unrealistic since household is a "joint venture" so that it is impossible for money to be solely kept by wives. Moreover, high repayment rates do not necessarily signify an effective allocation of resources as it could be due to borrowers' desire to remain in the credit program as it is one of the few institutions that they are allowed to join in (Goetz & Gupta, 1996).

In the following years, a common approach to measure the degree of empowerment is to build a proxy or index based on the outcomes generated after joining an institution. It could be either a cross-sectional study in which control group are nonborrowers living in the same community chosen by stratified random sampling (Hashemi et al., 1996, Sahu, 2015; Sultana & Hasan, 2011), or new borrowers who are still in the first loan cycle (Weber & Ahmad, 2014), or a longitudinal study which measures the difference between the indices from pre- and postintervention (Al-Mamun et al., 2014; Dineen & Le, 2015; Sujatha & Malyadri, 2015). Although it has been proposed in these cross-sectional studies that the treatment and control groups should have "similar socioeconomic profile" (Sujatha & Malyadri, 2015), there are some intrinsic issues that are not netted out by random selection alone and thus would distort the true impact of the credit programs. The discussion regarding this selection bias will be presented in the next section.

Sultana and Hasan (2011) captured only the economic aspect of empowerment when studying BRAC's microfinance program in Bangladesh by measuring three items: personal annual income, savings, and assets ownership. Each item was evaluated based on the imputed, or estimated amount that a respondent possessed. The study considered both cash and noncash savings, as well as farm and nonfarm annual income when computing the estimated value for each item. They found that BRAC members had significantly higher level of economic empowerment than nonmembers. However, the study was based on a quite small sample size, in which only 90 women were involved in the survey and half of them (45 people) belonged to the control group.

For a comprehensive study covering different aspects of empowerment, Hashemi, Schuler, and Riley (1996) used eight indicators to construct the index, including: mobility, economic security, ability to make small purchases, ability to make large purchases, involvement in major decisions, relative freedom from domination by the family, political and legal awareness, and participation in public protests and political campaigning. The survey was conducted in late 1992 on 1,300 married women who were divided into four groups: Grameen Bank (GB)'s members, BRAC's members, nonmembers living in the same villages, and nonmembers livings in villages without GB or BRAC program. The study found that participation in credit programs did empower women, no matter whether it took a minimalist (GB) or holistic approach (BRAC). However, each approach affected differently on the empowerment dimensions, in which GB's members were more empowered than those of BRAC in terms of economic security and ability to make small and large purchases; while BRAC's members did better on mobility and legal/political awareness. It was also found that women's contribution to family support alone played a significant role on the possibility of being empowered, regardless of whether they were participating in the credit programs.

Contrary to Hashemi et al. (1996), Sujatha and Matyadri (2015) and Al-Mamun et al. (2014) proposed that participation in credit programs alone with minimal training did not lead to an increase in empowerment; instead, some features commonly seen in holistic programs such as literacy and numeric training, regular seminars, and workshop did play an important role in enhancing women's status. They also found a significant improvement in women's economic security, household decision making, legal awareness, and mobility after joining microfinance programs, which was consistent with the results from Hashemi et al. (1996) and Sultana and Hasan (2011). However, Al-Mamun and colleagues (2014) noted that while women gained more control on small purchases such as clothes or food, they still relied on their husband when it came to major purchases. This implied the nature of gender division of household roles between spouses, in which women are assumed to be responsible for household daily consumption and necessities, while large, decisive purchases are culturally under men's control (Goetz and Gupta, 1996).

It should be noted that both Sujatha and Matyadri (2015) and Al-Mamun et al. (2014) found that personal savings did not change after taking part in microfinance program. The reason they proposed was that since living standard increased as a result of an improved income, this led to more household spending and more resources spent on daily expenditure. However, this poses another question regarding the continued high pressure on women as a contributor to family support that consequently appropriates all the additional income they have earned. It seems that the cultural status quo relating women as family's caregiver remains the same and there is not any sign indicating that there is a redistribution of the shares between spouses regarding household budget management. This suggests that an increase in women's income does not necessarily imply a change in intra-household gender division which is in favor of the wives and thus, the assumed role of women as family's sole contributor could have been unchallenged at all.

Sahu (2015), in a study of Self-Help Group (SHG) in India, also constructed similar indicators to that of Hashemi and colleagues. In fact, he was largely influenced by their works that he incorporated most of their empowerment dimensions into his analysis (except political/legal awareness), and used dummy variables to classify respondents into "empowered" and "lacking empowerment". Apart from Hashemi et al. (1996)'s indicators, Sahu (2015) added women's self-confidence, autonomy, and their perception regarding public interaction with officials, health workers, or bankers into empowerment index. He found that SHG's members were more empowered than nonmembers in every indicator, except the autonomy domain which was determined by asking whether she could decide (individually or jointly with husband) the number of children she wanted to have. In other words, participating in SHGs did not guarantee that a woman could participate in the decision-making process related to childbearing issues. Moreover, although membership duration improved women's economic independence, it did not subsequently lead to one's social and/or political empowerment.

A weak correlation between economic and social/political empowerment was also demonstrated in Weber and Admad (2014) study of microfinance clients in Pakistan. They found that micro-lending did have a positive and significant impact on financial aspect of empowerment, but not in social sphere. However, women's physical mobility regarding their ability to go out without any restriction was improved after participating in microfinance programs. This lack of evidence about a subsequent social empowerment, as well as a likelihood of higher burden on family's contribution mentioned previously suggest that microfinance alone could not entirely alter the cultural norms and husbands' attitude toward household gender role division (Ackerly, 1995; Goetz & Gupta, 1996; Hashemi et al., 1996). Without a parallel intervention to address gender relations, it is ambitious and unrealistic to expect that credit programs would improve clients' every aspect of life after only several years of membership.

Apart from outcome dimension, some efforts have been carried out to focus directly on the gender labor division and the allocation of the loans within the households (agency domain), as the outcome approach discussed above are being criticized for not capturing intra-household dynamics that affects the loan utilization process (Ackerly, 1995; Garikipati, 2013; Goetz & Gupta, 1996; Kabeer, 1999; Kabeer, 2005). In other words, measuring outcome only fulfills the question of what has gone right or wrong, but it cannot answer why it turns out to be the case. For instance, women's increased participation in income-generating income does not always translate to an improvement in economic independence, since they could have been forced to find waged job to repay the loans (Garikipati, 2013). Moreover, shifting an attention to household relations and loan control could avoid errors coming from respondents' estimation of outcomes such as annual income, savings, or assets, since they have to recall their entire transaction over a year while their numeracy skills and accounting knowledge are insufficient (Goetz & Gupta, 1996).

