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**Microfinance and microenterprise performance in  
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# Microfinance and microenterprise performance in Indonesia: an extended and updated survey

## Structured abstract

### Purpose

This study addresses the small, women micro-entrepreneur dominated and heterogeneity limitations of the Atmadja et al. (2016) study. The sample is much larger, includes more men and is more heterogeneous, which allows deeper insights and more meaningful explanation of the relationship between microfinance and microenterprise performance in the case of Indonesia, including the effects of gender, lending scheme and money separation.

### Design/methodology/approach

Survey of 556 respondents across five micro-credit providers in the city of Surabaya using updated instrument. Ordered probit is used to analyse data.

### Findings

Microfinance may not matter for microenterprise performance in the case of Indonesia. Additionally, microcredit schemes (individual versus group) and gender may also not matter for performance, but money separation might have some influence.

### Practical implications

Non-financial factors such as human capital, spousal involvement, and money separation should be considered as important factors for improving microenterprise business performance in Indonesia, with less focus on microcredit per se.

### Originality/value

This study provides further evidence that microfinance may not matter for microenterprise performance in the case of Indonesia, a populous middle income country with a very long history of microfinance.

## 1. Introduction

Debates abound and long-standing on the effects of microfinance on microenterprise performance; see for example Barnes et al. (2001), Chen and Snodgrass (2001), Copestake et al. (2001), Dunn and Arbuckle Jr (2001), Kondo et al. (2008), and Crépon et al. (2011) who argue for a positive relationship, and Adams and Von Pischke (1992), Olson et al. (2003), Davis (2006), and Bateman and Chang (2012) who argue that microfinance may not really matter for performance.

Despite a very long history of microfinance in Indonesia<sup>1</sup>—a populous, middle income county bestowed with constant and concerning levels of poverty and economic challenges—little remains known about the effects of microfinance on microenterprise performance in the country. To the best of our knowledge, the most relevant study so far might be by Atmadja et al. (2016) who use data obtained from a 2010 survey to provide an in-depth understanding of the role of microfinance for microenterprise performance in Surabaya, the second largest city in Indonesia. Essentially, the findings suggest that microcredit itself does not necessarily improve business performance.

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<sup>1</sup> The Bank Priyayi of Purwokerto established in 1895 has been known as the first formal commercial microfinance institution in Indonesia (BWTP 2013; Holloh 2001).

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4 While the 2010 survey data has also been used in other published works such as Bradley et al.  
5 (2011) and Wood et al. (2015), Atmadja et al. (2016) acknowledge a number of limitations of the survey  
6 with respect to their specific investigation, i.e. testing the relationship between microfinance and  
7 microenterprise performance, and suggest that a larger sample, including men-owned microenterprises  
8 and greater heterogeneity might provide deeper insights and more meaningful explanation of the  
9 relationship between microfinance and microenterprise performance.  
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11 The above has exactly been the purpose of the present study. Essentially, we have gone back to  
12 the city of Surabaya and conducted a much wider and larger survey—we have extended and updated the  
13 2010 survey. The new survey compliments and strengthens the 2010 survey in the following ways: (1)  
14 556 respondents were interviewed (more than three times in size compared to that of the 2010 survey) -  
15 excluding incomplete responses, outliers and other non-conforming criteria, 453 valid responses used for  
16 analysis, compared to 130 in the earlier study; (2) about one-fifth of the respondents were men-owned  
17 microenterprises in the new survey compared to none in the previous; (3) the new survey was more  
18 heterogeneous compared to the 2010 as it covered five microcredit providers compared to only one  
19 previously; and (4) new questions have been added.  
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21 There are two main objectives of this paper. First, we are interested to see if the main findings of  
22 Atmadja et al. (2016) would prevail with the updated and extended survey data. Second, the updated and  
23 extended survey enables us to explore a few more interesting research questions, including, would  
24 different lending schemes (group vs. individual) matter for business performance? What about gender?  
25 And, does a micro-entrepreneur's ability and/or willingness to separate their personal/consumption  
26 expenses from business-related (money separation, hereafter) make any difference to business  
27 performance?  
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29 The findings of the updated and extended survey are intriguing and yet conforming. Overall, we  
30 find that even with a much larger sample, including both men and women-owned microenterprises and  
31 greater heterogeneity, microfinance by itself may not necessarily improve business performance. Thus,  
32 our findings, by and large, confirm the findings of the Atmadja et al. (2016) study and conform to the  
33 strand of literature which argues that microfinance may not really matter for microenterprise  
34 performance. With respect to the new research questions, while microcredit schemes (individual versus  
35 group) and gender effects may not matter significantly, money separation does appear to have a positive  
36 and significant relationship with performance. On the policy front, this paper recommends that non-  
37 financial factors such as human capital, spousal involvement, and money separation be considered as  
38 important factors for improving microenterprise business performance in the case at least of Indonesia,  
39 with less focus on microfinance *per se*.  
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41 The rest of this paper is outlined as follows. Section 2 provides a brief literature review—for  
42 details, we invite the reader to peruse the relevant sections of the Atmadja et al. (2016) study. Section 3  
43 describes the research methodology. Section 4 provides empirical results with discussion. Section 5  
44 concludes.  
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## 46 **2. Brief literature review and hypothesis development**

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In this section, we develop our hypothesis with respect to each independent variable based on extant literature. With regard to those included in the Atmadja et al. (2016) study, we summarise the literature review and restate the hypotheses since we concur with them—for details, we invite the reader to peruse that study, which can be found in Atmadja et al. (2016). With regard to the three new independent variables—microcredit scheme, gender and money separation—we develop our hypothesis based on a brief review of the literature. Essentially,  $H_1$  to  $H_3$  below are those adopted from the Atmadja et al. (2016) study and  $H_4$  to  $H_6$  are developed in this study.

