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Adwin Surja Atmadja Jen-Je Su Parmendra Sharma

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Examining the impact of microfinance on microenterprise performance (implications for women-owned microenterprises in Indonesia)

Adwin Surja Atmadja

*Griffith Business School, Griffith University, Brisbane, Australia and
Faculty of Economics, Universitas Kristen Petra, Surabaya, Indonesia, and*

Jen-Je Su and Parmendra Sharma

Griffith Business School, Griffith University, Brisbane, Australia

Abstract

Purpose – The purpose of this paper is to examine the impacts of microfinance on women-owned microenterprises' (WMEs) performance in Indonesia. It especially observes how financial, human and social capital influences performance of enterprises.

Design/methodology/approach – Data were collected from a survey conducted in Surabaya, Indonesia's second largest city, covering more than 100 WMEs. The ordered probit technique is applied to estimate the performance *vis-à-vis* financial, social and human capital relationships.

Findings – This study finds a negative relationship between performance and financial capital, and positive relationships between performance-human capital and performance-social capital. However, with respect to human capital, the level of education has a marginally significant relationship with performance.

Practical implications – Microcredit for the purposes of enhancing business performance might not necessarily be a good idea, if it is unable to generate higher returns. As a business develops, the volume of microcredit should be reduced, and replaced by owners' own savings and retained profits. Regarding the non-financial factors, it might be useful for policy makers to contemplate providing incentives for spouse involvement in microenterprises run by women, and to consider them in designing credit policies. Group meetings activities should be extended to facilitate members to engage in business-related conversations and to develop social relationships. The ability of loan officers and group leaders to facilitate such conversations appears important.

Originality/value – To the best of the authors' knowledge, this study provides the first in-depth understanding of the role of microfinance programmes in the case of performance of WMEs in Indonesia, one of the world's most populous economies.

Keywords Microcredit, Business performance, Microenterprise

Paper type Research paper

1. Introduction

Microfinance has been shown to matter importantly for raising the living standards for the poor and their hopes for breaking out of poverty. Evidence shows that the impact of microfinance is not only at individual and household levels (Littlefield *et al.*, 2003; Morduch, 1999), but also at the country level (Khandker, 2005; Mosley and Hulme, 1998). Essentially, microfinance is designed to provide access to finance to those with few or no valuable assets that can be used as capital or collateral. Relative to formal banking credit,

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microcredit from microfinance institutions (MFIs) are informal and based mainly on trust, without strict collateral requirements or legally enforceable contracts. Moreover, as opposed to consumption, microcredit is usually offered to the most needy to start-up a microenterprise or to expand an existing business.

Given that the main goal of microfinance is poverty reduction via microcredit for business start-up/expansion, it is natural to enquire about the extent of its success in different settings so that relevant policies may be reviewed accordingly, especially since existing literature provides inconclusive evidence. Indeed, while some studies show that microcredit does benefit women's microenterprises performance (Copestake *et al.*, 2001; Leach and Sitaram, 2002), others question the effectiveness of microcredit *per se* in successfully lifting people out of poverty and improving welfare (Cull *et al.*, 2009). Some even contend that the effectiveness is even less for the poorest and those with limited skills, as these groups of borrowers can seldom use the loans productively (Adams and Von Pischke, 1992; Imai *et al.*, 2010). Ironically, some studies even argue that microfinance may actually be harmful to its recipients (Buckley, 1997; Rahman, 1999).

In the case of a microenterprise – just like any other business venture – finance (microcredit) *per se* cannot be the sole ingredient for success. Other factors, such as human and social capital, are equally important (Anthony, 2005; Bradley *et al.*, 2012; Leach and Sitaram, 2002; Tundui and Tundui, 2012). A combination of these different forms of capital is essential for enhancing the performance of a microenterprise. Without an appropriate mix, business success becomes a real challenge. In turn, an unsuccessful microbusiness might have little, if any, positive implication for poverty alleviation or welfare improvement.

Bearing the above in mind, microfinance appears to have made considerable progress in making financial resources available to the bottom segments of the society, to women, in particular, offering them an opportunity to improve their living standards. Microfinance has a long history in Indonesia and has been active in providing credit for the poor. However, the role of microfinance and its impact on Indonesian (women-owned microenterprises) WMEs remains little known, and this is the primary motivation for this study.

Specifically, this study endeavours to provide an in-depth understanding of the role of microfinance in WMEs' performance in an urban area of Indonesia with the main research question being:

RQ1. What are the key determinants of Indonesian WMEs performance?

Focussing on financial, human and social capitals. To address the question, a survey of women-owned microenterprises in Surabaya, the second largest city in Indonesia, was conducted and the survey data were analysed using the ordered probit regression technique. This study finds a negative relationship between performance and financial capital and positive relationship between performance and human capital and performance and social capital. The findings suggest that microcredit itself does not necessarily assure a better business performance; however spousal involvement, a part of social capital, and level of education are essential for business success.