Goetz and Gupta (1996) built a loan control index based on level of loan use and procurement for borrowers of Grameen Bank (GB), BRAC, and RD-12. The index ranged from "No involvement", in which the entire loan amount was transfer to men and women did not have any managerial management on the productive process, to "Very limited", "Partial", "Significant", and "Full" control on the loan allocation process. It was found that borrowers from the most minimalist program, GB, however exhibited the highest degree of loan control than the other two MFIs. Only 10% of GB's clients fell into "No involvement" or "Very limited" category, while 45% and 56% of women from BRAC and RD-12 belonged to these categories respectively (p.60). This finding was later corroborated by Hashemi et al. (1996) as well. Goetz and Gupta (1996) also proposed that women tended to exert greater control on lower loans which were then invested in "woman's assets" such as livestock, vegetable, or animal products. When the loan got larger, it was likely to transfer to more masculine activities that could yield higher returns such as petty trading or rickshaw pulling.

This pattern of loan transfer from women' to men's hands was also observed by Garikipati (2013) and Ackerly (1995). However, they suggested an ambiguous nature of this behavior since it did not always signify that the husbands appropriate all the loans from their wives. Rather, giving some money to husbands might indicate women's strategy to preserve marriage and family's harmony, in exchange for a continued membership in microfinance programs. Moreover, women could have voluntarily handed over the money to their husbands as they perceived themselves as inexperienced and they are not confident in themselves. Goetz and Gupta (1996) have noted that although women's loan was used for a purchase of a "male productive asset", such as a rickshaw, if she had a legal claim on that rickshaw, then she still retained some control over the asset. However, they were concerned about the nature of microloan that insisted on the financial inclusion for women only, as it could raise possibility of women being treated as a new source of money by her family.

Apart from loan control assessment, a study of Dineen and Le (2015) evaluated the agency dimension of empowerment by asking women questions regarding their sense of self-worth. All of them were qualitative statements such as "Women should do all household chores even if their spouse is nor working", or "Women should discussion domestic violence issues with people who are not family members" (p.33). The survey was carried out on the PeaceTrees' microfinance program in Vietnam, and the interviewees were asked to rate each item on 5-point scale: 1 as being "unimportant" and 5 as "extremely important". The author found that the respondents were more conscious about their self-worth as well as their rights and responsibilities after 4 years in the program, except the statement regarding household chores mentioned above. After 4 years, the respondents placed more emphasis on their responsibility of entire household chores, implying that women's perception of household gender roles remained the same, even somewhat more intensified than before. This result was consistent with the discussion of the findings from Sahu (2015) and Weber and Admad (2014) which stated that the status quo of gender stereotypes within household might not have been challenged by simply participating in microfinance program alone.

2.4. Selection bias in choosing control group

It has been noted in the last section that previous studies tend to choose nonmembers residing in the same villages as a control group, and these studies have advocated that by random selection, this group should possess "similar socioeconomic" characteristics (Sujatha &

Malyadri, 2015) compared to the treatment cohort. However, unless villagers are randomly assigned to receive a treatment (credit program), the goal of similar socioeconomic characteristics would never be achieved. According to Karlan (2001), women who decide to join an MFI are likely to be more empowered at the beginning than those who do not, as they already have some business ideas, or "entrepreneurial spirit" in mind. Thus, stratified random selection alone could not net out this intrinsic characteristic and the result is likely to overestimate the impact of microfinance programs on women's empowerment.

Another selection method employed by some studies is to use incoming clients or those who only have one loan cycle as a control group, as this approach is believed to overcome the "entrepreneurial spirit" bias mentioned above. However, they did not take into account clients who have dropped out although omitting this group would either underestimate or overestimate the true impact of the program. If that MFI fails to generate any benefit for some borrowers and hence they decide to leave the program, then focusing on existing clients alone would inflate its success. On the other hand, if some borrowers are made better off by the loans and can sustain by themselves, then ignoring these women would cause the estimate result look less optimistic

Although the dropout group has already been included, there is still another issue related to the selection bias. In other words, even when having controlled for the participants' age, education, marital status, and income level to name but a few, some intrinsic attributes still persist and could not be eliminated by relying on the in-training group alone. According to Karlan (2001, p.5-6), these missing characteristics are "timing of decision problem", "peer-selection problem", and institutional /regulatory changes.

The problem of decision timing arises from the fact that not every woman living in the same village decide to join a microfinance program at the same time. Each borrower has different explanation for this decision, and those reasons are equally important. For instance, if one decides not to participate earlier due to her family member's bad health that kept her busy in taking care of that person, then it is instead good health that deserves credit for improving her life, rather than microfinance. "Peer-selection problem" refers to MFIs' inclination to serve wealthier segment of clients, dipping its toe in the water before advancing to poorer customers. Thus, the first batch is already wealthier than the second one, which is wealthier than the third one, and so on. The direction of bias could also be reverse, in which poorest women join first as they have nothing to lose and would not hesitate to take risk.

The last type of bias, institutional/regulatory changes, refers to vibrant dynamics of surrounding regions as well as a health of the economy. A new MFI tends to start with a better off community, then stretch out to poorer regions. Also, its credit requirements alter continuously in response to the macro picture of the economy. A recession could prompt a MFI to be either more lenient or stricter in accepting poorer (and riskier) customers. If it decides to crowd out the poorest, then the women joining during that time are likely to be better off than those who participate during normal time. As it can be seen, targeting dropout clients in addition to in-training group is not sufficient to overcome every type of selection bias and it is impossible to track down all noises at once

3. METHODOLOGY

3.1. Data collection and survey

In this study, I will attempt to determine the degree of empowerment based on the achievement dimension; that is, a change in a borrower's economic power, her ability to make a major decision in household level, and her involvement in community activities. The data is taken from an AIMS/SEEP Impact Assessment Survey provided by TYM Fund, which is one of three regulated MFIs in Vietnam and a part of VWU. The survey is a collaboration between TYM and CARD Research Unit based in Philippines. From TYM's 24,000 clients and 19 branches in northern Vietnam, 544 women in 8 different branches were selected using a stratified random sampling method. The respondents were divided into three main groups based on their duration in the program: Incoming clients (60 borrowers), New clients (120 borrowers), and Mature clients (364 borrowers). The Mature client cohort was further classified into three subgroups: 3 to less than 6 years, 6 to less than 9 years, and more than 9 years. Each subgroup comprised of approximately 120 borrowers.

It is noted that AIMS/SEEP tool tends to use the in-training clients, who have not received any loans, as a control group for the impact assessment study to overcome the "entrepreneurial spirit" bias. However, as it has been presented in Section 2.4, choosing in-training borrowers while omitting dropout group still results in a misleading interpretation. However, notwithstanding the limitation in experiment design, comparing the well-being between mature clients and in-coming clients is still useful to identify part of the complete picture of the program's impact.

Based on the reviewed literature, women empowerment will be determined by three elements: (a) economic security; (b) household major decision, and (c) community involvement (see also Sazali et al., 2014; Weber & Ahmad, 2014; Hashemi et al., 1996; Santillan et al., 2004; Malyadri & Sujatha, 2015; Sahu, 2015). Several questions in the AIMS/SEEP survey would be taken out to construct the indices.