Hypothesis 1: The relationship between financial capital and microenterprise business performance will be negative.

Hypothesis 2: Human capital will be positively associated with microenterprise business performance.

Hypothesis 3: Social capital will be positively associated with microenterprise business performance.

#### 2.1. Microcredit *schemes* and microenterprise performance

In the microfinance industry, the individual and group lending credit schemes are the most common types available to microenterprises. Under the former, the size of the loan is determined primarily on the basis of the pledged collateral, which may be repossessed in the event of default. Thus, while on a much lower scale, some parallels can be drawn between this and loans obtained from the formal sector such as banks.

Under the latter, microcredit is offered to individuals only via “groups”—an individual borrower applies for a loan through their “lending group”. The lending group, assisted by an officer appointed by the microfinance provider, decides on the amount to be approved and subsequently becomes liable for repayment in the event of default<sup>2</sup>. To ensure timely repayment of the loan, the group lending scheme involves frequent repayment meetings and peer pressure. For some borrowers, these might be burdensome, especially if the group is formed from communities with a high degree of social ties. Nevertheless, evidence suggests that the frequent meetings might also benefit the members. For example, using field experiments in India, Feigenberg et al. (2010) provide evidence on the role of microfinance in building social capital by reporting that more frequent group meetings can in practice lead to greater social interactions. These interactions might provide members with alternative sources of information that might not otherwise be available to individuals, which might help discover or create new opportunities in the market (Shepherd et al. 2007). The lending group might develop new or deepen already existing social relationships within the group that might yield economic gains and increase the likelihood of loan repayment (Anthony 2005).

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<sup>2</sup> Many microfinance providers in developing economies rely on joint liability for their business operations as a means to induce peer monitoring and reduce ex ante (Stiglitz 1990; Armendariz de Aghion and Morduch 2005; Banerjee et al. 1994) as well as ex post (Besley and Coate 1995; Bhole and Ogden 2010) moral hazard over investment choice particularly in the absence of collateral and the providers' credit screening. However, if trust between members in a lending group is low, along with little enforcement of contracts, this may also become liabilities for the microfinance providers.

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4 The joint liability mechanism of lending groups might also encourage risk taking behaviour by  
5 individuals (Giné et al. 2010; G. Fischer 2013). However, the strict peer monitoring practices might, on  
6 the other hand, serve to discourage such behaviour (G. Fischer 2013).  
7

8 The most recent study regarding the impact of microcredit schemes on borrowers has been  
9 reported by Attanasio et al. in Tilburg University Discussion Paper No. 2013-074 in 2013. Using a  
10 randomized field experiment of 1,148 women who were members of a microfinance institution (MFI)  
11 across rural Mongolia, they compared the impact of individual versus group lending microcredit on  
12 borrowers. The study finds that microcredit significantly influences business creation in the case of  
13 women receiving loans via group lending schemes. The authors argue that one possibility might be that  
14 the group lending scheme allows women to mutually insure each other against adverse business  
15 outcomes, which may in turn reduce investment uncertainty, increase loan take up, and eventually lead to  
16 larger long-run effects such as increase in business performance.  
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20 In light of the foregoing,

21 Hypothesis 4: Group-lending scheme funded microenterprises are likely to perform better than those  
22 funded otherwise.  
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## 25 2.2. *Gender* and microenterprise performance

26 Studies comparing the performance of men and women-owned firms show that those headed by  
27 women tend to be generally smaller across various dimensions, including gross revenue, number of  
28 employees, sales, assets, and profit levels (E. M. Fischer et al. 1993; Kalleberg and Leicht 1991; Rosa et  
29 al. 1996; Watson and Robinson 2003; Ellis et al. 2010). Women-owned enterprises tend to also expand  
30 more slowly than those owned by men (Cooper et al. 1994; GEM 2010), which might be due to women  
31 being generally more risk-averse (Cliff 1998) and lack relevant industry-specific experience (Loscocco et  
32 al. 1991).  
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36 Other studies report that women have narrower and more homogenous social networks<sup>3</sup>  
37 (Loscocco et al. 2009; GEM 2010) and have more limited access to finance (Parker 2009) compared to  
38 men. Yet another study, Kessy (2009), finds that men-headed enterprises have higher business  
39 performance compared to those headed by women. The study also notes that men in general have higher  
40 assets, sales revenue and number of employees than women.  
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43 Although some other studies report that women had particularly lower rates of loan default  
44 compared to men (Khandker 1998; Khan 1999; Panjaitan-Drioadisuryo and Cloud 1999; Remenyi 2000)  
45 which might reduce financial risk to the lenders (Armendariz de Aghion and Morduch 2005), it does not  
46 always necessarily mean that women-owned enterprises performed better than those owned by men. The  
47 low default rates could instead be due their more risk-averse nature (Velasco and Marconi 2004; Cliff  
48 1998).  
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51 Women and men might become entrepreneurs for different reasons as well (Ellis et al. 2010).  
52 While men appear to be more often driven by economic opportunities (“opportunity-motivated”), women  
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55 <sup>3</sup> Women’s social networks emphasize interpersonal relationships over instrumental relationships; hence women are  
56 exposed to fewer business-relevant sources (Brush 1992).  
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tend to be more “necessity-motivated” entrepreneurs who desire to meet the basic necessities or to just find employment. An enterprise helps women improve their earnings capabilities and at the same time enables the desired flexibility of a balanced work—family commitment (Bird and Brush 2002; Brush 1992; Ellis et al. 2010). Consequently, female borrowers tend to have a greater social impact compared to male borrowers because they invest more capital in family education, nutrition and health care (Armendariz de Aghion and Morduch 2005; Blumberg 1988; Panjaitan-Drioadisuryo and Cloud 1999; Pitt et al. 2006).

