Does microcredit empower micro-entrepreneurs? Empirical evidence from Indonesia

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Does microcredit empower micro-entrepreneurs? Empirical evidence from Indonesia

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ABSTRACT

Purpose
This study provides fresh survey-based evidence from Indonesia on the impact of microcredit on empowerment of micro-entrepreneurs.

Methodology
Data was collected from a survey of microcredit-funded microenterprises in Surabaya, Indonesia, and its surroundings; 556 microenterprises participated voluntarily in the survey. Weighted least square mean and variance adjusted structural equation modelling (WLSMV-SEM) estimator was used to analyse the data.

Findings
Results show that microcredit has a positive and significant relationship on control over resources, but business performance does not significantly mediate the microcredit-empowerment relationship.

Limitations
Some limitations noted in this study are that the sample was obtained from one region of Indonesia, and was unbalanced in gender. The cross-sectional data of this study limits inferences of causality in the analyses, and prohibits the study from assessing longitudinal effects and from examining non-recursive models.

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Contribution
At least in the case of Indonesia, the microcredit programme is working and the actions of policymakers and donors can be justified. However, further, more detailed and cross-country investigations are required to help donors and policymakers take a more informed approach in continuing to invest in microcredit programmes at the cost of other competing alternative strategies.

Keywords Microcredit, Micro-entrepreneurs, Empowerment, Indonesia

INTRODUCTION

Over the last several years, microcredit[1] - the act of providing small amounts of credit at no or low interest rates to unemployed, low-income, and/or financially excluded individuals or groups - has increasingly become a common financial policy tool for supporting and enhancing the formation and expansion of microenterprises worldwide, particularly in developing and emerging markets. Microcredit is also believed to help alleviate poverty and empower the foregoing disadvantaged segments of society. Predictably, this widespread policy action has prompted an explosion of empirical research, particularly over the last decade, testing the effect of microcredit on business formation, poverty alleviation and empowerment relationships.

The evidence so far has been mixed. Some prior studies show that microcredit increases income and consumption, enhances empowerment, fosters a feeling of community, and establishes creditworthiness and financial self-sufficiency (Alsop & Heinsohn, 2005; Armendariz de Aghion & Morduch, 2010; Golla, Malhotra, Nanda, & Mehra, 2011; Hashemi, Schuler, & Riley, 1996; Kabeer, 1999, 2001; Khandker, 2005; Mahmud, Shah, & Becker, 2012; Malhotra, Schuler, & Boender, 2002; Pitt & Khandker, 1998). Other studies show that microcredit may lead to over-indebtedness resulting in perpetual poverty, and it can crowd out other anti-poverty interventions (See, for example, Crépon, Devoto, Duflo, & Parienté, 2011; Garikipati, 2008; Imai, Arun, & Annim, 2010; Johnston & Morduch, 2008; Kaboski & Townsend, 2012; Karlan & Zinman, 2010; Khandker, 2003; Kondo, Orbeta, Dingcong, & Infantado, 2008; Panda, 2009; Pitt, Khandker, & Cartwright, 2006; Ssendi & Anderson, 2009). Nevertheless, millions of dollars continue to be dispensed into microcredit-related activities[2] (ADB, 2015; IFC, 2015), suggesting that more country-specific and broader empirical evidence is required to help donors and policymakers take a more informed approach in continuing to invest heavily in microcredit at the cost of other competing alternative strategies.

And, that is precisely the objective of the present study. The study takes a fresh look at the microcredit-empowerment relationship in the case of Indonesia.

1 A major component of "microfinance", which encompasses other basic banking and insurance services and products as well.

2 For example, in the fiscal year 2014, the International Finance Corporation (IFC) committed US$ 519 million to 47 projects with microfinance institutions (MFIs). The IFC cumulative investment portfolio in microfinance exceeded US$ 3.5 billion, with outstanding commitments of $ 1.68 billion (IFC, 2015). The Asian Development Bank (ADB) allocated US$ 46.125 million to only microfinance institutional development projects in the Asia-Pacific region between 2011 and 2013 (ADB, 2015).

Empowerment is defined variously in the literature, including as the expansion of physical and financial assets, and the ability of individuals and groups to participate in, negotiate with, influence, control, and hold accountable, institutions that affect their lives (Narayan, 2002). Studies have also linked empowerment to the concept of human agency focusing on the importance of inner transformation of individuals as an essential factor in the formulation of choices (Kabeer, 1999; Malhotra et al., 2002; Nussbaum, 2001).

Kabeer (1999), in particular, defines empowerment as the process of change by which those who have been previously denied the ability to make strategic life choices, to acquire such ability. There is thus a logical inverse association between poverty and empowerment because resource deficiency for meeting basic needs often impedes the ability in exercising meaningful choice, which can be viewed in terms of three inter-related dimensions: resources, agency, and achievement.

While resources[3] are enabling factors of empowerment, agency is the essence of empowerment. Agency is defined as the ability to express individual goals or meaningful choices and to act upon them, which includes the ability to formulate strategic choices that affect the individuals' lives, and to have control over resources (Malhotra, 2003). In this study, empowerment is defined as agency, proxied by control over decisions to spend, save, use, purchase or sell material resources, including business resources and household resources, plus control over borrowed funds such as microcredit.

Having defined empowerment as control over resources, the study then endeavours to investigate if microcredit might enhance empowerment. The microcredit-empowerment evidence so far is mixed, and also empirical evidence from Indonesia - the world's fourth most populous and tenth largest economy, Southeast Asia's largest economy, and a member of the G-20 - is scarce. Thus, while contributing to the microcredit-empowerment debate, this study provides the first comprehensive empirical evidence from Indonesia.

While the main question of this research asks, 'Does microcredit empower micro-entrepreneurs?', we ask, on the basis of literature, does business performance mediate the microcredit-empowerment relationship? Microcredit or financial capital is critical not only for the start-up stage, but it is also equally important for survival and growth (Bates, 1995; Cooper, Gimeno-Gascon, & Woo, 1994; Cooper, Woo, & Dunkelberg, 1988; Demirguc-Kunt, Beck, & Honohan, 2008). A thriving business is likely to enhance owners' earning capabilities who, in turn, are likely to enhance their economic status and thereby empowerment via greater control over resources.