3.2. Constructing empowerment dimensions

3.2.1. Economic Security (ES)

The motivation behind this dimension is to investigate to what extent a woman is financially independent from her husband or a male relative. This is reflected in whether (i) she has a personal saving apart from the enterprise's profit, (ii) has her own income, and (iii) has a legal claim over an asset in her house. Her savings could be used either for making large purchase and reinvesting in the business, or preparing for emergencies so that she would not have to rush for a new loan in case of unexpected events. Since the survey only considered asset possession of entire household, item (iii) will be left out from the analysis. For item (ii), the question "Do you pay yourself a wage for your work in your enterprise" will be used as a close implication for one's own income. However, an obscure interpretation of this question is also realized, as there is a blur boundary between one's enterprise and household activities in the informal sector in which most microfinance borrowers earn their livings. The notion of "profit" and "salary" could be vaguely differentiated and the term "salary" might be even foreign to some respondents (Dimova & Joshi, 2016, p.12). Also, it is unlikely that households would have a fixed allocation of business income after covering its expenses. Instead, they disburse the cash based on a "as-needed basis" (p.12), spending more resources on more urgent needs of the household.

As some limitations of the survey questions are being admitted, the economic security dimension will be defined by three items:

- ES 1: She pay herself a wage for her work in her enterprise.
- ES 2: She has a personal cash saving in case of emergencies or unexpected occasions.
- ES 3: She has a personal cash saving for a major purchase or investment.

In item ES 1, as I have mentioned in the previous paragraph that there could be a potential vagueness related to respondents' classification of "profit" and "salary", this

Economics Security index should be interpreted with caution. To quantify the ES dimension, one point will be assigned if a respondent fulfills each requirement. The maximum point for ES one could possibly get is 3 and minimum is 0. The cutoff point is determined based on an average value (Sahu, 2015), in this case is 2. If one scores 2 points or more, she will be classified as "empowered" and coded 1; otherwise, she is coded 0.

It is important to realize that personal cash savings do not fully reflect the degree of security one possess, since savings could be any physical or productive assets such as gold, jewels, cattle, or land which are highly preferred by microfinance clients as their safety net. Omitting these savings possibilities would cause an analysis to miss a large piece of economic security's overall picture. The AIMS survey also has a section related to nonmonetary savings, but since it only measures assets possession at household level instead of individual level, this section could not be incorporated into the index. This focus on aggregate well-being does not indicate there is a flaw in the survey, as its intention is not to test whether a microfinance program improves its clients' empowerment alone but rather to determine whether the clients and their family are better off after joining the program. Thus, a separate, individual-focused survey should be designed to capture the picture better. However, notwithstanding the omitted data, personal cash savings would still be a useful indicator of economic security as cash is a vital source of liquidity among the poor, and it is less likely to be appropriated or stolen by other family members when being stored in TYM or in any informal saving groups (ROSCAs).

3.2.2. Household Major Decision (HMD)

Under a Confucian society, Vietnamese women face a gender stereotype that dictates her role in household and what kind of decision-making process she can participate in. Women are expected to dedicate a substantially large amount of time taking care of her children and doing housework (Santillan et al., 2004, p.541). Men are the family's breadwinners and are the ones who finalize important decisions. Although the government and VWU have constantly promoted gender equity since the country economic reform in 1986, it could be seen that while people are conforming to the party's ideology, they still hold some patriarchal views regarding gender roles and responsibility. A person could believe "husband and wife are equal", but at the same time "the wife has to listen to the husband and must not overstep him" (p.543).

In this dimension, three questions about a woman's ability to make major decision would be incorporated:

- HMD 1: She decided to make large purchase (jointly with husband or individually) during the last 12 months. This includes major tools such as equipment, stoves, machinery and her own mean of transportation such as bicycle or motorbike.
- HMD 2: She decided to invest in her enterprise (jointly with husband or individually) during the last 12 months (rent/expanding storage structure, upgrading marketing site)
- HMD 3: She decided to make an improvement for her home (jointly with husband or individually) during the last 2 years.
    - HMD 3.1: She used the money earned by her business to make an improvement.

Since the survey does not take a further step in asking whether she makes these decisions by herself or with her husband, the dimension could not fully capture her role in each case. However, the question "Who is the principal decision-maker in household?" would be incorporated in this index as it could partially reflect the relational power she possesses in household in general, although it does not guarantee that she would be granted freedom to finalize the decisions in all situations mentioned above. Also, it is likely that each respondent will have different perspective regarding the notion of "principal decision-maker" although they could have had the same experience. For example, one might describe a decision to send her child for a vaccination as an autonomous action while other might consider it as a mere compliance to a local health campaign (Santillan et al., 2004). Thus, similar to an ambiguous nature of the distinction between "profit" and "salary" mentioned in previous section, it is hard to justify whether a person truly exhibits certain degree of power over a household's decision-making process or not. However, notwithstanding such limitation, this question is still a crucial criterion to distinguish those women who seem to have some relatively authority as opposed from those who do not. Thus, a fourth item for this HDM dimension would be as followed:

- HMD 4: She is the principal decision-maker in the family, both enterprise-related or household-related issues.

Since HMD 4 provides us further information about one's freedom in deciding household's decision-making process, I will place more weight for this item if a woman reports that she is a household principal decision-maker. So, two points will be assigned for HMD 4, and one point is assigned for each of the other requirements. The cutoff point is determined based on an average value, which is 3. Thus, a respondent will be coded 1 of her point is at least 3; otherwise, she is coded 0. The possible maximum point is 6 and minimum is 0.

3.2.3. Community Involvement (CI)

The last element examines women's sphere of influence beyond a household level and how actively she has committed to community activities. One point is given if she has done one of the following activities: (i) generating employment for others by hiring them for her business, (ii) sponsoring in a community event, or (iii) being promoted to a leadership role in a community association. Here, "sponsoring" is equivalent to donating money to "typhoon victims, sport activities, performance, road cleaning, and projects launched for the disabled" (TYM, 2007, p.33). It is assumed that when a woman is freed up from budget constrained and a burden of excessive housework, she would be more willing to spend some of her time and resources (money) to get engaged in community activities as this sense of social inclusion could grant her confidence and respect from other women. In this dimension, the possible point one could get is only 1 or 0, that is, socially engaged or not socially engaged.

It should be noted that Community Involvement is a very broad dimension, and its specification is dependent on a country/region's environment we are working. One might concern that the criteria mentioned above for this dimension are quite strict and narrow, and thus would suggest a more lenient criterion such as gaining membership in rural cooperative or farmer association. However, while such relaxed restriction could work well in other countries, this membership-based classification is unlikely to reveal further information in the case of Vietnam, as every woman who wants to join TYM (or any particular microcredit program) must be a member of the Vietnam Women's Union (VWU). In other words, membership in VWU is a condition for a membership of a microfinance program and many people do not find a need to actively participate in union's discussion after joining the group.