The rest of this paper is outlined as follows. Section 2 briefly provides an overview of Indonesia with focus on socio-economic and financial market conditions as well as on the microfinance industry. It is then continued with literature review and hypotheses linked to the research questions in Section 3. Section 4 explains research method followed by empirical results and discussion in Section 5. Section 6 concludes.

2. Country overview

With a GNI per capita of only US\$ 4,810 in 2012 (World Bank, 2013), poverty remains Indonesia's major national challenge. While the proportion of Indonesians living on less than \$1.25 a day has been reduced significantly in the last two decades (Felipe *et al.*, 2013), around 18 per cent of the total population continue to live below the international poverty line (World Bank, 2013) causing some Human Development Index (HDI) indicators to be very low on an international scale.

HDI, as well as some gender indicators, suggest that women tend to be disadvantaged with respect to a number of socio-economic factors, including employment, education and participation in parliament and high offices compared to their male counterparts. In addition, a survey of small and medium enterprises (SMEs) conducted by IFC/NORC (2010) reveals that, across ten Indonesian cities, women-headed firms were generally smaller than men-headed ones, with 82 per cent having a monthly turnover of Rp 50 million or less, compared to only 56 per cent for men. Further, the survey provides evidence that fewer women-headed firms had a savings or a deposit account (79 per cent female/92 per cent male) and a business loan (6 per cent female/16 per cent male).

The Indonesian Government has encouraged formal financial institutions, mostly commercial banks, to reach the unbanked by endorsing the national regulation of non-collateralised loans for microcredit[1]. Yet, this has been confronted with two main constraints. First, the ability of the country's commercial banks to provide credit is limited by the relatively small size of the country's financial sector (World Bank, 2010). Second, the 1998 Financial Crisis has caused a traumatic effect which has motivated Indonesian authorities to emphasize the practice of prudential banking, resulting in a prudentially sound, but inefficient, narrow and homogenised banking oligopoly (Beck and Al-Hussainy, 2010). The constraints contribute to the shallow outreach of the country's formal financial sector. Hamada (2010) reports that the outreach of large commercial banks, excluding *Bank Rakyat Indonesia*, into the small credit market remains limited. Accordingly, this has become a significant constraint for micro, SMEs (Rosengard and Prasetyantoko, 2011), outside the country's microfinance industry.

The microfinance industry in Indonesia is exceptionally old. It is made of a large variety of institutions, programs, services, clients, target groups, and is also subject to various legal, regulatory, and supervisory frameworks (Holloh, 2001). The country's microfinance industry is also one of the most commercialised in the world in terms of its provision of sustainable microfinance with wide scale and sustainable outreach (Charitonenko and Afwan, 2003). The commercialisation might have two main implications. First, it stimulates MFI to do credit expansion, widening access to finance. Second, however, the commercialisation might cause tighter credit screening, which limits the access to finance. In such cases, Rosengard and Prasetyantoko (2011) report that there is still an unmet demand for microfinance services. Additionally, the interest rates charged by MFIs on microloans are often considerably higher compared with those commonly charged by urban commercial banks.

3. Literature review and hypothesis development

3.1 Financial capital and enterprise performance

At the earliest stage of an enterprise' life cycle, financial capital is the essential resource for purchasing fixed assets, for working capital, and for financing initial operations and the living expenses of the owners. The amount of initial capital invested has a positive

linkage with venture survival and growth (Cooper *et al.*, 1994) because it enables entrepreneurs to invest in productive activities, to have financial cushion to protect against slow start-ups, market downturns or managerial mistakes, as well as to exploit business opportunities and speed up business growth in the subsequent stages (Bates, 1995; Cooper *et al.*, 1988; Demircuc-Kunt *et al.*, 2008).

Financial capital may come from various sources. In developed countries, start-up finance is mostly supplied by the entrepreneurs themselves in the form of personal equity. Meanwhile in developing countries, financial capital is mostly acquired from external sources, predominantly as debt (Parker, 2009). This is because that the start-up finance often exceeds the entrepreneurs' valuable possessions. However, those with lower credit scoring and/or lack of collateral might be excluded from obtaining loans, preventing them to become entrepreneurs (Evans and Jovanovic, 1989).

Moreover, the presence of gender bias in financial sector causes unequal treatment of women when dealing with banks and other mainstream credit institutions, which generally tend to favour men (IFC, 2012; Parker, 2009; Stevenson, 1986). The lenders – banks and other mainstream credit institutions – argue that men run larger businesses and seize larger control over the assets that banks seek as collateral (Armendariz de Aghion and Morduch, 2005). Women are also less likely to have relevant industry-specific experience, hence women-owned firms are less likely to be successful according to economic measures of business success (GEM, 2010; Loscocco *et al.*, 1991; Watson and Robinson, 2003). Other explanation is that as women consider more about risks, they tend to demand relatively small, but more frequent loans; this increases lending costs (van Staveren, 2001).

Unlike conventional banks and other mainstream credit institutions, microcredits are offered by MFIs with minimal credit screening and without, or in some cases with more flexible, physical collateral. Although the cost of borrowing is relatively high, the MFIs' credit scheme gives wider access to finance to the unbanked to cope with household vulnerability and/or for micro entrepreneurship (Copestake *et al.*, 2001; Garikipati, 2008).