To address these questions, we conducted a survey of microcredit-funded microenterprises in Surabaya, the second largest city in Indonesia. The eligible respondents needed to be at least 18 years old, have at least one microenterprise at the time of the survey, have been a member of a microfinance institution (MFI) since at least 2012[4], and have a current outstanding balance of no more than 50

3 Resources consist of material resources (non-financial and financial), human capital, and social capital.

4 The survey was conducted in early 2014, so 2012 was set as the cut-off date because there was a lagged effect of credit on the respondents' businesses and subsequently on empowerment levels. The possibility was also considered that the social interaction during a respondent's participation in the credit programme could have a delayed effect on the respondents' empowerment levels.

million rupiahs[5] (about US$ 3,521, assumed US$ 1 = Rp. 14,200). Of the fourteen MFIs approached, five provided formal consent for voluntary participation by their members. Of the 800 prospective respondents, 556 agreed to be interviewed. Of these, 483 complete responses (92 men and 391 women) were valid and reliable for the purposes of analysis.

Structural equation modelling with a weighted least square mean and variance adjusted structural equation modelling (WLSMV-SEM) estimator was used to analyse the data. The estimator can accurately estimate multiple and interrelated dependent relationships incorporated in integrated models, which contain some latent or unobservable variables (i.e., business performance and control over resourses), that need to be measured by using some categorical observable indicators.

Results show that microcredit has a positive and significant relationship on control over resources, but business performance does not significantly mediate the microcredit-empowerment relationship. Thus, this study confirms previous findings of a positive microcredit-empowerment relationship, suggesting that if empowerment is a goal then at least in the case of Indonesia, a populous, developing economy, the microcredit strategy is working and the actions of policymakers and donors can be justified. However, these findings may not apply to other developing economies - further, more detailed and cross-country investigations are required to help donors and policymakers take a more informed approach in continuing to invest heavily in microcredit at the cost of competing alternative strategies.

The rest of this paper is outlined as follows. The second section provides a review of relevant literature and hypothesis development linked to the main research question, followed by the research method in the next section. This is followed by a section which analyses the data and explains the empirical results. The penultimate section discusses the findings and policy implications and the final section offers conclusions.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Microcredit and economic empowerment

Providing microcredit to the poor may deliver strong economic and social impacts (Armendariz & Morduch, 2010; Khandker, 2005), and may improve the human empowerment level (Kabeer, 2001; Mahmud et al., 2012; Pitt & Khandker, 1998; Pitt et al., 2006). This might be due to the design of the credit (e.g., collateral requirement, modes of payment, loan size and timing, types of savings product) that may encourage empowerment processes to occur (Eyben, Kabeer, & Cornwall, 2008). Evidence shows that microcredit links to human empowerment, because it helps the recipients to have access to finance (Alsop & Heinsohn, 2005; Kabeer, 1999; Malhotra et al., 2002), and then enables them to gain economic advancement and to exercise power and agency (Golla et al., 2011).

Mayoux (1999), on the other hand, provides a strong critique of the naive belief that credit by itself creates a 'virtuous spiral' of economic, social, and political empowerment, without it being considered necessary to develop explicit strategies to address other dimensions of poverty or gender subordination. Mayoux (1999)

5 The Central Bank of Indonesia (Bank Indonesia) defines microcredit as a loan of less than 50 million rupiah (equivalent US$ 3,521) provided by formal and semi-formal financial providers in Indonesia - see Regulation of Bank Indonesia Number 14/22/PBI/2012 (Bank Indonesia, 2012).

considers as highly simplistic the view that mere participation in such a scheme is sufficient for empowerment. In conjunction with the critique, Garikipati (2008) emphasises that access to credit does not affect empowerment, especially given the borrowers' lack of co-ownership of the family's productive assets, which means that even when their loans are used for productive purposes they are unable to divert any of the income from loan-sponsored activities into repayments. Most female borrowers, in particular, are apparently unable to take full control over the use of the money that they borrow from MFIs, as their spouses take power and decide what the money is spent on (Garikipati, 2008)[6]. The loan may easily diverge into enhancing household assets and income. In such a situation, the household may benefit, and it can generally help strengthen the borrower's ability to deal with household vulnerability indicators, however, a woman is likely to see further deepening of the resource division between herself and her husband.

Other studies report that higher income and private property ownership resulting from microcredit programmes strengthened individuals' positions - in decision making, access to economic resources, and control over resources - within their households (Khandker, 2003; Pitt & Khandker, 1998; Pitt et al., 2006). Using a Bangladeshi survey, Hashemi at al. (1996) examined the effect of a microcredit programme on empowerment. The study showed that joining a microcredit programme was likely to increase the level of empowerment (i.e., an index constructed by several indicators such as mobility, economic security, ability to make small purchases, ability to make large purchases, etc.). When decomposing the index, the study also found that microcredit programmes positively affected some individuals' aspects, such as economic security (i.e., owning a house, having productive assets, having savings) and control over the use of money or assets earned.

Thus, in light of the foregoing,

Hypothesis 1: *microcredit enhances empowerment of micro-entrepreneurs in Indonesia.*

Business performance as a mediating variable in the microcredit-economic empowerment relationship

The literature suggests that the relationship between microcredit and economic empowerment might be indirect, through business success. For example, Golla et al. (2011) suggest that business success or economic advancement can promote the power and agency of micro-entrepreneurs. To be able to advance economically, individuals need resources. Resources, such as financial capital (e.g., microcredit, savings), human capital (e.g., education, skills), physical capital (e.g., land, machinery) and social capital (e.g., ties, networks), are the enabling factors that can improve the ability of individuals to advance economically.

Thus, where business is performing well, revenues generated from business increase entrepreneurs' earning capabilities and their ability to accumulate autonomous assets (IBRD, 2012). An increase in earning capabilities and assets might in turn enhance the economic status of entrepreneurs, leading to greater power in control over resources within their households (Mahmud et al., 2012).

6 This finding from Garikipati, 2008 somewhat confirms the conclusion of previous studies done by Goetz and Gupta (1996) and Leach and Sitaram (2002) who found that loans made to Indian women are usually controlled by their husbands, leading to women's heavy dependence on them for loan repayments.

In light of the foregoing,

Hypothesis 2: *business success mediates the relationship between microcredit and empowerment in Indonesia.*

RESEARCH METHOD

The variables

The literature proposes different approaches for measuring empowerment using various frameworks, dimensions, and indicators, depending on the goals and contexts. There have been increasing moves to capture empowerment through direct measures of decision-making and control or choice; these are seen as the most effective representations of the process of empowerment, as they are closest to measuring agency (Batliwala, 1994; Garikipati, 2008; Mahmud et al., 2012; Malhotra et al., 2002; Mason & Smith, 2000).

Dependent variable

In this study, the ability to control resources (*con*) is used as a proxy for agency - the essence of empowerment. Control over resources or incomes is one of the commonly used dimensions of empowerment at the household level (Malhotra, 2003). *Con* is a latent or unobservable dependent variable measured by respondents' self-reported ability to control business resources (*c1*), household resources (*c2*), and borrowed money - loan (*c3*). The use of multiple measures to represent control over resources is better than a single measure (DeVellis, 1991), since it can reduce the measurement error of the concept, and can improve the statistical estimation of the relationship between concepts by accounting for measurement error in the concepts (Hair, Black, Babin, & Anderson, 2010). In this study, the term 'control' includes the respondents' ability to spend, save, use, purchase or sell material resources (either financial or non-financial) in their own business and household, as well as having control over loans.