As earning membership is not sufficient to determine the level of participation, there should be other proxy to measure the degree of involvement at community level. When developing indicator of women's empowerment in Vietnam, Santillan et al. (2004) also mentioned this country-specific feature and suggested an alternative measurement that could account for a more active engagement of women in community sphere such as participating in various events or leading a regional women's union. Thus, in order to broadly capture the extent of women's involvement and their impact on the community, I use three activities delineated above as criteria for one's active participation in the social sphere. These activities not only tell that a woman is now a part of a broader circle rather than her family, but also demonstrates that she is willing to take initiation by being a leader, donating money to community events, or generating employment for others. Here, leadership does not imply that one should lead a formal group such as regional women's union or women board in order to be classified as a "leader"; instead, the scope could be as small as leading an inspection center, TYM's center, or even a performance group for a singing contest. The data is already available in the survey, and I will extract the survey's related questions to construct this dimension's index.

3.2.4. Composite Index

Composite Index is the sum of the three dimensions discussed above, which could possible range from 0 to 10 points. The cutoff point, which is 4, is also determined by an average value and a respondent is coded 1 if she scores 4 or more; otherwise, she would get 0. It is noted that all raw points would be converted into binary value (0 or 1) in order to be consistent with the data type of Community Involvement Index (categorical).

3.3. Hypotheses

To answer the research questions delineated in the Introduction Section, I will test two following hypotheses:

- H1: Women in microfinance program are more likely to be empowered in all dimensions than non-members.
- H2: The duration in microfinance program has a positive effect on the degree of women's empowerment.

For both hypotheses, I employ the logistic regression model proposed by Hashemi et al. (1996) and Sahu (2015) to assess an impact of membership and membership duration on empowerment. To test the first hypothesis, I use the dummy variable *Borrower*, which is coded 1 when a woman was a TYM Funds' member and 0 if otherwise. Here, I treat in-training members as non-members since they had just joined the credit program and did not receive any loan yet. For the second hypothesis, since we want to measure the effect of membership duration on client's empowerment, I will exclude the in-training group from the regression and I only consider new clients and mature clients, those who had received loans (treatment) by the time of the survey already.

3.4. Variables specification

This section lists out the specification of all variables' names that I use in the regression equation:

MS: Marital status of a respondent (*MS*=1 if married, 0 otherwise)

OL: The occupation level of respondents which is coded 1 if she is engaged in non-agricultural activities or she has her own enterprise, and 0 if otherwise

RI: Number of household members earning regular income, which is coded 1 if there are more than 1 person in a family and 0 if otherwise

Borrower: Dummy variable (*Borrower* = 1 for members, 0 otherwise)

Type(3-6), Type(6-9), Type(>9): Dummy variables which is code 1 if she is in the program for either 3-6 years, 6-9 years, or more than 9 years respectively. The reference group is *0-6 months* (New clients).

Age(31-40), *Age(41-50)*, *Age(>50)*: Dummy variables which takes value 1 if her age is within the range denoted in the parentheses and 0 if otherwise. The reference group is *Less than 31 years old*.

Edu(Primary), *Edu(Secondary)*, *Edu(High school)*: Dummy variables which is coded 1 if she has an education level denoted in the parentheses and 0 if otherwise. The reference group is *No school*.

3.5. Logistic regression model

Let EI_1, EI_2, EI_3 and EI_4 denote the empowerment indices delineated in previous sections, which are Economic Security, Household Major Decision, Community Involvement, and Composite Index respectively. EI's are binary variables, that is:

$$EI_j = \begin{cases} 1, if\ a\ woman\ is\ empowered \\ 0, otherwise \end{cases}, \text{for j} = 1,2,3,4$$

The generalized logistic model for each of the EI's can be written as:

$$EI_j = \frac{1}{1 + exp(-X\beta)} + \varepsilon$$

where X is a vector of independent variables, β is a vector of unknown parameters and ε is an error term. Let the condition probability of EI_j denoted by E(EI_j)= $P(EI_j = 1|X)$, we would yield the logistic response function:

$$P(EI_j = 1|X) = \frac{1}{1 + exp(-X\beta)}$$

The function can be linearized into the logit transformation of the probability $P(EI_j = 1|X)$, which is as followed:

$$ln\left(\frac{P(EI_j = 1|X)}{1 - P(EI_j = 1|X)}\right) = X\beta = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k$$

whereas $X_1, X_2, \ldots, X_k$ are the set of independent variables.

For the test of our first hypothesis, the model would be as followed:

$$ln\left(\frac{P(EI_j = 1|X)}{1 - P(EI_j = 1|X)}\right) = \beta_0 + \beta_1 Borrwer + \beta_2 MS + \beta_3 OL + \beta_4 RI + \beta_5 Age(31-40) + \beta_6 Age(41-50) + \beta_7 Age(>50) + \beta_8 Edu(Primary) + \beta_9 Edu(Secondary) + \beta_{10} Edu(High\ school) \quad (1)$$

For the second hypothesis, I replace the variable *Borrower* with dummy regressors which represents the length of membership. The model would be:

$$ln\left(\frac{P(EI_j=1|X)}{1-P(EI_j=1|X)}\right) = \beta_0 + \beta_1 Type(3-6) + \beta_2 Type(6-9) + \beta_3 Type(>9) + \beta_4 MS + \beta_5 OL + \beta_6 RI + \beta_7 Age(31-40) + \beta_8 Age(41-50) + \beta_9 Age(>50) + \beta_{10} Edu(Primary) + \beta_{11} Edu(Secondary) + \beta_{12} Edu(High\ school) \quad (2)$$

4. DESCRIPTIVE SUMMARY

Table 1. Demographic summary of respondents

		In-training	0-6 months	3 years	6 years	9 years
N of cases		60	120	120	123	121
Age						
	Mean (years)	38.5 (9.4)*	40.3 (10.7)	40.5 (9.4)	44.7 (8.1)	47 (6.6)
	Observed range	18-55	21-63	23-61	27-68	32-64
Number of children						
	Mean	1.2	1.3	1.5	1.5	0.9
	Observed range	0-5	0-7	0-5	0-5	0-3
Household size						
	Mean	4.6	4.2	4.6	5.1	4.2
	Observed range	2-8	1-9	2-11	2-14	1-8
Household member with regular income						

	Mean	0.8	0.3	0.7	1	1.2
	Observed range	0-4	0-2	0-7	0-5	0-6
Marital status						
	Married	94%	90%	94%	89%	84%
	Separated/Divorced	2%	0%	3%	2%	7%
	Widowed	2%	7%	2%	9%	6%
	Single	2%	3%	1%	0%	3%
Education						
	No school	3%	5%	3%	6%	2%
	Primary	7%	13%	14%	41%	11%
	Secondary	67%	58%	67%	50%	72%
	High school	23%	24%	16%	3%	15%
Non-agricultural activities/Self enterprise (%)		40%	55%	43%	38%	37%

Note: *Standard deviation

Table 1 summarizes the demographic characteristics among the three groups; in-training, young, and mature borrowers. The age range is 18 to 68 years old, and the mean age increases when moving from the incoming group to 9-year group. The number of children could vary from no child up to 7 children in the case of 6-month group, while a household could have 14 members living under the same roof. On average, mature borrowers have higher number of children and household size than the other two cohorts; however, these figures are noticeably smaller in 9-year borrowers' household compared to the rest. Their family on average have more members who earn regular income despite smaller size. This figure could be as high as 7 members in one's household or could be none of them having regular income, indicating that seasonal income-generating activities such as agriculture still account for a great portion of one's life although she has committed to the program for several years. In general, new cohort of borrowers tends to be more engaged in non-agricultural activities than older groups, in which more than half of the women in 6-month group have committed in these activities while only 37% of the 9-year borrowers do so.