Notwithstanding the opportunities provided by microfinance to the most needy, for some MFIs with lending group schemes, credit screening is more often based on the trustworthiness of the individual and on the number of ties to other group members, and less attention is given to the business opportunity pursued (Armendariz de Aghion and Morduch, 2005). With the paucity of collateral, these factors result in a higher credit risk that must be shared by all members in the group.

Furthermore, without overlooking the important role of financial capital in business development, Bradley *et al.* (2012) reveal that microcredit does not always have direct effects on microenterprises' performance, but this relationship is significant when mediated by the entrepreneurs' abilities to conduct innovation. The easy access to finance brought by MFIs, in some cases, might lead to a decline in business performance in the medium or long term caused by the inability of entrepreneurs to innovate. Instead, they are more likely to make their products slightly different from, or even imitate, the innovators' outputs. While imitating entrepreneurs may at first be justified as market demand is increasing, their continuing entry into the market escalates competitive pressure so that entrepreneurial profit is divided among numerous sellers (Hannan and Freeman, 1984; Schumpeter, 1912). Accordingly, the first hypothesis is as follows:

- H1. The relationship between financial capital and WMEs' business performance will be ambiguous

3.2 Human capital and enterprise performance

Human capital refers to formal education, attitudes, and other human skills and abilities obtained through on-the-job training or business/industrial experiences. Education, a fundamental source of human capital, provides general human capital such as general search skill, foresight, imagination, computational and communication skills, as well as specific skills and knowledge (Parker, 2009), which are pre-requisites to the specific human capital associated with on-the-job training. A number of studies show that there might be a positive link between the level of education and business success (Kangasharju and Pekkala, 2002; Pena, 2002).

Beside formal education, expertise is another important dimension of human capital. In a business context, it is shaped by both formal and informal training of skills needed to exploit opportunity (Shane, 2003). Expertise comes from two main sources – internal and external.

With respect to internal sources, family is an important training ground for entrepreneurs. Exposure to family business allows individuals to learn how to start and develop a business through an apprenticeship because many of the skills necessary for decision making are tacitly learned and not codified (Polanyi, 1966). In that way, if individuals have had the opportunity to acquire some business experience through family or close friends, their expertise in evaluating a business opportunity could be greater (Amit *et al.*, 1993).

For instance, Caputo and Dolinsky (1998) report that having a self-employed husband is the single most important determinant of a woman being self-employed. Husbands are a source of knowledge and experience, and can also serve as role models for their wives. Other supporting evidence is given by Gimeno *et al.* (1997) that ventures founded by entrepreneurs from families with a history of entrepreneurship are less likely to fail because they benefit from proximity to entrepreneurial role models and emotional support.

With respect to external sources, prior knowledge from training and working experience enable entrepreneurs to increase their effectiveness during information gathering, and offers valuable knowledge about financing and developing their business, and it also raises confidence in opportunity exploration (Begley and Tan, 2001; Cooper *et al.*, 1995). These allow entrepreneurs greater freedom in exploring new combinations and innovating, as well as equipping them with greater ability to understand and handle business in uncertain conditions leading to improved outcomes (Karlan and Valdivia, 2010). Studies also found that expertise from industry-specific experience might be a major determinant of small business success, noting that women are more likely to be disadvantaged (Loscocco *et al.*, 1991).

From a gender perspective, women are likely to have fewer human capital compared to men. They are usually motivated by necessity and are more likely to enter a business without having a history of achievement, occupational training or experience (GEM, 2010). However, the possession of such experience tends to be a key driver of profitability for WMEs (Coleman, 2007). Accordingly, the second hypothesis is as follows:

H2. Human capital will be positively associated with WMEs' business performance.

3.3 Social capital and enterprise performance

Coleman (1988) defines the concept of social capital as how the social structure of a group can function as a resource for the individuals of that group, and is embedded in

the structure of relations. In an enterprise context, Granovetter (1985) concurs with the idea of embeddedness stating that enterprises are explained by structures of personal relations and networks of relations across and within enterprises. This concept highlights the importance of concrete personal relationships and networks of relationships in a standard economy system. These networks provide access to resources, employment, psychological aid, information and advice (Abell *et al.*, 2001; Hoang and Antoncic, 2003) that can be mobilised to facilitate entrepreneurial actions (Adler and Kwon, 2002).

The benefits of social capital are not only in terms of facilitating access to broader business sources, influences, or to gaining power or controls, but also solidarity that can be transformed into social support from others (Adler and Kwon, 2002). The social supports included in the structures of an individual's social life (e.g. group membership and/or family relationship) and the functions that these structures may serve (e.g. emotional support and instrumental assistance) can be received through the work domain (Allen, 2001) or the family domain (King *et al.*, 1995). Both domains can be highly interrelated in an entrepreneurial context, since entrepreneurs can more easily transfer or share resources between these domains compared to organisational employees (Powell and Eddleston, 2013).