Independent variable

In this study, microcredit (*l*), the independent variable, is operationally defined as the amount of credit received by the individual respondent during a one-year time period (January 2013 - January 2014). The amount is then transformed into a natural logarithm.

Mediating variable

Business performance (*bp*) - a proxy of business success - is the mediating variable. The variable is measured by a respondent's self-reporting of changes (i.e. decrease/about the same/increase) in sales (*b1*), assets (*b2*), number of employees (*b3*) and profits (*b4*) across two consecutive years (2013 and 2014). These four observed indicators of performance are the most commonly suggested measures in the literature (Ardishvili, Cardozo, Harmon, & Vadakath, 1998; Delmar, 2006; Weinzimmer, Nystrom, & Freeman, 1998). The objective self-reported performance as a measure of business performance, while not ideal, has been used in other studies with reasonable reliability (Anna, Chandler, Jansen, & Mero, 2000; Cruz, Justo, & De Castro, 2012; Wiklund & Shepherd, 2003). Self-reported measures are reasonable proxies when,

as is common in most developing countries including Indonesia, micro-entrepreneurs tend not to keep proper records of their business transactions - quite often they are not properly trained, qualified or otherwise equipped to do so.

Control variables

The control variables in this study include human capital (i.e., level of education and prior work experience), respondent's age and the square of respondent age, lending schemes, gender, marital status, length of microcredit membership, media exposure, age gap, education and health gaps. Some researchers have suggested that economic empowerment might be influenced by human capital - the level of education and prior work experience. Higher education gives individuals, especially women, more egalitarian and progressive views of their role within the household (Chioda, 2016), while prior work experience equips them with a greater ability to understand and handle business, which might also be applicable for household matters (Bosma, van Praag, Thurik, & de Wit, 2004; Karlan & Valdivia, 2011). The level of education (*h1*) is measured as a dummy variable - 1 for university graduate, 0 otherwise. Prior work experience (*h3*) is also a dummy variable - 1 for 'yes', 0 otherwise.

Age (*a*) is the age of a respondent measured in years. Gender (*g1*) is 1 for female, 0 otherwise. Marital status (*md*) is 1 for unmarried, widowed, and divorced, and 0 for a married couple. Lending schemes (*g*): the lending scheme applied to microcredit is 1 for a group lending scheme, 0 otherwise. Length of microcredit membership (*lm*) is the duration for which a respondent had been a member of the microcredit programme, calculated from the year when the first loan was taken out[7]. Media exposure (*ep1*) is measured by the time spent watching television or reading newspapers/magazines. Age gap (*ep2*) is the gap between the ages of the respondents and their spouses[8]. Education gap (*ep3*) is the gap between the respondents' levels of education and their spouses'[9], while health gap (*ep4*) is the gap between the respondents' health conditions and their spouses'.

The survey

The data was obtained from a survey conducted in Surabaya, the second largest city in Indonesia, and areas near the city, in 2014. Five of the fourteen MFIs which were approached agreed to participate in the survey, including two cooperatives (Assakinah and SBW, Setya Bhakti Wanita), two Islamic-style microcredit institutions registered as cooperatives (BMT ABU and BMT Madani), and a government-sponsored microcredit institution (BKM Merisi). Prior to the interviews, the respondents received complete information by phone and in writing regarding the nature and purpose of the interview; their rights as respondents were clearly outlined.

The sample provides a reasonable mix of microcredit providers. For example, the sample includes small (205 members, BKM Merisi) to large (12,470 members, SWB) MFIs, as well as relatively new (2010, BKM Merisi) to well established (1978,

7 For individual credit schemes, membership commences when a borrower obtains their first loan. For group lending credit schemes, the first loan is usually granted to a member within the first year of membership.

8 Frankenberg and Thomas (2001) noted that the older partner is more likely to have a significant role in empowerment.

9 An increase in an individual's level of education is likely to increase the authority of decision-making, meaning empowerment (Frankenberg & Thomas, 2001).

SWB), covering different types - Islamic, cooperatives and Government-sponsored. The sample also covered different combinations of lending group versus individual credit schemes[10] and different make up in terms of male and female memberships.

At the time of the survey, the five lenders had a total membership of 17,553, of which 5,531 (i.e., BKM Merisi = 205, SBW = 3,164, Assakinah = 738, BMT ABU = 575, and BMT Madani = 849) members satisfied the key survey criteria of owning at least one microenterprise[11] and having a current outstanding balance of no more than 50 million rupiahs. Of those 5,531 borrowers, 1,424 (or 26%) were with individual lending schemes and the rest (74%) had borrowed via group lending schemes.

Of the eligible respondents, those with group lending schemes belonged to around 178 lending groups (i.e., Assakinah = 41, SBW = 108, BKM Merisi = 29). From each of these groups, two to three members were randomly selected as prospective respondents - a total of 530. For respondents who were with an individual lending scheme, around 270 were randomly selected as prospective respondents. Thus, a total of 800 prospective respondents were identified and initially contacted by the providers on behalf of the researchers, for their voluntary participation. Of these, 556 (405 group lending and 151 individual scheme) agreed to be interviewed.

A structured questionnaire was designed, on the basis of extant literature - e.g., Bradley, McMullen, Artz and Simiyu (2012), Golla et al. (2011), Malhotra et al. (2002) - to address the research questions of this study. The questionnaire contained closed-ended questions with mostly multiple choice responses. Closed-ended questions are quicker and easier for respondents to answer compared to open-ended questions. The response choices can clarify the questions for respondents, questions are easy to compare, and improve consistency of the responses. Nevertheless, closed-ended questions may not have the exact answer a respondent wants to give, and respondents with no opinion may answer anyway. In closed-ended questions, misinterpretation of a question can go unnoticed.

In this survey, respondents were asked for information, for instance on the following: personal background, socio-economic status, business performance and control over resources - both at the personal level and within the family - pre- and post-microcredit experience (Appendix 1 explains briefly how the questions were framed to obtain relevant data). The questionnaire was pre- and pilot-tested. Pre-testing involved feedback from two senior researchers/academics and pilot-testing involved 30 randomly selected respondents from the pre-determined sample.