It could be seen that most of the women are married and literate, although the proportion of married women gradually decreases when moving up to more mature group. A majority of clients have a secondary level of education, and young and incoming borrowers are likely to achieve high school level, that 24% and 23% of the respondents have completed 10th grade or higher respectively. This high education level is not abnormal since Vietnam's national literary rate among women is 92.3%, much higher than its neighboring countries such as Cambodia or Laos (TYM, 2007, p.16).

Table 2. Percentage of women who are considered "empowered" in terms of each empowerment dimension

% of borrowers who are empowered in	In-training	0-6 month	3 years	6 years	9 years
Economic security	23%	37%	46%	48%	53%
Household major decision	18%	27%	40%	47%	39%
Community involvement	25%	22%	33%	56%	56%
Composite index	27%	42%	60%	65%	67%

Table 2 shows the percentage of women who are coded "empowered" for each dimension. It could be seen that in general, the proportion of empowered women among mature borrowers (ie. 3-year, 6-year, and 9-year clients) is significantly higher than the in-training and 0-6 months members, while there is little difference between the subgroups within the mature client cohort. It is noted that 6-month group performs better than in-training group in every dimension, except Community Involvement. The percentages of women who are coded "empowered" are relatively similar for the two cohorts. In this case, it might be due to the fact that it requires time for a person to move from domestic sphere to community sphere and gain more social capital. In other words, receiving credits from an MFI does not directly imply that a borrow will be immediately more active and engaged in community activities. In order to achieve such progress, it is required that one's economic security should be guaranteed first, so that she could be then willing to free up some of her time to get involved in social gathering. Thus, there might be little difference between the degree of empowerment in terms of Community Involvement dimension between in-training and 6-month borrowers.

5. RESULTS AND DISCUSSION

5.1. Membership and women's empowerment

Table 3. Logistic results of the effect of membership on the empowerment dimensions, controlled for marital status. Occupation, age, education, and number of household members with regular income

Dimension	**Economic Security (ES)**		**Household Major Decision (HMD)**		**Community Involvement (CI)**		**Composite Index**	
Independent variable	Odds Ratio	Significance	Odds Ratio	Significance	Odds Ratio	Significance	Odds Ratio	Significance
Membership	3.243	<0.001***	2.283	0.024*	2.108	0.021*	3.814	<0.001***
Marital Status	0.775	0.395	0.302	<0.001***	0.884	0.680	0.418	0.013*
Engage in non-agricultural activities/Have own enterprise	1.044	0.816	2.027	<0.001***	1.343	0.116	1.786	0.003**
Number of household members having regular income	1.344	<0.001***	1.140	0.147	1.204	0.033*	1.550	<0.001***
Age group								
Less than 31 years (1)								
31-40	0.889	0.705	2.239	0.043*	2.828	0.004**	1.900	0.047*
41-50	0.624	0.115	3.341	0.002**	3.336	<0.001***	1.856	0.046*
More than 50 years	0.773	0.433	3.909	<0.001***	2.475	0.016*	2.454	0.009**
Education level								
No school (1)								
Primary	0.681	0.438	2.263	0.129	1.321	0.591	0.924	0.880
Secondary	0.838	0.701	1.058	0.911	1.349	0.541	0.708	0.485
High school	1.338	0.562	1.864	0.258	1.929	0.215	1.208	0.726

*significant at 5%, **significant at 1%, ***significant at 0.1%

(1) control group

I first run the regression for equation (1) in Section 3.5 to test for the first hypothesis that participation in microfinance program enhances women's empowerment. Table 3 presents the results after running logistic regression controlled for marital status, occupation, age, education, and number of household members earning regular income. Here, in-training members are treated as the control group since they still receive no loans from TYM, which means that no treatment is being applied onto this group yet. The treatment group will be those who have already received at least one loan and consists of both young and mature members.

It can be seen that a participation in TYM has a statistically significant and positive impact on every empowerment dimension. Specifically, holding other factors constant, TYM's members are more than 2 times as empowered as without-loan members in terms of household major decision and community involvement dimension (the odds ratio is 2.28 and 2.11 respectively), and the coefficient estimates are significant at 0.05 level. Membership has the largest impact on economic security, which has the odd ratio as 3.24, implying that the odds for being empowered for TYM's members is more than 3 times greater than that of in-training members, and the result is significant at 0.001 level. Overall, regarding the composite index, it is found that the odds ratio for this item is 3.81 and the estimate is significant at 0.001 level. This means that in general, TYM's borrowers are nearly 4 times as more likely to be empowered than in-training borrowers, holding everything else constant.

One factor that seems to significantly contribute to empowerment significant is the number of household members who earn regular income. The odds ratio for this variable is greater than 1 for every dimension, suggesting that the greater the number of family members having regular income, the more likely a woman appreares to be "empowered". Indeed, having more steady income stream from other family members could partially contribute to higher scores of empowerment indices, as this additional economic security derived from household members could relieve one's financial burden and allow her to spare some of her time for community activities. Table 4 presents the percentage of women who are coded "empowered" (in terms of the Composite Index) based on the number of family members having regular income. It can be seen that 39% of the women in family with zero member earning salary are considered empowered in contrast to 67% of those in household with three members or more having regular income. When breaking down further the number, clearly, most of women in family having at least four members earning regular income are coded "empowered" (see Table 5). This stark increase in empowerment percentage implies that number of household members with regular income indeed greatly contributes to the outcome of empowerment indices's computation, and it is appropriate to control for this factor when performing the regression analysis as an exclusion would overestimate the odds ratio and lead to biased intepretation.