In light of the foregoing,

Hypothesis 5: Men-owned microenterprises are likely to perform better than women-owned ones.

### 2.3. Money separation and microenterprise performance

Literature suggests that microcredit often fails to help microenterprises grow because borrowers tend to have limited skills to use borrowed funds effectively (Adams and Von Pischke 1992; Imai et al. 2010; Johnston and Morduch 2008). Evidence shows that borrowers may not use the funds for the intended purpose such as purchasing productive assets, or working capital (Collins et al. 2009; De Mel et al. 2008; Rutherford 2006; Barnes et al. 2001). A possible reason for this inability to distinguish between intended and actual purpose of the loan—or, *money separation* as we refer to in this study—is the lack of access to credit services for the financially disadvantaged to smooth their daily consumption and to deal with emergency as this group are historically thought of as having no need for credit services; hence, microcredit becomes the only credit available to such families (Collins et al. 2009; Hoque 2004).

To provide an example from Indonesia, via a survey of 1,438 households across six provinces of Indonesia in 2002, Johnston and Morduch (2008) find that at least 50% of the microcredit from MFIs to microenterprises were for purposes totally unrelated to business. Instead, the loans were used for home improvement, non-business land or building purchase, school tuition, medical treatment, other loan repayment, daily needs or retirement needs, vehicle purchase, household goods, ceremony or social expenditure, holiday needs, jewellery purchase, etc. Moreover, the authors report that female-headed households were more likely to borrow for daily consumption. The borrowers’ inability to distinguish their personal/consumption expenses from business-related investment often prolongs their dependence on external finance (Parker 2009). It is apparent that a good business or management practice, even in the simplest form such as separating money for business from household expenses, might be important for microbusiness success.

In light of the foregoing,

Hypothesis 6: Money separation is positively related to microenterprise business performance.

## 3. Research method

### 3.1. The survey

As indicated earlier, the present (2014) survey was conducted in the same location as the previous (2010)—in Indonesia’s second largest city of Surabaya and its surroundings, from February to June 2014. Perhaps the first key difference to note between the 2014 and the 2010 surveys is in relation

to the number and extent of micro finance providers covered—the 2010 survey covered only one microfinance provider Setya Bhakti Wanita (SBW); the 2014 survey covered five—four more than the previous, including two Islamic-style microfinance providers<sup>4</sup> (Madani and Artha Bina Ummat), one cooperative (Assakinah) and one government-sponsored microcredit provider (BKM Bendul Merisi) plus SBW. Table 1 provides a summary of the features of the five providers.

**Table 1: Characteristics of the microcredit providers covered in the 2014 survey**

	Setya Bhakti Wanita	Artha Bina Ummat	Assakinah	Madani	BKM Bendul Merisi
Established	1978	1998	1999	2007	2010
Type	Cooperative	Islamic	Cooperative	Islamic	Community Empowerment
Total membership	12470 (all women)	1592 (842 men, 750 women)	971 (51 men, 920 women)	3515 (1439 men 2076 women)	205 (113 men 92 women)
Number of lending groups	418	0	64	0	29
Credit schemes	Individual, Group lending	Individual only	Individual, Group lending	Individual only	Group lending only
Total credit outstanding (in IDR, 2013)	More than 1 billion	More than 1 billion	More than 1 billion	More than 1 billion	Less than 1 billion
Credit ranges (in IDR)	Up to 2b (individual) 1m– 27m (group)	0.5m-40m	Up to 200m (individual) 0.5m to 8m (group)	0.1m to 500m	0.5m to 4.5m
Credit terms	Up to 15 years (individual) 3 – 25 months (group)	Up to 24 months	Up to 24 months (group). 3-6 months (individual)	Up to 48 months	Up to 12 months
Credit requirements	Collateral (individual) Compulsory saving and voluntary saving (group)	Collateral	Collateral (individual) Compulsory saving and voluntary saving (group)	Collateral	Voluntary saving

Source: the data was obtained from the 2014 survey interviews with the MFIs.

As Table 1 shows, our sample provides a reasonable mix of microcredit providers, which in turn provides a good robustness test. For example, the sample includes small, medium and large sized providers, with membership ranging from 205 to 12,470. Similarly, the sample microcredit providers are relatively new (2010) to relatively well-established (1978), cover different types—Islamic, cooperatives and others—and with different combinations of lending group versus individual credit schemes and different make up in terms of men and women memberships.

At the time of the survey, the five microcredit providers had a total membership of 17,553, of which 5,531 (205 from BKM, 3164 from SBW, 738 from Assakinah, 575 from ABU, and 849 from Madani) met the critical survey criteria of “owns a microenterprise”. Of the 5,531 who meet the criteria, 1,424 (or 26%) had borrowed via individual credit schemes and the rest, 74%, had borrowed using lending group schemes.

<sup>4</sup> Since the microcredit providers are formally registered as multipurpose cooperatives and some of their funding sources come from commercial banks' debts which apply standard conventional banking procedures, they might not be able to strictly implement sharia principles on their lending operations.