Interviews were conducted by undergraduate economics students undertaking a final year research methods class at a local University in Surabaya. The university's formal approval was sought and obtained for this, so an announcement was made by the researcher's colleagues at the university about the opportunity to participate in the survey. The interviewers were selected based on their academic performance and relevant prior experience. The researcher conducted a full-day training session with

10 In the microfinance industry, the individual and joint-liability/group lending schemes are the most common types available to borrowers. Under the former, the size of the loan is determined primarily on the basis of the pledged collateral, which might be repossessed in the event of default. Under the group lending scheme, microcredit is offered to individuals only via lending groups. The participating lending group, assisted by an officer appointed by the microfinance provider, decides the amount to be approved, and subsequently becomes liable for repayment in the event of default. To ensure timely repayment of the loans, the group lending scheme involves frequent repayment meetings and peer pressure.

11 In Indonesia, both business owners and non-business owners may apply for credit from MFIs.

the students prior to the survey, and closely supervised the interviews during the data collection process to minimise any potential interviewer bias.

Face-to-face interviews were conducted mostly at the respondent's residence or business place to reflect their real-life conditions; occasionally, interviews were conducted at scheduled group meetings. At the end of each day, completed questionnaires were returned to the researcher to check for validity and reliability. Of the 556 interviews, 483 complete responses (92 men and 391 women) were determined to be valid and reliable for the purposes of analysis - incomplete responses and outliers were excluded.

The data

This section provides a brief description of the data collected, including details about the demographics of respondents. For example, the age of respondents ranged from 23 to 66, and around 94% were married. Most of them were senior high school graduates (51.97%), some were university graduates (20.29%); the rest had a lower level of education. The length of membership varied from 1 to 37 years. On average, a respondent had obtained 8.61 million rupiahs (US$ 606.33) of microcredit from the participating providers during the sample period. More than 70% of the respondents were lending group members from three microcredit providers (Assakinah, SBW, and BKM Merisi), with the group sizes ranging from 3 to 51 members (on average, 23 members per group); the rest took their loans via individual lending schemes offered by four providers (excluding BKM Merisi).

Regarding control over resources, the survey revealed that most respondents (about 70%) were able to take control over their business resources and loans. However, only 48% of the total respondents had the ability to control their household resources or assets. The data also show that of the 483 respondents, 419 controlled their own incomes, and 353 of these also controlled the greater part of their household incomes. Interestingly, the proportion of women controlling their own and their household incomes was greater than men, and more women (82.61%) than men (66.30%) had personal savings, however, the proportion of male respondents who contributed to more than 50% of household expenses was more than twice the female number (59.78% versus 25.83%). These data indicate that the majority of respondents' household expenses still relied on men's incomes, however, women mostly became the more trusted ones to manage household budgets. Women's incomes were deemed as extra incomes for families, hence, they could control and keep their incomes as personal savings.

With regard to business performance, 65.84% of the respondents reported an increase in annual profit over the sample period, while others experienced no change (19.46%) or a decrease (14.70%). In terms of sales, with average monthly sales revenues ranging from Rp. 400,000 to Rp. 25,000,000 (equivalent to around US$ 30 to US$ 1,888), the proportion of respondents experiencing an increase, no change, or a decrease in annual sales were respectively, 66.46%, 18.43% and 15.11%. Most respondents reported no change in annual total assets and number of employees (57.35% and 88.20%, respectively); most did not employ anyone. The main business activities included manufacturing (38.65%), trading (40.99%), and providing services such as a hair salon, car/motorcycle mechanics, laundry, boarding houses, computer or electronic devices repair (22.36%).

MODELS AND EMPIRICAL RESULTS

This study develops two models to investigate the answers to the research questions. Model 1 is a baseline model without our mediating variable (business performance) and directly links all covariates to the dependent variables. Model 2 involves business performance as the mediating variable in the microcredit-empowerment relationship. In Model 2, some control variables, such as human capital (i.e., *h1* and *h3*), respondent age (*a*) and the square of age - age^2 (*a2*)[12], lending schemes (*g*), gender (*g1*) and the length of microcredit membership (*lm*) are also expected to have indirect relationships with economic empowerment through business performance.

A structural equation model (SEM) analysis framework was used to estimate the relationships. There are two main reasons for choosing SEM. Firstly, SEM has the ability to represent constructs as unobservable or latent variables in dependent relationships. Secondly, SEM can estimate multiple and interrelated dependent relationships incorporated in an integrated model by examining the structure of interrelationships expressed in a series of structural equations depicting all the relationships among the variables in the analysis (Hair et al., 2010).

As this study involves categorical or ordinal dependent factor indicators, which are commonly not normally distributed, the most commonly used SEM estimator (the maximum likelihood-SEM) cannot be implemented appropriately. Instead, the weighted least squares mean and variance adjusted (WLSMV) estimator is applied for estimating both models. The estimator provides a more accurate parameter and model fit compared to the maximum likelihood-SEM in such conditions (Bandalos, 2008; Brown, 2006; Flora & Curran, 2004; Lei, 2009)[13].

The descriptive statistics presented in Table 1 provide a basic understanding of the data. The table shows that the inter-correlation with the control over resources (*con*) factor indicators are all below 0.80, meaning that the construct does not seem to have inter-correlational problems - see O'Rourke and Hatcher (2013). However, in the case of business performance (*bp*), the inter-correlation between change in sales (*b1*) and change in profits (*b4*) is 0.91, hence, one of these variables should be eliminated based on the suggestions given by Tabachnick and Fidell (2013) and Ullman (2013). This extreme inter-correlation might be due to the majority (63.35%) of respondents' businesses including trading and providing services, which are more likely to have relatively stable costs of production. Accordingly, the changes in profit might directly reflect changes in sales revenue[14]. Considering the analysis, change in

12 Older persons are deemed to be more independent and empowered than younger ones because they have more experience with life, a better understanding of how to get what they want or need, a closer relationship with the spouse, etc. (Mason & Smith, 2003). However, as people age, they are likely to become more dependent on their families.

13 Treating a categorical/ordinal scale as a continuous scale might lead to biased (either in a positive or negative direction) parameter estimates, and incorrect standard errors and model test statistics (Green, Akey, Fleming, Hershberger, & Marquis, 1997; Muthén, du Toit, & Spisic, 1997; Muthén & Kaplan, 1992), because the standard continuous measurement model is fundamentally mis-specified, with high levels of skewness, kurtosis, or both - evidenced when the assumption of multivariate normality is violated - (Muthén, 1993). Thus, an appropriate solution is to treat a categorical/ordinal variable directly as it is (Muthén, 1984, 1993; Muthén et al., 1997).

14 As profit equals sales revenue minus costs, changes in profit might be caused by changes in sales, but not vice versa. Thus, changes in sales affect sales revenue, and changes in sales revenue lead to changes in profit, assuming that the costs of production remain unchanged.