Table 4. Percentage of borrowers who are considered "empowered" in terms of Composite Index, based on number household members who have regular income

	0	**1**	**2**	**>=3**
% of borrowers who are empowered in composite index	39%	50%	66%	67%

Table 5. A breakdown of the number of borrowers who are considered "empowered" based on number household members who have regular income

		0	**1**	**2**	**3**	**4**	**5**	**6**	**7**
Number of women who are	Not empowered	170	79	26	7	4	0	0	0
	Empowered	107	79	50	11	5	4	1	1

Another factor that I expect to have an important contribution to the computation of empowerment scores is the type of occupation, which in this exercise is whether a respondent is getting involved in non-agricultural activities or having her own enterprise. It is hypothesized that women who are engaging in such activities are more likely to be empowered than those who are not, since they are expected to have a steady income stream that smooths out consumption and generates more economic security. Also, they are more willing to spend time socializing as budget constraint is no more a burden. The odds ratios in Logistic results from Table 3 corroborate this hypothesis, although the level of significance differs for each dimension. For example, women engaging in non-agricultural activities are significantly more empowered than those who do not in terms of HMD dimension and Composite Index, while there is not sufficient evidence to indicate that there is a difference among ES and CI dimension. It is quite surprising that the regression does not yield a significant result for the economic security index, and the odds ratio for this item is meagre (1.044). Although it is likely that those who get involved in agricultural activities tend to subject to seasonal and climatic patterns, which would therefore reduce the degree of certainty and crop security, the ES's odds ratio however seems not to reflect this fact. This could be due to my construction of the ES index that only consider personal savings and personal wages, which then could not fully capture the seasonality of agricultural activities. Since I do not have enough data to expand the criteria for ES dimension, some further works to refine this index would be required in the future.

One interesting remark from the estimation is that married women appear to be less empowered in all dimensions compared to the rest (ie. those who are divorced, widowed, or single). The odds ratio is especially very significant for HMDD dimension (p-value is <0.001) and its estimate of 0.3 indicates that married women are 70% less likely to be empowered than the comparison group. It seems that marital status has the most negative impact on household decision-making dimension, which is quite understandable since without a presence of her husband, a woman is supposed to lead the family herself and be able to exercise greater influence in household decision-making process.

To examine the figures more carefully, Table 6 shows the number of women who are principal decision makers in the family with respect to their marital status. It can be seen that for those who are divorced, widowed, or single, most of them (80%) are reported to be the family's principal decision makers. Also, all divorced women are remarkably believed to be the household's leader, which suggests that if there is an absence of the husband, these women are assumed to lead their family without channeling this role to their sons (if applicable) or to their male relatives. If this inference does generate some merits, then Vietnamese women are somewhat more empowered and independent from men's influence over the control of household's resources compared to women in South Asian countries such as Bangladesh or India. As Goetz & Gupta (1996) has shown, if there is an absence of a husband, Bangladeshi women are still subject to the supervision of their male relatives who would be therefore responsible for the allocation of household's resources and the finalization of family's decisions.

Table 6. Number of women who are principal decision makers based on their marital status

Marital Status		Married	Separate/Divorced	Widowed	Single
Principal decision makers					
	Yes	131	16	25	3
	No	355	0	4	7

It should be noted that as Table 6 shows, divorced women are the only group in which all of them gain control over household's decision-making process. The percentage among widowed respondents is also very high (86%), but only 30% of single women are reported to be the major decision makers. This could be due to the possibility that single women tend to be young, and thus they are still living with their parents who are leading the family at that moment. Otherwise, there should be some differences between the mindset of divorced and single women. It seems that divorced women appear to be more independent and "empowered" than the latter, and one possible explanation is that Vietnamese women are responsible to preserve her family's harmony and her marriage even though she has been badly treated by a husband (Schuler et al., 2006, p.390), and having no male household head (and no father if she has children) remains a taboo that she is likely to be subject to gossip and badmouth. Thus, coming to a divorce settlement would be viewed as a great milestone of one's life, as she is willing to take up any anticipated hardships in either financial or social sphere. In that case, it is appropriate to consider a divorced woman "empowered" in terms of her sense of agency, as she is able to defy her assumed responsibility to be tolerant to domestic inequality while acknowledging any disadvantages lying ahead. However, this explanation only serves as a conjecture for high percentage of divorced women who are empowered since there are many reasons that initiate an end to a marriage, and not all of them are voluntary or could manifest a woman's gain of economic independence. Moreover, since the sample size of divorced/widowed/single women in my dataset is limited, it might be the case that these women do not represent the true characteristics of the population, and it is interesting to study their coping mechanism after an unfortunate incident such as divorce and how they reallocate household's resources to response to these shocks onward. I will leave this question to future research.

Another interesting, yet confusing result is that not only married women are less likely to be empowered than the comparison group in terms of HMD dimension, they also perform worse in the ES item where the presence of a husband and thus "masculine jobs" is believed to generate more financial outcome (Goetz and Gupta, 1996). While it is true that those women would gain control on household issues, they could not carry out such "men's work" such as petty trading, itinerant trading or freelance transport. These masculine jobs require greater physical capability and higher degree of competitiveness, which is however more compatible to men, but they would consequently yield higher financial returns compared to “women’s work” such as livestock rearing or paddy husking (Goetz and Gupta, 1996). A higher economic empowerment among unmarried women would thus trigger a confusion. However, it should be noted that the ES dimension only determine whether one has her own savings and if she pays herself a wage; it does not measure her family’s wealth or overall income. A higher ES score could be ascribed to her awareness of uncertain future ahead without her husband, hence she is likely to be more attentive to cash savings accumulation as a coping mechanism against any future misfortune.

The last two variables that I will discuss are age and education level of the respondents, whose results are presented in the last two rows in Table 3. It seems that education is unlikely to play an important role in the determination of empowerment, as there is not any clear trend among the odds ratios and none of the p-values is significant at 0.05 level. In terms of age, it can be seen that this variable significantly improves the level of empowerment in every dimension except for the ES index, which might signal that seniority is likely to play a role in enhancing women’s power. One factor might contribute to the positive relationship between seniority and empowerment is that some women with married son would become mother-in-law and thus be able to exert greater influence on the family, the power that they used to be subjected to in the past. This gain of control would be then not attributed to microfinance’s impact since it happens in cultural context regardless whether there has been any contribution from the credit program. Another cultural factor that might explain this relationship is that since Vietnamese households tend to consist of several generation that could raise the number of household members to more than 10 people, senior members could confer some of their duty in taking care of the whole family (such as cooking and cleaning) to young members, freeing themselves from these burdens and being able to venture outside more often.