Strong ties. Coleman (1988) argues that family is an ideal environment for creating social capital. Indeed, there is a greater likelihood that family and close friends will be socially involved with one another, forming a higher density network of relational lines (Granovetter, 1983).

With respect to strong ties, family support might range from spousal emotional support to employing members of the family. Evidence shows that family support is a key factor in entrepreneurial success for women entrepreneurs; it has positive effects on business survival, sales and profit growth (Bruderl and Preisendorfer, 1998; Powell and Eddleston, 2013).

While entrepreneurs in developed economies often rely on strong ties for establishing an enterprise, particularly for funding, emotional support and continuing the formation activities (Davidsson and Honig, 2003; Gimeno *et al.*, 1997; Shane, 2003), reliance on strong ties in developing economies has an additional motivation. Greater dependence on family networks or close trust relationships for a wide range of economic activities are required to cope with distrust of institutions and lax enforcement of contracts in developing economies (Humphrey and Schmitz, 1998; Zacharakis *et al.*, 2007). Moreover, material resource deficiencies commonly occurred in micro enterprises forces entrepreneurs to employ their own family members. In such cases, Cruz *et al.* (2012) report that employing family members would partly improve business performance for women-led firms, although it could also harm the firm's performance when the firm is the main source of household income. Evidence from India also shows that microcredit provided to women increase household income but only if their spouses are involved in the businesses (Leach and Sitaram, 2002).

Nevertheless, family involvement may not always have a direct positive effect on business performance. In the case of low-asset family firms, family involvement may increase agency costs, for at least two reasons: an apparent lack of formal monitoring systems, and family members' conflicting interests re-use of business assets (Dyer, 2006; Tundui and Tundui, 2012).

Weak ties. Weak ties are looser relationships or a lower density of relational networks of individuals beyond family and close friends (Granovetter, 1983).

Individual's informal relations with acquaintances and other types of network ties can create social capital through increased communication, information diffusion and social support (Paxton, 1999). In addition to such informal person-to-person relations, individuals can be tied to others through formal membership in voluntary associations. Accordingly, being a member of an association, such as a microfinance lending group, could be beneficial for women entrepreneurs. In this context, interactions among the group's members provide them with opportunities to develop new or deepen existing social relationships within the group which might yield economic gains and/or provide members with valuable information about opportunities (Anthony, 2005). Accordingly, the third hypothesis is as follows:

H3. Social capital will be positively associated with WMEs' business performance.

4. Research method

4.1 The survey

The data were obtained from a survey, conducted in 2010, of Setya Bhakti Wanita (SBW) MFI which operates in the City of Surabaya – Indonesia's second largest city – and its surroundings. With a multi-cultural population of around 2.8 million in 2010, the city is the capital of East Java Province, Indonesia's second most populated province (37.48 million). SBW, in turn, is one of the largest (in terms of membership and total assets) women MFIs in the city. The institution provides both savings and co-guaranteed microcredits and has 379 operating microcredit lending groups with a membership of around 10,900 women. In 2010, it had granted total credit of approximately USD13.4 million (Rp 133.7 billion) with individual credit of up to USD2,500 (Rp 25 million) per member.

In Indonesian, both registered microbusiness owners as well as non-business owners may apply for credit from MFIs. Since the number of business owners is far less than the non-business owners, memberships of MFIs are commonly dominated by non-business owner members, a situation also prevalent at SBW. Of SBW's total women membership of 10,900, only 2,000 met the survey criteria of "owns a microbusiness". The 2,000 women microenterprise owners made up around 80 lending groups. From each of the 80 groups, two to three members were randomly selected as prospective respondents. The prospective respondents were then initially contacted by phone by SBW on behalf of the researchers for their "voluntary" participation. Of the 230 prospective respondents contacted, only 168 agreed to be interviewed, of which only 130 completed responses were found to be valid for the purposes of the analysis – unmarried respondents, incomplete responses and some outliers were excluded.

Interviews were mostly conducted at the respondent's residence or business place to observe their real-life conditions; occasionally the interviews were conducted at group meetings. The interviewers were local university students, from a final year research methods class. An announcement was made by the convenor about the opportunity to participate in a survey as interviewers. In total, 25 students were selected based on their academic performance and relevant prior experience. The researcher provided training to the students prior to the survey, and supervised them during the survey.

4.2 The variables

Dependent variables. To recap, a primary objective of the study is to understand the business performance of women-owned microenterprises (WMEs) in Indonesia with

respect to a number of independent variables. In this study, “profit” is used to proxy business performance, measured by a respondent’s subjective self-reporting of changes in profit across two consecutive years. The reason for settling with the “subjective” response is that micro entrepreneurs in Indonesia tend not to keep proper records their business transactions; quite often they are not properly trained, qualified or otherwise equipped to do so. Subjective self-reported performance as a measure of profit, while not ideal, has been in other studies with reasonable reliability (Anna *et al.*, 2000; Cruz *et al.*, 2012; Wiklund and Shepherd, 2003).