TABLE 1 Statistical summary and pairwise correlation

No	Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	Control over business resources (c1)	1.00																		
2	Control over household resources (c2)	0.53	1.00																	
3	Control over loan (c3)	0.72	0.63	1.00																
4	Change in sales (b1)	0.06	0.16	0.02	1.00															
5	Change in assets (b2)	0.13	0.25	0.14	0.49	1.00														
6	Change in employees (b3)	0.20	0.17	0.21	0.26	0.29	1.00													
7	Change in profit (b4)	0.07	0.14	0.03	0.91	0.47	0.25	1.00												
8	Microcredit (l)*	0.02	-0.04	0.09	-0.06	-0.04	-0.01	-0.04	1.00											
9	Education level (h1)	-0.05	0.06	0.04	-0.06	0.02	-0.01	-0.04	0.18	1.00										
10	Prior work experience (h3)	-0.09	0.02	-0.06	0.19	0.23	0.18	0.20	-0.13	-0.04	1.00									
11	Respondent age (a)	0.09	0.05	0.03	0.01	-0.08	-0.04	0.02	0.09	-0.08	-0.17	1.00								
12	Lending schemes (g)	0.07	-0.10	0.01	-0.08	-0.05	-0.09	-0.05	0.01	0.05	-0.09	0.31	1.00							
13	Gender (g1)	-0.07	-0.20	0.00	-0.10	-0.17	-0.15	-0.09	0.44	0.14	-0.20	0.07	0.20	1.00						
14	Marital status (md)	0.16	0.22	0.17	0.03	0.00	-0.01	0.03	0.01	-0.06	-0.03	0.13	0.00	0.05	1.00					
15	Length of membership (lm)	-0.03	-0.10	-0.02	-0.04	-0.10	-0.04	-0.02	0.39	0.06	-0.09	0.38	0.34	0.29	0.02	1.00				
16	Media exposure (ep1)	-0.12	-0.02	-0.13	0.17	0.02	-0.05	0.18	0.05	-0.06	0.06	0.04	-0.01	0.08	0.07	0.16	1.00			
17	Age gap (ep2)	0.00	-0.04	-0.03	0.00	-0.02	-0.01	0.02	-0.05	0.15	-0.08	-0.03	0.00	-0.02	-0.10	0.00	0.04	1.00		
18	Education gap (ep3)	-0.10	0.10	-0.12	0.16	0.03	-0.07	0.16	-0.02	0.11	-0.02	0.04	-0.10	-0.12	0.01	0.05	0.21	0.15	1.00	
19	Health gap (ep4)	0.03	0.07	-0.01	0.13	-0.04	-0.02	0.11	0.02	-0.03	-0.04	0.18	0.01	0.04	0.27	0.10	0.26	0.04	0.22	1.00
	Mean	5.14	4.20	5.00	2.51	2.36	2.06	2.51	15.6	0.20	0.24	45.4	0.75	0.81	2.15	8.44	2.94	-4.78	2.02	2.08
	Standard deviation	1.80	1.87	1.79	0.74	0.55	0.34	0.74	0.85	0.40	0.43	7.77	0.44	0.39	0.53	6.81	1.78	4.31	0.59	0.39
	Max	7.00	7.00	7.00	3.00	3.00	3.00	3.00	18.0	1.00	1.00	66.0	1.00	1.00	5.00	37.0	9.00	7.00	3.00	3.00
	Min	1.00	1.00	1.00	1.00	1.00	1.00	1.00	13.0	0.00	0.00	23.0	0.00	0.00	2.00	1.0	0.00	-25.0	1.00	1.00

Note: * The values are in natural logarithm

sales (*b1*) is then removed. The pairwise correlation analysis results for the rest of the variables appear to be relatively small (all smaller than 0.80), implying that multi-collinearity[15] might not be too much of a concern - see Grapentine (2000), Grewal, Cote and Baumgartner (2004).

The measurement model analysis

The SEM estimation procedure requires a two-step analysis: first, to analyse the measurement part of the model, carried out by the confirmatory factor analysis (CFA); and second to analyse the structural part of the model. The CFA in SEM requires that a measurement model must be 'identified'. To address this, the first factor loadings that link the observed indicators to their underlying latent construct are fixed to 1.00 (Wang & Wang, 2012). Table 2 shows that the standardised factor loadings of *con*'s indicators are above the minimum requirement of 0.40 in both models (Ford, MacCallum, & Tait, 1986), suggesting that the indicators are viable for the subsequent analysis.

The measurement part of Model 1 is 'just-identified' according to the three-indicator rule of O'Brien (1994). With the degrees of freedom equal to zero, the model is a perfect fit by definition (Hair et al., 2010; Kline, 2005)[16]. The model's construct/composite reliability (CR = 0.896) is above the cut-off point of 0.70, and the average variance extracted (AVE = 0.744) score shows that more than 50% of variance captured by the latent construct is shared among its observed indicators, indicating that the construct reliability and validity are established (Hair et al., 2010).

For Model 2, the chi-square test rejects the null hypothesis, that the model's estimated variance/covariance and the observed sample variance/covariance are statistically indifferent[17]. Nevertheless, the other fit indices (i.e., RMSEA = 0.070, CFI = 0.995, and TLI = 0.991) and construct validity indicators (i.e., CR, AVE and discriminant validity) indicate that the model's measurement part is viable for the subsequent analysis - e.g., Fornell and Larcker (1981), Gefen, Straub and Boudreau (2000), Hu and Bentler (1999).

The structural model analysis

Following the measurement model analysis, the path diagrams of the structural models are constructed, and the standardised path coefficients, standardised standard errors and statistical test results are presented in Table 3. The table shows that both

15 The effect of multicollinearity in SEM is still arguable in literature. Some notice that multicollinearity can lead to a model's parameter estimates deviating from the true parameter with large standard errors (Grapentine, 2000; Grewal et al., 2004), while some others claim that SEM can help deal with multicollinearity, particularly if highly correlated variables can be regarded as indicators of an underlying construct (Malhotra, Peterson, & Kleiser, 1999; Maruyama, 1998).

16 In such cases, the goodness of fit test results are not meaningful (Hair et al., 2010; Kline, 2005).

17 Merely relying on the model χ^2 as the sole fit statistic could lead to several problems. Firstly, its power - the ability to reject the null hypothesis when it is false - is unknown (Bielby & Hauser, 1977), leading to the acceptance of a false theory. Secondly, the χ^2 is associated with the impact of the sample size on the statistic (Jöreskog, 1969). As the sample increases, generally above 200 (Schumacker & Lomax, 2010), the value of χ^2 tends to reject the null hypothesis, although the differences between estimated and observed covariance are actually small (Kline, 2005).