It is interesting to see that the odds ratios for ES index in terms of age are all less than 1, which indicates that those who are older than 30 years old would be less likely to be economically secured compared to the comparison group (ie. women who are less than 30 years old). However, the coefficient estimates for this dimension are not significant at 0.05 level. This result is rather counterintuitive, as older women are more likely to join TYM earlier and graduate into mature clients, which should suggest that they are more empowered than younger members. One possible explanation is that there is a limitation in the construction of ES dimension, which leads to the index's inability to capture varied aspect of women's economic security. As I have discussed in Section 3.2.1, since the criteria for respondents' personal savings only consider cash savings without further reference to non-monetary savings such as gold or jewelry, and since TYM's survey does not concern such non-monetary savings, the ES index could not incorporate this importation information into its computation. As older women are prone to storing their wealth through gold or jewelry compared to the young cohort, who would prefer to keep their money in a bank account, the failure to take account of this fact would underestimate the level of economic security among the elders. In Table 7, I decompose the ES index into separate components and calculate the percentage of women who satisfy each criterion's requirement based on their age group. As it shows, the percentages of the respondents who have their personal cash savings for future investments or emergencies are lower for those who are more than 40 years old compared to younger cohorts, suggesting that they might have had another savings instrument beside cash. Thus, more data should be collected to refine this dimension further.

Table 7. Percentage of women satisfying each component of the ES index based on their age group

Age group	Less than 31 years	31-40	41-50	More than 50 years
% of women who satisfy that:				
She has personal savings for emergencies	83%	73%	72%	66%
She has personal savings for future investment	39%	42%	36%	39%
She pays herself own wages	20%	18%	17%	28%

5.2. Membership duration and women's empowerment

Table 8. Logistic results of the effect of membership duration on the empowerment dimensions, controlled for marital status, occupation, age, education, and number of household members with regular income

Dimension	Economic Security (ES)		Household Major Decision (HMD)		Community Involvement (CI)		Composite Index	
Independent variable	Odds Ratio	Significance	Odds Ratio	Significance	Odds Ratio	Significance	Odds Ratio	Significance
Duration in the program								
0-6 months (1)								
3 years	1.504	0.141	2.104	0.015*	1.799	0.057	2.287	0.004**
6 years	1.859	0.038*	2.150	0.017*	5.116	<0.001***	2.174	0.012*
9 years	1.995	0.02*	1.415	0.277	4.177	<0.001***	2.126	0.014*
Marital Status	0.717	0.281	0.271	<0.001***	0.855	0.625	0.333	0.004**
Engage in non-agricultural activities/Have own enterprise	1.059	0.768	2.118	<0.001***	1.669	0.015*	1.870	0.003**
Number of household members having regular income	1.265	0.014*	1.093	0.364	1.073	0.460	1.502	<0.001***
Age group								
Less than 31 years (1)								
31-40	0.799	0.511	2.054	0.094	2.287	0.048*	1.862	0.084
41-50	0.507	0.044*	3.166	0.006**	2.648	0.017*	1.803	0.093
More than 50 years	0.599	0.161	3.677	0.004**	1.777	0.192	2.346	0.028*
Education level								
No school (1)								
Primary	0.548	0.246	2.468	0.111	1.266	0.679	0.739	0.592
Secondary	0.696	0.459	1.258	0.670	1.593	0.391	0.565	0.282
High school	1.151	0.793	2.240	0.171	2.767	0.086	1.122	0.844

*significant at 5%, **significant at 1%, ***significant at 0.1%

(1) control group

As the previous section has shown that membership in a microfinance program does have a significantly positive impact on women's empowerment in every dimension, this section will turn to the second hypothesis that the duration of membership also helps to improve the level of empowerment. In other words, as the clients stay longer in the program, they are more likely to be empowered than those who just join in recently. Table 8 presents the regression results from Equation (2) in Section 3.5. Here, I exclude in-training group and only consider those who have already received at least one loan from TYM, controlling for marital status, occupation, age, education, and the number of household member having regular income. The estimations for these controlled variables are similar to that of Section 5.1, so in this part, I will only focus on the impact of membership duration on the empowerment level.

It can be seen that compared to 6-month cohort, mature clients are more likely to be empowered in all dimensions, but the magnitude of each groups does not appear to be linear. In other words, there is little evidence that the longer one stays in TYM, the more empowered she should become. The only dimension that follows such linear trend is ES, which 9-year borrowers has the highest odds ratio, which is 1.99. This means that compared to 6-month group, 9-year clients are almost twice as likely to be empowered when holding others constant. This straightforward relationship is not true anymore for other dimensions. Specifically, the estimates for HMD index tells that borrowers in 3-year and 6-year cohort are twice as likely to be empowered than the comparison group, while 9-year members are only 40% more empowered and the estimate is not even significant. However, 6-year and 9-year members are the most empowered in terms of CI index, which is reasonable since more mature clients tend to establish greater connection with their peers and the surrounding community.

It is noted that the insignificant difference between 9-year and 6-month members regarding the HMD dimension does not mean that women cannot gain greater power over household decision-making process as they stay in the program for longer. Table 9 deconstructs the composition of the HMD index and calculates the percentage of women who satisfy each criterion's requirement. It can be seen that the percentage of 9-year women who are principal decision makers (46%) appears to be the highest one among the groups, which indicates that mature borrowers do gain some relative power over domestic issues. They are also more likely to decide to invest further into their business during the last 12 months than the rest. However, the proportion of 9-year members who decide to make large purchases during the last 12 months is very low (35%), which is even lower than that of 6-month borrowers (39%). It might be due to the situation that their houses are already well-equipped and thus they do not feel a need to purchase anything else. This is not the best explanation as the timeframe for this criterion is a year, and it is hard to imagine one does not make any large purchase (such as stoves, equipment, or a bike) during that 12-month span.

Table 9. Percentage of women satisfying each component of the HMD index based on their membership duration

Membership duration	**In-training**	**6-month**	**3-year**	**6-year**	**9-year**
% of women who satisfy that:					
She is the principal decision maker	17%	23%	30%	38%	46%
She decides to make purchases	28%	39%	56%	52%	35%
She decides to invest in her business	3%	18%	13%	17%	18%
She decides to make an improvement for her house	53%	45%	52%	65%	58%

Overall, the odds ratios for the Composite Index shows that mature clients are more than twice as likely to be empowered than young members, and the difference between these ratios' magnitude is not so large. This should suggest that membership duration does not have to be positively correlated with the level of empowerment, and longer stay in TYM does not guarantee that one should be more empowered than younger members. One possible reason for this diminishing effect is that the loans/treatment would exert the greatest influence on women's empowerment during the first years of membership, as it would act as a positive shock to one's life. Thus, with a sudden exposure to a diverse set of resources from an MFI (ie. funds, human support, trainings), one would expect to see greater advancement in those first years, then this progress would be mediated when household's income stream is being stabilized again.

6. CONCLUSION

The paper examines the effect of microfinance participation and membership duration on the degree of women's empowerment with a case study in Vietnam. The MFI being studied in this exercise is the TYM Fund, which is the largest and most organized microfinance program in Vietnam, and the dataset used for the analysis is derived from the institution's 2007 AIMS/SEEP Impact Assessment Survey conducted on its 544 clients. The paper constructs the empowerment index by building three dimensions: Economic Security, Household Major Decision, and Community Involvement. Composite Index is calculated by adding three sub-indices together to assess the overall level of empowerment among the borrowers. Logistic regression model is used in the exercise to measure the odds for being empowered, and the model is controlled by marital status, occupation, age, education, and number of household members earning regular income.