Independent variables. Consistent with the literature and following Bradley *et al.* (2012), the key covariates include: financial capital (FCap), human capital (HCap) and social capital (SCap). Financial capital is operationally defined as the current amount of microcredit (loan size) owed by the individual respondent. Human capital consists of education level, family business background and prior work experience. Education level is measured by the level of formal education of the respondents ranging from elementary to university/college. Family business background and prior working experience are dummy variables.

Social capital comprises of strong and weak ties and lending group. Strong ties is the extent of family and close friends involvement in a respondent’s business. The terms of the involvement includes participation in discussing business ideas, formal or informal employment or otherwise providing help or support to a business. In addition we include a spousal involvement variable to test if this does, per the literature, have any impact on women micro-entrepreneurs’ business success in the case of Indonesia. Weak ties is measured by the extent of business acquaintance (consumers as well as suppliers) involved in the business. Lending group may include both strong and weak ties; in this study, it is separated from both due to the need to capture its role in respondents’ business performance. Lending group is the extent of group members in a respondent’s lending group.

Control variables. The control variables include change in total assets, competition, number of employees, new products, respondents’ age and the length of membership. Change in assets, as a proxy of business expansion, is measured by subjective self-reporting of percentage change in the business assets. Competition measures the respondent’s awareness of any competing firms in the surrounding area. Number of employees is the current number of employees working in a respondent’s business. New product is a respondent’s perception of to what extent she agrees that the product or service she is offering is new to local market. Finally, age is the age of the respondent, and length of membership is the duration for which a respondent had been a member of the MFI. Table I explains briefly how the questions were framed to obtain relevant data.

4.3 Model specification

The dependent variable is defined as follows: 1 = “decrease”, 2 = “about the same” and 3 = “increase”. Since the variables are limited and ordinal in nature, OLS technique might not be appropriate (McKelvey and Zavoina, 1975). The Ordered Probit estimation, an extension of the Probit model, is more appropriate for this purposes. The Ordered Probit model recognises the indexed nature of various response variables; in this application, performance (y_i) is the ordered response.

The estimated models can be written as:

$$y_i^* = x_i' \beta + \varepsilon_i \quad (1)$$

| Variables | Questionnaire questions |
|-----------------------------|---|
| Profit | Compared to last year, have your profits (revenues after expenses are paid) in your business (circle one): increased, decreased, or stayed about the same? Answer: decrease = 1, about the same = 2, increase = 3 |
| Microcredit (<i>Fcap</i>) | What is your current loan amount (in millions rupiah)? |
| Education | What is the highest grade/level of school you have attained? Answer: Elementary = 1, Junior High = 2, Senior High = 3, University = 4 |
| Prior working experience | Did you have prior working experience with the type of business you started? Answer: (YES = 1, No = 0) |
| Family business background | Did your parents ever work for themselves or run their own businesses? Answer: (YES = 1, No = 0) |
| Strong ties | Approximately, how many family members or friends have been involved in your business? |
| Weak ties | Approximately, how many business acquaintances (i.e. consumers and suppliers) have been involved in your business? |
| Lending Group | How many people are in your lending group? |
| Spousal involvement | How much do you agree with statement that "I have found ways to get my husband/wife involved with my business"? Answer: (1. Strongly disagree...7. Strongly agree) |
| Change in assets | Compared to last year, by how many percentages approximately have the assets (equipment/materials) used by your business changed? |
| Competition | Are there any competitors who sell the same product/service in your area? Answer: (YES = 1, No = 0) |
| Number of employees | How many people are employed by your business? |
| New product | How much do you agree with statement that "the product or service I am offering is new to the local market?" Answer: (1. Strongly disagree ...7. Strongly agree) |
| Age | What is your age? |
| Length of membership | When (in what year) did you become a member of the microfinance institution? |

Table I.
Description
of variables

$$y_i = 1 \text{ if } y_i^* \leq \alpha_1$$

$$y_i = 2 \text{ if } \alpha_1 < y_i^* \leq \alpha_2$$

$$y_i = 3 \text{ if } \alpha_2 < y_i^*$$

where y_i^* is the latent variable of y_i , x_i' represents the covariates and the controls, and ε_i is the error term; it is assumed that $\varepsilon_i \sim NID(0, 1)$.

With three possible responses, the implied probabilities can be obtained as:

$$P_1(x_i) = P(y_i = 1 | x_i) = \Phi(\alpha_1 - x_i' \beta)$$

$$P_2(x_i) = P(y_i = 2 | x_i) = \Phi(\alpha_2 - x_i' \beta) - \Phi(\alpha_1 - x_i' \beta)$$

$$P_3(x_i) = P(y_i = 3 | x_i) = 1 - \Phi(\alpha_2 - x_i' \beta) \quad (2)$$

where Φ is cumulative density function of $NID(0, 1)$, and α_1 and α_2 are the unknown thresholds estimated jointly with β using a maximum likelihood (ML) approach. When correctly specified, the ML estimation is consistent, asymptotically efficient, and normally distributed (Verbeek, 2012).