TABLE 2 The CFA results of the microcredit-economic empowerment models

		Model 1		Model 2	
Latent constructs	**Observed indicators**	**Loading**	**SE**	**Loading**	**SE**
Control over resource (con)	business resources (c1)	0.831**	0.020	0.834**	0.020
	household resources (c2)	0.779**	0.019	0.785**	0.019
	microcredit (c3)	0.966**	0.017	0.960**	0.018
Business performance (bp)	change in assets (b2)			0.883**	0.056
	change in number of employees (b3)			0.641**	0.070
	change in profit			0.759**	0.055
Covary					
bp-con				0.304**	0.050
Chi-square		0.000*		27.080**	
Degree of freedom		0		8	
RMSEA		0.000		0.070	
CFI		1.000		0.995	
TLI		1.000		0.991	
CR (con)		0.896		0.897	
CR (bp)				0.809	
AVE (con)		0.744		0.744	
AVE (bp)				0.589	
Inter-construct correlations bp-con				0.304	
Number of observations		483		483	

Notes: * significant at 10% ** significant at 5%

All estimated factor loadings and standard errors (SE) reported are in standardised values.

RMSEA, CFI and LTI are to assess the goodness of fit of the models. RMSEA (Root Mean Square Error of Approximation) is an absolute fit index, while CFI (Comparative Fit Index) and TLI (Tucker-Lewis Index) are relative fit indexes - see Hu and Bentler (1999). Root Mean Square Error of Approximation (RMSEA) is an absolute fit index applied in this study to assess the goodness of fit of the models. A zero value of the RMSEA indicates the best fit; the higher value indicates worst fit (Wang & Wang, 2012). Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) are relative fit indexes. The CFI and TLI values range from 0 (worst fit) to 1 (best fit).

The CFA-based composite reliability (CR), developed by Raykov (2004), is used for assessing construct reliability, that is the degree to which a set of indicators of a latent construct is internally consistent based on the degree of interrelation of the indicators with each other (Hair et al., 2010).

Convergent validity, assessed by Average Variance Extracted (AVE), refers to the extent to which a measure is related to other measures that are designed to assess the same construct. Discriminant validity, by contrast, is to test whether concepts or measurements that are supposedly unrelated are, in fact, unrelated. Discriminant validity is said to be established if the construct's AVE is larger than the squared inter-construct correlations (Fornell & Larcker, 1981; Gefen et al., 2000). Convergent and discriminant validity are the two subtypes of validity for construct validity, defined as the extent to which a set of observed indicators reflects the theoretical latent construct those indicators are designed to measure (Hair et al., 2010).

TABLE 3 The WLSMV-SEM estimation results of the microcredit-economic empowerment model with business performance as a mediating variable

	Model 1		Model 2			
	Control over resource (con)		Business performance (bp)		Control over resource (con)	
Variables	β	**SE**	β	**SE**	β	**SE**
Independent variables						
Microcredit (l)	0.140**	0.058	0.083	0.067	0.111**	0.054
Mediating variable:						
Business performance (bp)					0.349**	0.047
Control variables:						
Education level (h1)	0.021	0.048	0.02	0.056	0.014	0.048
Prior work experience (h3)	-0.044	0.046	0.308**	0.055	-0.152**	0.049
Age (a)	0.712	0.474	-0.201	0.523	0.783*	0.474
Age squared (a2)	-0.633	0.470	0.222	0.526	-0.713	0.466
Lending schemes (g)	-0.004	0.052	0.008	0.062	-0.007	0.051
Gender (g1)	-0.180**	0.056	-0.179**	0.063	-0.118**	0.054
Marital status (md)	0.246**	0.058			0.246**	0.058
Length of membership (lm)	-0.085	0.060	-0.083	0.073	-0.056	0.059
Media exposure (ep1)	0.086*	0.051			0.086*	0.051
Age gap (ep2)	0.016	0.047			0.016	0.047
Education gap (ep3)	-0.041	0.050			-0.041	0.050
Health gap (ep4)	0.017	0.052			0.017	0.052
con R-square	0.116		0.220			
bp R-square			0.147			
Number of unique elements	136		190			
Number of free parameters	34		52			
The model chi-square value	68.432**		103.976**			
Degree of freedom (df)	26		65			
RMSEA	0.058		0.035			
CFI	0.986		0.989			
TLI	0.978		0.985			
WRMR	0.617		0.771			
CR con	0.906		0.907			
CR bp			0.828			
AVE con	0.765		0.765			
AVE bp			0.618			
Inter-construct correlations bp-con			0.313			
Number of observations	483		483			

Notes: ** significant at 5% * significant at 10%

All estimated path coefficients (*bs*) and standard errors (SE) reported are in standardised values.

TABLE 4 Tests for mediating effect of business performance on the microcredit-economic empowerment relationship

Variables	Total indirect effect coef	SE[a]	Direct effect coef	SE	Total effect	Mediation
l → bp → con	0.029	0.023	0.111**	0.054	0.140	No
h1 → bp → con	0.007	0.023	0.014	0.048	0.021	No
h3 → bp → con	0.108**	0.026	-0.152**	0.049	-0.044	No
a → bp → con	-0.070	0.183	0.783*	0.474	0.713	No
a2 → bp → con	0.077	0.184	-0.713	0.466	-0.636	No
g → bp → con	0.003	0.022	-0.007	0.051	-0.004	No
g1 → bp → con	-0.063**	0.024	-0.118**	0.054	-0.181	Partial
lm → bp → con	-0.029	0.026	-0.056	0.059	-0.085	No

Notes: All estimated coefficients and standard errors (SE) reported are in standardised values.

** Significant at 5% * significant at 10%

[a] Calculated by using bootstrap approach.

models are over-identified - the number of unique elements (136 and 190) exceeds the number of free parameters (34 and 52). The structural model evaluation results also show that, although the models' χ^2 values reject the null hypothesis (at 5% level), the fit indices (RMSEA, CFI and TLI) suggest that the models are of a good fit, confirmed by the construct reliability and validity indicators (CR, AVE and the square of inter-construct correlations).

As shown in Table 3, in both models, microcredit has direct and significant relationships with control over resources ($b = 0.140$, SE = 0.058 for Model 1, and $b = 0.111$, SE = 0.054 for Model 2). The results indicate that larger loans significantly increase the likelihood of having a higher degree of control over resources, thus, confirming our hypothesis 1.

Model 2 (Table 3) shows that business performance is significantly and positively associated with empowerment ($b = 0.349$, SE = 0.047). However, the tests for mediating effect (Table 4)[18] indicate that an indirect relationship may not exist as the total indirect effect of microcredit-empowerment via business performance is not statistically significant ($b = 0.029$, SE = 0.023)[19], therefore, hypothesis 2 is rejected. In summary, while our empirical results in Indonesia show a positive effect of business performance on empowerment, it does not support the notion that business success might act as an important mediator for the microcredit-empowerment relationship.