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4 Of the eligible respondents, those using the lending group schemes to borrow belonged to around  
5 178 lending groups (41 from Assakinah, 108 from SBW, and 29 from BKM). From each of these groups,  
6 two to three members were randomly selected as prospective respondents—a total of 530. Respondents  
7 using the individual credit scheme were also included in the survey—around 270 were randomly selected  
8 as prospective respondents.  
9

10 Thus, a total of 800 prospective respondents were identified and contacted by the sample  
11 microfinance providers on behalf of the researchers for their voluntary participation. Of these, only 556—  
12 405 belonging to group lending schemes and 151 individuals—agreed to be interviewed. Interviews were  
13 conducted mostly at the respondent's residence or business place to observe their real-life conditions;  
14 occasionally the interviews were conducted at group meetings. Of that figure, only 453 completed  
15 responses were found to be valid for the purposes of the analysis. Of the 453 respondents, 89 (20%)  
16 turned out to be men and 364 (80%) women, a ratio very much reflective of the make-up of the  
17 microfinance membership in Indonesia—there are many more women than men.  
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20 The interviewers were local university students, from a final year research methods class who  
21 voluntarily wanted to participate in the survey. Ten students were selected based on their academic  
22 qualifications and relevant prior experience. The researchers provided training to the interviewers prior to  
23 the survey, which included technical understanding about the details of the questionnaire and the  
24 implementation of the ethical conduct, and closely supervised/monitored them during the data collection  
25 process.  
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### 30 3.2. The variables

31 *Dependent variable.* Consistent with Atmadja et al. (2016) and for the reasons explained in that  
32 study, *profit change* is used as the proxy for measuring business performance.  
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34 *Independent variables.* Again, consistent with Atmadja et al. (2016) and for the reasons  
35 explained in that study, we include the following independent variables in our study: microcredit, human  
36 capital, and social capital.  
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39 In addition, as noted earlier, we include gender (1 = female; 0 otherwise), credit schemes (1 =  
40 group lending; 0 otherwise) and money separation (1 = strict separation; 0 otherwise). The term *money*  
41 *separation* in this study is different from the usage in Karlan and Valdivia (2010)<sup>5</sup>. Data was obtained by  
42 asking respondents “how do you separate your money for business and money for household expenses?”  
43 It was a close-ended question with three optional responses—no separation; not strictly; strictly. The  
44 responses were then transformed into a dummy variable (i.e. 1 for strictly, and 0 otherwise).  
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47 *Control variables.* The control variables are change in total assets, competition, number of  
48 employees, new products, respondents' age<sup>6</sup> and length of microfinance membership.  
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53 <sup>5</sup> Karlan and Valdivia (2010) measure money separation as a binary variable equal to 1 if the MFI's client thinks that  
54 is not necessary to separate her money from that of her husband or partner or other adult in the household to control  
55 expenses and savings. It is treated as a dependent variable.

56 <sup>6</sup> For the operational definition of the selected variables, please refer to Atmadja et al. (2016).  
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### 3.3. Data description

Table 2 describes the data of selected variables, comparing as well the 2014 survey to the 2010.

In the table, data from the 2014 survey are presented in two parts – Part A and Part B.

**Table 2. The descriptive statistics of the data.**

Variables		2010	2014					
			Part A			Part B		
			female	male	all	female	male	all
Profit	Decrease	18%	18%	10%	17%	16%	10%	15%
	About the same	34%	19%	8%	18%	20%	9%	18%
	Increase	47%	63%	82%	65%	63%	81%	67%
Microcredit (in millions IDR)	Mean	11.35	9.98	2.03	8.80	9.66	4.36	8.62
Education	Elementary	5%	6%	22%	8%	9%	22%	11%
	Junior high	12%	15%	24%	16%	14%	19%	15%
	Senior high	44%	54%	50%	54%	53%	49%	53%
	University	38%	25%	4%	22%	24%	9%	21%
Prior work experience	No	58%	83%	50%	78%	80%	58%	76%
	Yes	42%	17%	50%	22%	20%	42%	24%
Family business background	No	47%	76%	72%	76%	73%	65%	72%
	Yes	53%	24%	28%	24%	27%	35%	28%
Strongties	Mean	1.99	1.63	1.24	1.57	1.61	1.55	1.60
Weak ties	Mean	7.74	1.68	1.14	1.19	1.16	1.20	1.17
Lending group ties	Mean	31.77	25.42	5.86	22.53	25.42	5.86	22.53
Spousal involvement	Mean	5.18	5.24	4.86	5.18	5.28	5.16	5.25
Change in assets (%)	Mean	5.46	4.95	18.50	6.96	6.12	14.69	7.80
Competition	No	37%	28%	44%	31%	30%	35%	31%
	Yes	63%	72%	56%	69%	70%	65%	69%
Number of employees	Mean	2.87	0.91	0.82	0.89	0.87	1.10	0.91
New product	Mean	1.97	3.19	2.72	3.12	3.18	3.09	3.17
Age	Mean	48.02	46.53	46.70	46.56	45.41	44.07	45.15
Gender	Male	0%	0%	100%	15%	0%	100%	20%
	Female	100%	100%	0%	85%	100%	0%	80%
Credit scheme	Individual	0%	0%	0%	0%	21%	44%	25%
	Group lending	100%	100%	100%	100%	79%	56%	75%
Length of membership	Mean	10.25	10.77	4.48	9.78	9.43	4.35	8.43
Number of obs.		130	288	50	338	364	89	453

Source: The data are summarised from the 2014 survey conducted by the researchers.