5. Empirical results and discussion

5.1 Empirical results

Table AI provides descriptive statistics of the data set. Table II presents the results of the ordered probit models estimating business performance, measured by changes in profit. Model 1 is the baseline control model, while Model 2 predicts profit in the absence of microfinance assistance. Model 3 estimates profit without social capital variables, while in Model 4, human capital variables are omitted from the estimation. Model 5 is the main model encompassing all covariates and controls used in this study.

At the 5 per cent level of significance, Models 3, 4 and 5 highlight a negative relationship between microcredit or loan and profit. Re *H2*, as Table II shows, profit does not have any significant relationship with either prior working experience or family business background. However, it is significantly linked to education in Model 2 (at the 10 per cent level), Model 3 (at the 5 per cent level) and Model 5 (marginally significant at the 10 per cent level).

Re *H3*, none of strong and weak ties or lending group is significantly associated with profit. However, spousal involvement shows a significant positive impact on the business performance in Models 2, 4 (at the 5 per cent level) and 5 (at the 10 per cent level).

Table III provides the results of an in-depth analysis of outcome prediction with respect to the three key (significant) covariates, microcredit, education and spousal involvement. The outcome prediction is obtained based on Model 5, holding all other independent variables at their sample means, microcredit is specified at its 10, 25, 50, 75 and 90 percentiles; and spouse involvement at six different degrees of response from strongly disagree to strongly agree.

The outcome predictions show that, given all other covariates at their means, increase in amount of loan appears to decrease the probability of profitability. For example, for microcredit at 25 percentile the chance of increase in profit is 50.27 per cent and it drops to 37.62 per cent when the credit increases to 75 percentile. On the other hand, for microcredit at 25 percentile the chance of decrease in profit is 10.71 per cent, and it increases to 17.88 per cent when the credit is at 75 percentile.

Conversely, concerning the respondents' education, a higher level of education apparently increases the possibility of increase in profit. Assuming the other covariates at mean, the chance of increase in profit is higher for university educated (54.41 per cent) compared to that of junior high (37.07 per cent) and senior high (45.63 per cent) educated.

Regarding spousal involvement, the more the women agree the more likely that their firms' profits increase. For example, given other covariates at means, the chance of increase in profit is 26.20 per cent (strongly disagree) vs 56.43 per cent (strongly agree) while the chance of decrease in profit is 27.49 per cent (strongly disagree) vs 8.12 per cent (strongly agree).

5.2 Discussion

Microfinance has been shown to have made key contributions in poverty alleviation programmes in a number of developing economies. It particularly helps the poor cope

Table II.
Ordered probit
estimation results

| Variables | Model 1 | | Model 2 | | Change in profit Model 3 | | Model 4 | | Model 5 | |
|----------------------------|---------|----------|---------|----------|-----------------------------|----------|---------|----------|---------|----------|
| | Coef | SE | Coef | SE | Coef | SE | Coef | SE | Coef | SE |
| <i>Financial capital</i> | | | | | | | | | | |
| Microcredit | | | | | -0.0634 | 0.0271** | -0.0707 | 0.0270** | -0.0645 | 0.0275** |
| <i>Human capital</i> | | | | | | | | | | |
| Education | | | 0.2489 | 0.1329* | 0.2770 | 0.1309** | | | 0.2204 | 0.1344* |
| Prior working experience | | | -0.2391 | 0.2225 | -0.0711 | 0.2205 | | | -0.1043 | 0.2333 |
| Family business background | | | 0.1397 | 0.2247 | 0.0088 | 0.2197 | | | 0.0755 | 0.2274 |
| <i>Social capital</i> | | | | | | | | | | |
| Strong ties | | | -0.0300 | 0.0520 | | | -0.0091 | 0.0525 | -0.0138 | 0.0536 |
| Weak ties | | | -0.0101 | 0.0107 | | | -0.0131 | 0.0107 | -0.0118 | 0.0108 |
| Lending group | | | | | | | 0.0193 | 0.0140 | 0.0171 | 0.0146 |
| Spousal involvement | | | 0.1485 | 0.0702** | | | 0.1419 | 0.0696** | 0.1332 | 0.0719* |
| <i>Business control</i> | | | | | | | | | | |
| Change in assets | 0.0250 | 0.0059** | 0.0244 | 0.0061** | 0.0253 | 0.0060** | 0.0256 | 0.0062** | 0.0254 | 0.0062** |
| Competition | 0.2836 | 0.2150 | 0.4032 | 0.2305* | 0.3549 | 0.2213 | 0.5284 | 0.2341** | 0.4968 | 0.2369** |
| Number of employees | 0.0576 | 0.0481 | 0.0297 | 0.0500 | 0.0622 | 0.0491 | 0.0436 | 0.0502 | 0.0391 | 0.0506 |
| New product | -0.0472 | 0.1080 | 0.0335 | 0.1166 | -0.0055 | 0.1113 | 0.0832 | 0.1185 | 0.0706 | 0.1197 |
| <i>Individual control</i> | | | | | | | | | | |
| Age | -0.0136 | 0.0129 | -0.0031 | 0.0138 | -0.0052 | 0.0135 | -0.0024 | 0.0133 | 0.0011 | 0.0139 |
| Length of membership | 0.0139 | 0.0162 | 0.0166 | 0.0170 | 0.0349 | 0.0182* | 0.0260 | 0.0185 | 0.0294 | 0.0189 |