Turning now to the control variables, in both models, marital status appears to matter for empowerment. Compared to married couples, unmarried, widowed and

18 Based on the Sobel test (Sobel, 1982) with standard error calculated using the multivariate delta method (MacKinnon, 2008).

19 Since there is no significant indirect effect of microcredit on empowerment via business performance, we analysed an alternative model by treating business performance as a latent exogenous variable. This model is aimed to examine whether business performance still has a significant role in economic empowerment if it is treated as an exogenous variable. The estimation results confirm that business performance has a significant direct link to control over resource. The results of this model are available upon request.

divorced individuals, on average, tend to have a higher degree of empowerment. Media exposure appears to positively influence empowerment, and women on average tend to feel less empowered than men. Education and health levels do not seem to have much influence on empowerment levels, nor does the type of lending scheme - group or individual.

Regarding gender, estimation results in Table 3 and Table 4 indicate that the relationship between gender and empowerment is partially mediated by business performance. This is confirmed by the VAF (variance accounted for) score of 34.81%[20].

DISCUSSION AND POLICY IMPLICATIONS

Microcredit and economic empowerment

The impact of microcredit on the economic empowerment of recipients remains an issue of debate. Proponents believe that microcredit programmes can promote economic empowerment of the poor, particularly women (Karlan & Zinman, 2010; Khandker, 2003; Lakwo, 2006; Pitt & Khandker, 1998; Pitt et al., 2006), while opponents argue that the effectiveness of microcredit programmes for empowerment is far from reality (Garikipati, 2008; Goetz & Gupta, 1996; Mayoux, 1999). This study finds that in the case of Indonesia, microcredit significantly influences the empowerment levels of micro-entrepreneurs.

The microcredit-empowerment relationship can be explained as follows. The unobservable or latent variable of control over resources, the proxy of empowerment, is a combination of the three observed indicators: control over business resources (*c1*) and control over microcredit (*c3*), which are more related to business; and control over household resources (*c2*), which is less related to business. While a positive direct effect of microcredit on business-related resource controls is more obvious, it is less clear whether microcredit might have a spill-over effect on non-business-related control.

To test the existence of this spill-over effect, a further analysis was conducted by decomposing the latent variable (i.e., *con*) back to its observed indicators (i.e., *c1*, *c2* and *c3*), and then regressing these indicators on the covariates and the mediating variable. Results show that microcredit has significant direct effects on the business-related controls (*c1* and *c3*), but not on non-business-related controls (*c2*) - see Appendix 2 for the decomposition analysis results. This indicates that, in Indonesia, microcredit had improved the borrowers' ability to control loans and own businesses; however, its benefits had not had a significant spill-over effect on their ability to control household resources or assets.

This study also shows that business performance appears to be strongly associated with control over resources. The empirical findings suggest that the business success of microenterprise has promoted control over resources. A better business performance is more likely to increase the earnings capacity of entrepreneurs, which can improve their capability of increasing their economic status within the household. This enhances the entrepreneurs' confidence to take significant positions in their households, which eventually lead to a higher degree of ability to have control over

20 The VAF equals the total indirect effect (or mediated effect) divided by the total effect; the rule of thumb is that if the VAF score is between 0.20 and 0.80 it can be characterised as partial mediation (Hair, Hult, Ringle, & Sarstedt, 2014).

resources at a household level - see for example, Hashemi et al. (1996) and Mahmud et al. (2012).

Nevertheless, as no significant relationship was found between business performance and microcredit, the indirect relationship between microcredit and control over resources via business performance did not exist. This provides an indication that business advancement was associated with control over resources, but did not significantly mediate the relationship between microcredit and control over the resources of Indonesian micro-entrepreneurs.

Findings also showed that some other factors should be considered as significant contributors for the economic empowerment of micro-entrepreneurs in Indonesia. For example, knowledge acquired from media is significant for control over resources. Media becomes a potential source for empowerment, providing individuals with empowerment-related information (Kishor & Gupta, 2004), which can improve individual self-confidence in taking responsibility and control over resources at the household level.

Prior studies suggest that microcredit lending schemes, and group-lending schemes in particular, have advantageous effects on economic empowerment (Gobezie & Garber, 2007; Holvoet, 2005; Pitt & Khandker, 1998). A lending group's regular meetings can facilitate members to establish and strengthen networks outside their kinship groups (Larance, 1998), which can yield not only access to finance, but also new forms of bridging and linking social capital that emerge from participation in the groups (Servon, 1998).

This study, however, finds that microcredit lending schemes did not have a significant relationship with empowerment. On average, respondents participating in lending groups did not seem to have significantly higher levels of control over resources compared to those who were not participating. The fact that the conversations during the group meetings were dominated by loan repayment issues, rather than business and personal or family issues[21], contributed to this finding.

Lastly, gender is also a significant factor of control over resources. The study finds that, compared to women, men on average took greater control over resources, confirming some previous studies (Garikipati, 2008; Goetz & Gupta, 1996; Kabeer, 2001, 2005; Leach & Sitaram, 2002). Moreover, results also show that the relationship between gender and control over resources was partly mediated by business success. Thus, it can be argued that having better business performance than women helped men to have a higher level of control over resources at the household level.

Policy implications

Three main policy implications can be drawn from these findings. Firstly, microcredit plays a substantial role in enhancing individuals' abilities for control over resources at the household level. Increases in earnings capacity resulting from microcredit programmes have not only helped micro-entrepreneurs to cope with household vulnerability, but have also strengthened their economic status, leading to more power in control over resources.

Secondly, although microcredit is expected to help micro-entrepreneurs increase their abilities for control over resources via purchasing more private properties, it tends to cause entrepreneurs to become more dependent on loans for maintaining

21 Of the 360 respondents, 277 (76.94%) respondents placed loan repayment issues as high priority, followed by business ideas (16.39%), community news (3.33%), and spiritual issues (2.78%); none discussed personal/family issues.

such abilities - especially if the properties purchased are non-productive items. In the end, this potentially builds up to be a financial burden for entrepreneurs as the loans will eventually have to be repaid. Nevertheless, given a significant relationship between business performance and control over resources, if micro-entrepreneurs can make effective use of the loan for productive purposes (i.e., purchasing goods or working capital), it would bring significant improvement in business performance and deliver a stronger impact on their empowerment level. This is because higher incomes generated from the business can increase not only micro-entrepreneurs' economic status, but also their self-confidence and ability to take more control over household resources. In view of that, improving micro-entrepreneurs' abilities in financial management and business skills appears essential for business success and empowerment as well.