Part A is calculated based on the 2014 data of three microfinance providers offering group lending credit schemes (i.e. Assakinah, SBW, and BKM).

Part B is calculated based on the 2014 data of both credit schemes (i.e. group lending and individual) from the five microcredit providers.

Part A contains the data of three of the five sample microcredit providers offering group lending credit schemes (i.e. Assakinah, BKM, and SBW) with 338 number of observations. Data from this part are used in the analysis meant to address the first study objective, i.e. to compare our findings with that of Atmadja et al. (2016). Part B covers the data of both credit schemes (i.e. group lending and individual) from all of the five sample providers with 453 observations used for the analysis aimed at the second study objective, i.e. to test the influence of schemes (individual vs. group), gender and money separation on microenterprise performance.

In terms of the dependent variables, the table shows that more respondents overall in the 2014 survey experienced growth in profit and sales compared to the 2010 survey. Further, the 2014 respondents generally borrowed less than the 2010's, and men on average borrowed much less compared to women. With respect to human capital (education level, prior working experience and parents/family business background), respondents in the 2010 survey appear to be better overall. Moreover, male respondents were less educated but had more family business background and prior working experience than the female respondents in the both surveys.

Although it is relatively narrower compared to the 2010 respondents, the 2014 female respondents appear to have wider social ties/networks than the male respondents. Compared to findings from other country studies (Loscocco et al. 2009; GEM 2010), it seems that Indonesia female micro-entrepreneurs tend to not only involve more family members, but also more acquaintances into their networks compared to their male counterparts. The size of women's lending groups is also greater than that of men's.

A concern is also put on the mean of the weakties as it is apparent the 2010 sample has much larger mean than the 2014's. It was suspected that this might be driven by some outliers. However, after re-estimating the model without the seemingly outliers, it was found that the result is not sensitive to those outliers.

#### 4. Empirical results and discussion

Since the dependent variables are ordinal (i.e. 1 for decrease, 2 for about the same, and 3 for increase), the ordered probit is appropriately applied for analysis purposes. Table 3 presents the estimation results of the models using the group lending scheme subsample. This is to address the first study objective. In the table, the estimation results of Atmadja et al. (2016) is also restated. The equation used in Atmadja et al. (2016) is applied to estimate the 2014 female sample.

Overall, when the dependent variable is profit change, both estimations yield similar results, indicating that the empirical result is not too sensitive across the two samples. Loan has a significant negative relationship with profit change in 2010 (at 10% level) and 2014 (at 5% level). Spouse involvement is the only social capital variable that matters for profit in 2014 as well as in 2010. The association of the both variables is more significant in 2014 (at 1% level) than in 2010 (at 10% level). Nevertheless, the human capital variables have indifferent results. Education significantly matters in 2010, but does not in 2014. Instead, prior work experience influences are significant to profit in 2014.

**Table 3. Ordered probit estimation results of group lending samples**

Variables	2010 <sup>1</sup>	2014 <sup>2</sup>
	Coef	Coef
<i>Financial capital</i>		
Microcredit	-0.0645** (0.0275)	-0.0271* (0.0142)
<i>Human capital</i>		
Education	0.2204* (0.1344)	0.0810 (0.0987)
Prior working experience	-0.1043 (0.2333)	0.4278* (0.2517)
Family business background	0.0755 (0.2274)	-0.2680 (0.1995)
<i>Social capital</i>		
Strong ties	-0.0138 0.0536	-0.0685 (0.0627)
Weak ties	-0.0118 0.0108	-0.0319 (0.0496)

Lending group (LG-ties)	0.0171 (0.0146)	0.0052 (0.0089)
Spousal involvement	0.1332* (0.0719)	0.1292*** (0.0500)
<i>Business Control</i>		
Change in assets	0.0254** (0.0062)	0.0408*** (0.0077)
Competition	0.4968** (0.2369)	-0.5134** (0.2010)
Number of employees	0.0391 (0.0506)	-0.0396 (0.0586)
New product	0.0706 (0.1197)	0.0241 (0.0479)
<i>Individual control</i>		
Age	0.0011 (0.0139)	0.0131 (0.0133)
Length of membership	0.0294 (0.0189)	-0.0068 (0.0131)
Number of observation	130	288

Note : Dependent variable is profit change (1 if decrease, 2 if about the same , and 3 if increase) used as a proxy of business performance. Unstandardized coefficients and standard error (in parentheses) are presented.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

<sup>1</sup> Restated from Atmadja et al. (2016).

<sup>2</sup> Estimated using female samples of the 2014 data from three microfinance providers offering group lending credit schemes (i.e. Assakinah, SBW, and BKM).

To address the second study objective, five models are estimated using the 2014 data of the both credit schemes. In these models, while business performance remains the dependent variable, lending group ties variable is omitted from the analysis and all covariates used in Table 3 are treated as control variables. In addition, institution dummies (i.e. Arta Bina Umat, Madani, Assakinah, and BKM) and types of industry (i.e. manufacture, wholesale/retail, and services) are included as control variables in the models. The estimation results of the models are presented in Table 4.

In Model 1, microenterprise business performance is regressed on all control variables to provide a baseline model. Table 4 shows that microcredit and the other four variables (i.e. prior work experience, spousal involvement, assets change, and competition) are significantly linked to business performance. Corresponding to H<sub>4</sub> – H<sub>6</sub>, credit scheme is then included as a covariate in Model 2, gender in Model 3, and money separation in Model 4. Finally, business performance is regressed on all variables in Model 5.