Notes: Number of observation (*n*) = 130. Unstandardised coefficients and standard error are presented. **p* < 0.10; ***p* < 0.05

Table III.
The analysis of
outcome prediction

| Variables | Outcomes | | |
|---|--------------------|--------------------------------|--------------------|
| | Decrease in profit | Relatively no change in profit | Increase in profit |
| <i>Microcredit (%): (at different quantile)</i> | | | |
| 10 | 0.0589 | 0.3122 | 0.6289 |
| 25 | 0.1071 | 0.3902 | 0.5027 |
| 50 | 0.1195 | 0.4035 | 0.4770 |
| 75 | 0.1788 | 0.4450 | 0.3762 |
| 90 | 0.2145 | 0.4571 | 0.3284 |
| <i>Level of education</i> | | | |
| Elementary | 0.2467 | 0.4623 | 0.2910 |
| Junior high | 0.1827 | 0.4467 | 0.3707 |
| Senior high | 0.1302 | 0.4135 | 0.4563 |
| University | 0.0891 | 0.3668 | 0.5441 |
| <i>Spousal involvement</i> | | | |
| Strongly disagree | 0.2749 | 0.4631 | 0.2620 |
| Moderately disagree | 0.2323 | 0.4606 | 0.3071 |
| Slightly disagree | 0.1937 | 0.4510 | 0.3554 |
| Neither agree nor disagree | 0.1592 | 0.4347 | 0.4061 |
| Slightly agree | 0.1291 | 0.4125 | 0.4584 |
| Moderately agree | 0.1031 | 0.3854 | 0.5115 |
| Strongly agree | 0.0812 | 0.3545 | 0.5643 |

with their household vulnerability by offering non-collateralised loans that might be used to overcome income shocks. However, the original design of microfinance was actually not to provide loans for non-productive or for consumption purposes, but to help the most needy to establish their own microbusiness to improve household income. In such cases, previous studies have found conflicting results. Previous studies maintain that microfinance is positively associated with firm performance; our study finds the case to be otherwise.

Our study shows a negative relationship between microcredit (proxy for financial capital) and WMEs' profits (proxy for performance), indicating that higher levels of indebtedness are likely to adversely affect performance. Two main reasons, at least, might explain this result. First, microcredit could improve WMEs' production capacity. However, as women are shown to be typically less-skilled entrepreneurs, their participation in local market is mostly motivated by necessity, not opportunity. Moreover, when initiating a business venture, they were often pushed into entrepreneurship by circumstances beyond their control and therefore are forced to choose from whatever opportunities might be available at that moment (McMullen *et al.*, 2008). They must then try to make the best of a given situation and in doing so, often tend to replicate existing products and services, resulting in an increase in the quantity supplied or even over supply of analogous products in the local market. Without any compensating increase on the demand side, this increases competitive pressure in the market, leading to a downward pressure on local prices and individual profits of both new and existing microenterprises (Bateman and Chang, 2012; Davis, 2006).

Furthermore, if individuals are forced into entrepreneurship by lack of other options, they are less likely to make necessary preparations or to have skills and resources that match the opportunity that allows growth of business (Bradley *et al.*, 2011).

With regard to preparation, our survey indicates that almost 70 per cent of the total respondents had not made adequate plans before initiating their business, and this could imply undesirable consequences in subsequent periods.

The second reason is that there is a strong indication that the entrepreneurs cannot productively manage credit for business growth and to enhance profitability (Dichter, 2006). Thus, the relatively high interest rate imposed on the credit might burden WMEs especially if the credit cannot be optimally utilised to generate even higher incomes. In addition, women might also use credit for other purposes than business due to their inability to distinctively separate their household consumption and business investment (Parker, 2009). Hence, as has previously been warned by Morduch (1999), access to more credit might lead to greater personal and/or household expenditure rather than business development.

An implication of the above is that microcredit for the purposes of enhancing business performance might not necessarily be a good idea, especially if it is unable to generate higher business returns to cover the relatively higher rate of interest. Thus, it might appear that as a business matures and develops, the volume of microcredit should ideally be reduced, not increased, and replaced by owners' own savings and retained profits, although in the case of microbusiness, Parker (2009) reminds us that entrepreneurs are often unable to distinguish consumption and business investment from their financing decision which makes them prone to risk.

Moving on and more specifically to the implications of this study, with regard to human capital, our study finds that only education level matters for business performance. This finding is consistent with previous findings that firms run by the highly educated individuals are more likely to perform better than those run by the less educated individuals (Kangasharju and Pekkala, 2002; Pena, 2002). On the other hand, the insignificant impact of family business background on business performance suggests that an entrepreneur's parents/families might not have successfully transmitted entrepreneurial skills to their offspring, or that the transferred skills have not been relevant.