Through the regression results, it is shown that the data supports the first hypothesis that participation in a microfinance program helps to improve the degree of empowerment, in which whose have already received one loan from TYM on average are two times more likely to be empowered in terms of household decision-making process and community involvement than in-training members, and three times more likely in terms of economic security. Number of household members with regular income also positively contributes to the empowerment level, and this variable is indeed a significant, important factor in the determination of whether one is empowered or not. Marital status, on the other hand, has a negative relationship with the indices, that married women are less likely to be empowered in every dimension. However, since the sample size of unmarried women is quite small, it is not sure that whether this result could represent the population being studied or not. Further study should therefore be carried out to examine the behavior of divorced/widowed/single women in order to come to a more general solution. Also, it is found that education level does not affect the level of empowerment, and there is not a clear trend toward the effect of higher education on women's empowerment.

While the regression results corroborate the first hypothesis that membership does matter, there is however little evidence that membership duration is positively correlated with the degree of empowerment. It is true that members who stay in the program for more than 3 years are more likely to be empowered than those who recently join in, this effect does not necessarily extend to mature members who are in the program for 6 or 9 years. Although it does not guarantee that the level of empowerment will subsequently increase for an additional year of membership, it should be kept in mind that invention of microfinance tends to exert its highest effect during the first years of membership, then level off again in the subsequent years. Moreover, as the empirical evidence still suggests that women are more likely to be empowered after joining the program, we still believe that microfinance is indeed an effective tool to enhance women's status, domestically and socially.

It should be noted that my construction of the empowerment indices is still subject to several limitations that could confound the interpretation of the regression results. These shortcomings include the inability of the respondents to distinguish between profit and salary, the popularity of non-monetary savings such as gold or jewelry among elder members, and the selection bias regarding the control group from the survey itself. The next and last section dedicates to the discussion of some caveats that I mentioned earlier in the methodology and results part.

7. SUGGESTION FOR SURVEY IMPROVEMENT

Since the paper's analysis is based on a standardized AIMS survey which covers a larger scope of impact of a MFI on its clients' well-being, we cannot expect the survey's questions to be able to answer all the questions relating to one's degree of empowerment. Some limitations mentioned above have shown that there should be a separate survey specifically designed to address different dimensions of empowerment alone. To reduce the selection bias, beside existing and dropout clients, a study could replace the in-training group with nonclients living in the same village as well as nonclients living in a comparable village that a program does not operate (Hashemi et al., 1996). Adding nonborrowers from different village could avoid the decision-timing bias and could address an issue of fungible loan (Hulme, 2000, p.85), in which the treatment group actively interacts with the control group and the loan (treatment) could leak out and be transferred from one group to another. Hence, the control cohort could be "contaminated" by having such contact with microfinance clients. Although it is a desirable outcome in long-term goal, but in the short run it would cause some noises and distort the result. It should be noted that finding a demographically "similar" village is nearly impossible and if there really exist two villages that possess some similarities, then there should be a microfinance program operating already. This problem could however be partially corrected if we control for relative wealth and geographic division along with other variables mentioned in Section 3. This approach of experiment design is likely to incur greater costs; and if time and resources do not permit, then having in-training clients as control cohort would be fine but those persisting selection bias should be recognized.

It has been demonstrated that there are several limitations in the Economic Security dimension resulting from the way this survey was designed. Since it is inefficient to directly ask a client whether she pays herself a wage and it is likely that she does not understand the term “wage” at all, the wording should be altered to make it more comprehensible. We could ask her if she always sets aside a portion of her business income/money to make purchases for her own needs, and if her family members could all have access to the money from the business. A question related to asset ownership should also be incorporated, as it could represent the nonmonetary savings that she possesses. Such questions like “Do you have a legal claim on your land/house/motorbike?”, “Beside cash savings, what would you do if there is an unexpected crisis?”, and “Have any family members taken/sold your possession without your consent?” could capture how much control she has on household assets and her different types of savings apart from money.

For Household Major Decision dimension, instead of having a general question regarding if a woman is a principal decision maker, one should consider asking this question for every activity that the survey lists out (major purchase, investment, house improvement) to make sure that her voice is heard in all aspects of household decision making process. It should be noted that these activities do not have to be determined solely by a woman, as it is unrealistic to assume that a husband would confer all rights to his wife and step down. A joint decision reached by an agreement between husband and wife should be already sufficient to grant her one point in empowerment index. It is also noted that joint decision refers to an agreement in which a wife manages to win a debate or it has been reached unanimously, not just merely offering solutions and being overwhelmed by a husband.

Since this study only concentrates on the outcome perspective, it does not take into account how much control a woman has on the loans and how she perceives her self-worth or legal rights, which is indeed a crucial element in empowerment's conceptual framework. Also, a consideration of one's sense of community belonging is also worth of attention in future research, as it helps to recognize an extent to which a woman interacts with her surrounding community, villages, as well as a local government. However, since these aspects lie within the agency dimension, it is not a good idea to combine two dimensions (that is, outcome and agency) into one analysis as a vague term like "self-worth" or "sense of belonging" could not be easily quantified or represented as dummy variables (ie. 0 or 1). Another separate survey should be tailored with a different format but as it is out of scope of this analysis, the discussion would not delve further into this issue. Overall, although there are several limitations from the AIMS survey, it is still a useful source to investigate the impact of microfinance on women empowerment. As the regression analysis has shown that there is a significant difference between the incoming clients and mature clients, it is still appropriate to conclude that, with some caveats, microfinance does grant women greater power.

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APPENDIX

IRB Approval Form

University *of* New Hampshire

Research Integrity Services, Service Building
51 College Road, Durham, NH 03824-3585
Fax: 603-862-3564

07-Feb-2018

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Durham, 03824

IRB #: 6878
Study: Microfinance and Women's Empowerment: An Empirical Evidence in Vietnam
Approval Date: 05-Feb-2018

The Institutional Review Board for the Protection of Human Subjects in Research (IRB) has reviewed and approved the protocol for your study as Exempt as described in Title 45, Code of Federal Regulations (CFR), Part 46, Subsection 101(b). Approval is granted to conduct your study as described in your protocol.

Researchers who conduct studies involving human subjects have responsibilities as outlined in the document, *Responsibilities of Directors of Research Studies Involving Human Subjects.* This document is available at http://unh.edu/research/irb-application-resources. Please read this document carefully before commencing your work involving human subjects.

Upon completion of your study, please complete the enclosed Exempt Study Final Report form and return it to this office along with a report of your findings.

If you have questions or concerns about your study or this approval, please feel free to contact me at 603-862-2003 or Julie.simpson@unh.edu. Please refer to the IRB # above in all correspondence related to this study. The IRB wishes you success with your research.

For the IRB,

Julie F. Simpson
Director