**Table 4. Ordered probit estimation results of 2014 samples.**

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Control variables</i>					
Microcredit	-0.0248** (0.0117)	-0.0248** (0.0117)	-0.0244** (0.0117)	-0.0257** (0.0118)	-0.0254** (0.0118)
Education	0.0659 (0.0768)	0.0673 (0.0770)	0.0690 (0.0771)	0.0582 (0.0771)	0.0639 (0.0776)
Prior working experience	0.5140*** (0.1830)	0.5120*** (0.1830)	0.5240*** (0.1830)	0.5540*** (0.1830)	0.5590*** (0.1830)
Family business background	-0.1950	-0.1960	-0.1930	-0.2010	-0.2010

	(0.1570)	(0.1570)	(0.1570)	(0.1570)	(0.1570)
Strong ties	-0.0399 (0.0563)	-0.0402 (0.0563)	-0.0451 (0.0564)	-0.0100 (0.0571)	-0.0151 (0.0573)
Weak ties	0.0032 (0.0438)	0.0037 (0.0438)	-0.0007 (0.0438)	0.0020 (0.0438)	-0.0013 (0.0439)
Spousal involvement	0.1320*** (0.0421)	0.1320*** (0.0421)	0.1330*** (0.0422)	0.1260*** (0.0424)	0.1270*** (0.0425)
Change in assets	0.0317*** (0.0049)	0.0319*** (0.0049)	0.0321*** (0.0049)	0.0298*** (0.0049)	0.0304*** (0.0051)
Competition	-0.4480*** (0.1580)	-0.4520*** (0.1590)	-0.4560*** (0.1580)	-0.4410*** (0.1600)	-0.4560*** (0.1610)
Number of employees	-0.0206 (0.0485)	-0.0210 (0.0485)	-0.0326 (0.0488)	-0.0328 (0.0489)	-0.0455 (0.0493)
New product	0.0428 (0.0394)	0.0435 (0.0395)	0.0375 (0.0395)	0.0279 (0.0401)	0.0230 (0.0404)
Age	0.0119 (0.0100)	0.0120 (0.0100)	0.0114 (0.0100)	0.0119 (0.0101)	0.0114 (0.0101)
Length of membership	-0.0136 (0.0117)	-0.0142 (0.0119)	-0.0136 (0.0117)	-0.0086 (0.0119)	-0.0095 (0.0122)
Arta Bina Umat	-0.1790 (0.2260)	-0.0933 (0.3940)	-0.3370 (0.2460)	-0.0791 (0.2290)	-0.0841 (0.4120)
Madani	0.3370 (0.2850)	0.4210 (0.4280)	0.1430 (0.3060)	0.4060 (0.2910)	0.3710 (0.4490)
Assakinah	-0.2560 (0.2110)	-0.2670 (0.2140)	-0.2520 (0.2110)	-0.1990 (0.2130)	-0.2120 (0.2170)
BKM	-0.1980 (0.2880)	-0.2100 (0.2920)	-0.6830 (0.4180)	-0.0147 (0.2940)	-0.5200 (0.4260)
Manufacture	0.0250 (0.1710)	0.0268 (0.1710)	0.0314 (0.1710)	0.0222 (0.1730)	0.0318 (0.1730)
Trading	0.0201 (0.1670)	0.0242 (0.1670)	0.0315 (0.1670)	-0.0208 (0.1690)	-0.0018 (0.1700)
<i>Main covariates</i>					
Lending scheme (LG=1)		0.0955 (0.360)			0.1710 (0.3650)
Gender (female=1)			-0.4780 (0.2980)		-0.4800 (0.3000)
Money separation				0.4970*** (0.1550)	0.5020*** (0.1550)
Number of observation	453	453	453	453	453

Note : Dependent variable is profit change (1 if decrease, 2 if about the same, and 3 if increase) used as a proxy of business performance. Unstandardized coefficients and standard error (in parentheses) are presented.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

The models are estimated using the 2014 data of the both credit schemes from the five microcredit providers.

Table 4 generally shows that, in all models, microcredit has negative effect on profit, while the other variables have positive impact on the business performance partially confirming hypothesis 2 and hypothesis 3. These findings are to some extent comparable with those of Atmadja et al. (2016) suggesting that the results are not sensitive to sample size and the inclusion of the three new variables (i.e. credit scheme, gender and money separation).

In Model 2 and Model 5 of the tables, while the credit scheme (group vs. individual) shows a positive relationship with business performance, the association is statistically insignificant, suggesting that the type of scheme might not really matter for a microenterprise's business performance; hence rejecting hypothesis 4. This suggests that social capital created through a lending group membership may

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4 not necessarily make a significant difference to business performance. It is possibly because the agenda  
5 of group meetings have not been able to adequately capture business related matters—have largely been  
6 dominated by loan repayment issues so thus neglected the meaningful business related discussions.  
7

8 Secondly, in some microfinance providers, the group lending size was too large (up to 50  
9 members per group). On the one hand, this can broaden business/social networks among the members. On  
10 the other hand, this could adversely affect the quality of peer credit screening and monitoring within  
11 groups. Particularly in the situation when numerous loan applications needed to be reviewed promptly,  
12 the group's considerations were more often based on credit ceiling and track records of the applicants  
13 with little attention paid to the purpose of the loan. This might stimulate risk taking behaviour of the  
14 applicants (Giné et al. 2010), which possibly ends up with either business success or business failure. It  
15 might be true that group lending has a positive impact on business creation; however it does not  
16 necessarily mean that the performance will always be better.  
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20 This study also finds that there is no significant gender effect on microenterprises business  
21 performance, as shown in Model 3 and Model 5. Although the negative sign of the variable's coefficient  
22 might indicate that men-owned microenterprises are more likely to perform better than women-owned  
23 ones, the difference is not significant statistically. This rejects hypothesis 5.  
24