Regarding social capital, this study reveals statistically insignificant relationships between WMEs' performance and both strong and weak ties; however, spousal involvement is significantly correlated with profit. The size of family networks and the number of business acquaintances do not seem to have much impact on profit growth, but spouse (husband) involvement clearly shows strong contribution to business success. This might be because spousal involvement not only gives women less expensive employee, networking and training, but also provides them with emotional support assisting the women who often desire for synergy between work and family (Bird and Brush, 2002; Brush, 1992).

This finding is consistent with previous findings by Leach and Sitaram (2002), who report that spousal involvement has a positive contribution to women's microbusiness in India. In light of this, although there is always a risk of increase in agency costs (Dyer, 2006; Tundui and Tundui, 2012), it might be useful for policy makers to contemplate providing incentives for spouse involvement in microenterprises run by women.

Moreover, non-financial factors such as spousal involvement and women's level of education might also become useful indicators for MFIs to predict the chance that the credit will be productively utilised by the borrowers to improve their business performance. These factors could be considered particularly in designing credit policies, which is able to deliver the credit effectively and minimise the credit risk.

Finally, a microfinance lending group is commonly expected to enhance harmony among its membership and help members broaden social networks, which benefit their business. However, our findings show that although positive, the relationship between lending group and business performance is not statistically significant. This might be due to the fact that women's involvement in lending groups is simply and pragmatically motivated by access to credit. During the interview, when the respondents were asked to rank (from 1 to 5, and 1 being the most) the time typically spent in a group meeting for discussing personal issues, loan repayment, business ideas, spiritual issues and community news, around 88 per cent of the respondents positioned loan repayment issues at the top rank (rank 1). This indicates that conversations among members during the group's meetings are dominated by loan repayment issues, leaving very little time for members to talk with about their business, the chance of exchanging and gaining valuable information about business opportunities and ideas are rather limited.

Literature suggests that, as a manifestation of weak ties, a lending group could provide alternative sources of information that might not be directly available to a particular individual. Access to this additional information can be combined with current knowledge to discover or create non-obvious opportunities in the market (Shepherd *et al.*, 2007). Consequently, activities in the group meetings should not be limited by loan repayment discussion only, but should be extended to facilitate members to engage in business-related conversations and to develop new or deepen existing social relationships within the group. The ability of loan officers, as the representatives of MFIs, and group leaders to facilitate such conversations appears important.

6. Conclusion

While microfinance has been shown to have made considerable progress in making financial resources available to the bottom segments of the society, to women, in particular, offering them an opportunity to improve their living standards, despite a long history in Indonesia, one of the most populous and poverty challenged economies in the world, the role of microfinance and its impact on Indonesia's WMEs remains little known. This study apparently fills this huge gap in the literature.

Specifically, this study provides the first in-depth understanding of the role of financial, social and human capital in the performance of WMEs. A survey of 168 WMEs in Surabaya, the second largest city in Indonesia, was conducted and the data were analysed using the ordered probit regression technique. Results show that financial capital may not necessarily influence business success – a negative relationship is found between financial capital and performance. On the other hand, a positive relationship is noted between performance and levels of education, and between performance and spousal involvement indicating that these variables might be more important than just microcredit for successful operation of WMEs in the case of Indonesia.

Future studies might involve a larger, more heterogeneous sample size, from a different part of Indonesia. It might also involve a deeper explanation of the relationships noted in this study, for example, why loan size has a negative effect on profit, whether applying alternative credit schemes (e.g. individual credit scheme) instead of lending group credit scheme might affect business performance differently, in what ways do spousal involvement benefit WMEs' business performance and whether the findings apply also to male-headed micro businesses. In the meantime, this study provides useful research-based findings for relevant policy development in Indonesia which might also be relevant for other developing economies.

1. Central Bank of Indonesia (Bank Indonesia) defines microcredit as a loan below rupiah 50 million (equivalent with USD4,280.82, based on current (17 July 2014) exchange rate of USD 1 = Rp 11,680) provided by financial providers in Indonesia.

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About the authors

Adwin Surja Atmadja is currently pursuing his Doctoral Degree in the area of Microfinance at the Department of Accounting, Finance and Economics, Griffith University Australia. He is also a Faculty Member at the Faculty of Economics, Universitas Kristen Petra Indonesia, as well as a Member of Indonesian Economists Association. His research interest covers microfinance, economic development and financial market integration. Adwin Surja Atmadja is the corresponding author and can be contacted at: adwin.atmadja@griffithuni.edu.au

Dr Jen-Je Su is a Senior Lecturer in Economics and Finance at the Griffith University, Brisbane, Australia. His research interests include (applied) econometrics, economic development and international finance.

Dr Parmendra Sharma's research interest spans the Asia Pacific region, focussing mainly on issues relating to finance in emerging economies, including the banking sector, stock markets and microfinance. His team comprising of researchers from the University of Canberra and the University of the South Pacific were recently awarded an internationally competitive UCAL grant, funded by the Gates Foundation, to study mobile value added implications for women-owned microenterprises in the South Pacific. Parmendra is also the Founding Chair of Griffith Asia Institute's South Pacific Studies Group.