Thirdly, the study finds that gender plays a crucial role in empowerment, and the relationship between gender and control over resources is partially mediated by business performance. This means that men, on average, have a higher ability for control over resources than women, as men tend to be more successful in business than women (GEM, 2011). Accordingly, encouraging women to have better business performance by providing more business-related support would be useful in promoting economic empowerment and gender equality in Indonesia.

The study's results show that microcredit programmes and microenterprise business success might become alternative pathways for enhancing micro-entrepreneurs' levels of empowerment. However, human empowerment issues in Indonesia need not only be addressed by strengthening individuals' capabilities through microcredit programmes, but should also be reinforced by pro-gender equality norms and institutional reforms. While Indonesia is known as a country where women possess relatively high status and where female autonomy has long been recognised (Frankenberg & Thomas, 2001; Panjaitan-Drioadisuryo & Cloud, 1999), the patriarchal norms, which give men a dominant role in their families, to some extent still remain in the Indonesian society. Thus, further reforms in legal and policy structures, economic systems, marriage, inheritance, education system (Golla et al., 2011), social systems, pattern behaviour (Narayan, 2002), private property ownership, and health care systems, might also be considered to accelerate gender equality and human empowerment. In such cases, government interventions are necessary.

CONCLUSION

Some previous studies have found that microcredit enhances the economic empowerment of micro-entrepreneurs. Other studies disagree. Moreover, the case of Indonesia is not known in the literature. This study fills the gap via a survey of 556 microenterprises in Surabaya, the second largest city in Indonesia, using microcredit and control over resources, a proxy for empowerment. Structural equation modelling with a weighted least square mean and variance adjusted structural equation modelling estimator was used to analyse the data - quantitative analysis was more appropriate for the purpose and the data were collected via closed-ended questionnaires.

This study confirms previous findings of a positive microcredit-empowerment relationship, suggesting that if empowerment is a goal then at least in the case of Indonesia, a developing economy, the microcredit programme strategy can work and

the actions of policymakers and donors can be justified. However, the findings may not always apply to other developing economies - further, more detailed and cross-country investigations are required to help donors and policymakers take a more informed approach in continuing to invest heavily in microcredit programmes at the cost of other competing alternative strategies.

Some limitations noted in this study might offer motivation for future research. Firstly, this study involves only one developing country, Indonesia. The sample was obtained from one region, Surabaya and the areas around the city, and was unbalanced in gender. A large number of potential male respondents who were mostly individual scheme borrowers declined to be interviewed. As a consequence, the heterogeneity of the sample might not be adequate to precisely represent the entire population. Secondly, the cross-sectional data of this study limit inferences of causality in the analyses. The cross-sectional data also prohibit this study from assessing longitudinal effects and from examining non-recursive models of business performance-economic empowerment and microcredit-business performance relationships.

Therefore, future research involving a larger, more heterogeneous and longitudinal sample gathered from other regions, with more balanced gender composition, might be useful to obtain a more representative sample. Thirdly, this study involves a limited number of explanatory variables. Thus, its ability to explain reasons behind the findings is also limited. In the future, it might be necessary to include more explanatory variables to provide further explanations of the relationships noted in this study: first, why loan size does not matter to micro-enterprises' business performance; how to create social networks within a lending group that might benefits micro-enterprises and economic empowerment; and whether there are any other factors that contribute to economic empowerment. Although some limitations are noted, in the meantime, this study provides useful research-based findings that might be useful for relevant policy development in Indonesia.

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APPENDIX 1 SELECTED QUESTIONS FROM THE SURVEY

No.	Variables	Questions	Responses
1	c1	I fully control my own business resources	strongly disagree to strongly agree (1-7 Likert scale)
2	c2	I fully control all household's resources/assets	
3	c3	I fully control my loans	
4	b1	Compared to last year, have your sales? (choose one)	Decreased = 1 Remained about the same = 2 Increased = 3
5	b2	Compared to last year, have your assets (equipment/materials) used by your business? (choose one)	
6	b3	Compared to last year, have your profits (revenues after expenses are paid) in your business? (choose one)	
7	b4	Compared to last year, has the number of employees in your business? (choose one)	
8	l	How much additional loan amount did you receive from your MFI during this year (January 2013 - January 2014) only?	in millions of local currency (Indonesian Rupiah/IDR)
9	h1	What is the highest grade/level of school you have attained?	University level = 1 Below university = 0
10	h3	Did you have prior working experience with the type of business you started?	Yes = 1 No = 0
16	ep1	On average, how many hours per day do you spend your time on television or reading newspaper/magazine?	in hours per day
17	ep2	In comparison with your spouse, please indicate your position in the following conditions: age	Lower = 1 About the same = 2 Higher = 3
18	ep3	In comparison with your spouse, please indicate your position in the following conditions: education	
19	ep4	In comparison with your spouse, please indicate your position in the following conditions: health	

APPENDIX 2 SUMMARY OF THE DECOMPOSITION ANALYSIS FOR CONTROL OVER RESOURCES

	control over business resources (c1)		control over household resources/assets (c2)		control over loan (c3)	
Variable	β	**SE**	β	**SE**	β	**SE**
Independent variables:						
Microcredit (l)	0.104*	0.055	0.064	0.053	0.119**	0.052
Mediating variable:						
Business performance (bp)	0.311**	0.049	0.288**	0.050	0.313**	0.050
Control variables:						
Education level (h1)	-0.054	0.050	0.076	0.049	0.016	0.051
Prior work experience (h3)	-0.177**	0.049	-0.103**	0.047	-0.120**	0.048
Age (a)	1.104**	0.462	0.312	0.478	0.612	0.469
Age squared (a2)	-1.056**	0.444	-0.232	0.469	-0.600	0.463
Lending schemes (g)	0.055	0.052	-0.057	0.048	-0.009	0.051
Gender (g1)	-0.104**	0.052	-0.181**	0.053	-0.046	0.051
Marital status (md)	0.196**	0.054	0.237**	0.057	0.216**	0.055
Length of membership (lm)	-0.051	0.054	-0.057	0.061	-0.040	0.058
Media exposure (ep1)	-0.081*	0.048	-0.032	0.049	-0.104**	0.049
Age gap (ep2)	0.052	0.048	-0.020	0.045	0.012	0.047
Education gap (ep3)	-0.072	0.051	0.068	0.048	-0.091*	0.048
Health gap (ep4)	0.036	0.052	-0.010	0.049	0.019	0.049

Notes: ** significant at 5% * significant at 10%.
All estimated path coefficients (*bs*) and standard errors (SE) reported are in standardised values.
Analysed based on Model 2 by using the WLSMV estimator.

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