25 While credit schemes and gender do not significantly matter for performance, money separation  
26 apparently has an important role. The result of Model 4 and Model 5 in Table 4 show that the variable's  
27 coefficients are significant at 1% level with positive signs confirming hypothesis 6. Thus, holding other  
28 variables unchanged, microenterprises owned by micro-entrepreneurs who strictly separate their money  
29 for business from household use are more likely to experience better business performance compared to  
30 others. This finding provides an empirical support to the prior studies stating that borrowers' lack of self-  
31 discipline in using the loan could results in poor business performance and long-term dependence on  
32 external funding (Parker 2009; Adams and Von Pischke 1992; Imai et al. 2010; Johnston and Morduch  
33 2008).  
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37 With relatively higher interest rate imposed on the loan, the inability of micro-entrepreneurs to  
38 properly manage the loan might cause a financial burden to the enterprises, especially if they are not able  
39 to generate higher profits to compensate the relatively higher interest costs, leading to long-term  
40 dependence on external finance. Conversely, if the entrepreneurs are able to strictly separate the money,  
41 they might have sufficient reserves for financing working capital and/or purchasing business assets to  
42 expand their business to generate more profit. This basic business practice appears to have benefited the  
43 performance of Indonesian microenterprises.  
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47 Considering the above findings, an implication that can be drawn is that microcredit *per se* might  
48 not enhance microenterprise business performance. The lack of self-discipline or inability of micro  
49 entrepreneurs to adequately manage finances might be a key factor, highlighting the importance of  
50 business and financial management skills for microenterprise success. To enhance business performance,  
51 micro entrepreneurs should not only be provided with easy access to finance but also be equipped with  
52 sufficient abilities to appropriately manage their business. For example, evidence from Tanzania shows  
53 that enterprises whose owners received business training and extension advice performed better than  
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those that did not (Kuzilwa 2005). Accordingly, this study suggests that training in business and management should ideally become the complements of microcredit. The other non-financial factors (i.e. human capital and spousal involvement) might also be considered in designing credit policies particularly to make sure that the credit can be delivered effectively with minimum risks.

## 5. Conclusion

Essentially, this study attempts to mitigate the limitations of a recent study by Atmadja et al. (2016), which apparently was the first to test the effect of microcredit on the performance of microenterprises in the case of Indonesia and finds a negative relationship. The limitations of that study, based on a survey of women microenterprises undertaken in 2010 in Surabaya, Indonesia's second largest city, included relatively small sample, lacked heterogeneity, and focussed only on women. The present study is based on an extended and updated survey of microenterprises in Surabaya—with a larger, more heterogeneity sample, and includes men owned enterprises.

In addition to testing the main findings of the Atmadja et al. (2016) study, we investigate if different lending schemes (group vs. individual), gender and a micro-entrepreneurs' ability and/or willingness to separate their personal/consumption expenses from business—which we call “money separation”—might matter for business performance. Overall, we find that even with a much larger sample, including both men and women-owned microenterprises and greater heterogeneity, microfinance by itself may not necessarily improve business performance. Thus, our findings, by and large, confirm the findings of the Atmadja et al. (2016) study and conform to the strand of research which argues that microfinance may not really matter for microenterprise business performance. We also find that while microcredit schemes (individual versus group) and gender effects may not matter significantly, money separation does appear to have a positive and significant relationship with performance. Thus, on the policy front, this paper recommends that non-financial factors such as human capital, spousal involvement, and money separation be considered as important factors for improving microenterprise business performance in the case at least of Indonesia, with less focus on microfinance *per se*.

Future studies might involve an even larger, more balance and more heterogeneous sample size from across Indonesia. The inclusion of more male respondents and more variables affecting the microenterprises' business performance might be taken into consideration as well. It might also be necessary to provide a deeper explanation of the relationships noted in this study, for example, why loan size has a negative effect on profit but not on sales, why social ties/networks do not matter to performance, and whether applying alternative credit schemes (e.g. individual credit scheme) might differently affect business performance.

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 Prof. James Connelly  
 Editor, International Journal of Social Economics  
[J.Connelly@hull.ac.uk](mailto:J.Connelly@hull.ac.uk)

Reviewer(s)' Comments to Author:

Reviewer: 1

Recommendation: Major Revision

Comments:

None.

Additional Questions:

**1. Originality:** Does the paper contain new and significant information adequate to justify publication?: The paper is interesting. This has tried to follow up a study conducted by Atmadja and et al using the survey data of 2010 and their result was published in 2016. This paper does not position well why such a study needs to be repeated although few new dimensions such as group vs individual lending, gender and separation of personal and business related consumption. The paper is written and presented in a clumsy way that restricts a clear decision whether it merits for publications. What is new and how it is different from the findings of other scholars, who have already contributed that microfinance has both positive as well as negative impacts on micro entrepreneurs. What is the objective of the paper?

**2. Relationship to Literature:** Does the paper demonstrate an adequate understanding of the relevant literature in the field and cite an appropriate range of literature sources? Is any significant work ignored?: Literature seems to be OK but the debate and argument require to be further strengthened in the context it has been used.

**3. Methodology:** Is the paper's argument built on an appropriate base of theory, concepts, or other ideas? Has the research or equivalent intellectual work on which the paper is based been well designed? Are the methods employed appropriate?: Since it is a follow up study, clarification is needed how this methodology is improved. Difference between the previous methodology and current methodology should be discussed with advantages and disadvantages. Larger sample size is advantage but the sampling procedure and dividing the sample size logically between different categories such as group vs individual, or a mixture of both (may overlapping in this case), gender, and others are not clear. There are different sources of microfinance with different sets of rules and regulations applicable to group and individuals. Treating samples together either in group or individual category, so also in gender groups can not be justifiable. The major issue raised for the separation of microfinance for personal consumption and business use is not transferred to real variables to address objectively. There are several hypotheses. Can it be summed up with one research hypothesis with few sub-hypotheses? Methodology must follow the objective of the paper and hypothesis in a logical way to reach the conclusion. The paper given an impression that it is compressed from a larger study with many other important facts behind this study. Clear expression of variables (qualitative and quantitative) is remained opaque and gives the chance for speculation and interpretation by individual readers. This must be addressed.

**4. Results:** Are results presented clearly and analysed appropriately? Do the conclusions adequately tie together the other elements of the paper?: Results are always referred to Atmadja and et al, why not with others? Any new contribution with reference to other authors in the contextual cases must be compared, positioned and highlighted.

**5. Implications for research, practice and/or society:** Does the paper identify clearly any implications for research, practice and/or society? Does the paper bridge the gap between theory and practice? How can the research be used in practice (economic and commercial impact), in teaching, to influence public policy, in research (contributing to the body of knowledge)? What is the impact upon society (influencing public attitudes, affecting quality of life)? Are these implications consistent with the findings and conclusions of the paper?: Not highlighted.

**6. Quality of Communication:** Does the paper clearly express its case, measured against the technical language of the field and the expected knowledge of the journal's readership? Has attention been paid to the clarity of expression and readability, such as sentence structure, jargon use, acronyms, etc.: Good.

Bukti konfirmasi submit revisi dan artikel yang direvisi  
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Dear Dr. Sharma:

Your revised manuscript entitled "Microfinance and microenterprise performance in Indonesia: an extended and updated survey" has been successfully submitted online and is presently being given full consideration for publication in the International Journal of Social Economics.

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**Microfinance and microenterprise performance in  
Indonesia: an extended and updated survey**

Journal:	<i>International Journal of Social Economics</i>
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Manuscript Type:	Research Paper
Keywords:	microfinance, microenterprise performance, money separation

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# Microfinance and microenterprise performance in Indonesia: an extended and updated survey

## Structured abstract

### Purpose

This study addresses the small, women micro-entrepreneur dominated and heterogeneity limitations of the Atmadja et al. (2016) study. The sample is much larger, includes more men and is more heterogeneous, which allows deeper insights and more meaningful explanation of the relationship between microfinance and microenterprise performance in the case of Indonesia, including the effects of gender, lending scheme and money separation.

### Design/methodology/approach

Survey of 556 respondents across five micro-credit providers in the city of Surabaya using updated instrument. Ordered probit is used to analyse data.

### Findings

Microfinance may not matter for microenterprise performance in the case of Indonesia. Additionally, microcredit schemes (individual versus group) and gender may also not matter for performance, but money separation might have some influence.

### Practical implications

Non-financial factors such as human capital, spousal involvement, and money separation should be considered as important factors for improving microenterprise business performance in Indonesia, with less focus on microcredit per se.

### Originality/value

This study provides further evidence that microfinance may not matter for microenterprise performance in the case of Indonesia, a populous middle income country with a very long history of microfinance.

Keywords: microfinance, microenterprise, performance, microcredit schemes, gender, money separation.

JEL code: O160

## 1. Introduction

Debates abound and long-standing on the effects of microfinance on microenterprise performance; see for example Barnes, Keogh, and Nemarundwe (2001), Chen and Snodgrass (2001), Copestake, Bhalotra, and Johnson (2001), Dunn and Arbuckle Jr (2001), Kondo, Orbeta, Dingcong, and Infantado (2008), and Crépon, Devoto, Duflo, and Parienté (2011) who argue for a positive relationship and Adams and Von Pischke (1992), Olson et al. (2003), Davis (2006), and Bateman and Chang (2012) who argue that microfinance may not really matter for performance.

Despite a very long history of microfinance in Indonesia<sup>1</sup>—a populous, middle income county bestowed with constant and concerning levels of poverty and economic challenges—little remains known about the effects of microfinance on microenterprise performance in the country. To the best of our

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<sup>1</sup> The Bank Priyayi of Purwokerto established in 1895 has been known as the first formal commercial microfinance institution in Indonesia (BWTP, 2013; Holloh, 2001).

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4 knowledge, the most relevant study so far might be by Atmadja et al. (2016) who use data obtained from  
5 a 2010 survey to provide an in-depth understanding of the role of microfinance for microenterprise  
6 performance in Surabaya, the second largest city in Indonesia. Essentially, the findings suggest that  
7 microcredit itself does not necessarily improve business performance.  
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9 While the 2010 survey data has also been used in other published works such as Bradley,  
10 McMullen, Atmadja, Simiyu, and Artz (2011), Wood, Bradley, and Artz (2015), Atmadja et al. (2016)  
11 and Neubert, Bradley, Ardianti, and Simiyu (2017) acknowledge a number of limitations of the survey  
12 with respect to their specific investigation, i.e. testing the relationship between microfinance and  
13 microenterprise performance, and suggest that a larger sample, including men-owned microenterprises  
14 and greater heterogeneity might provide deeper insights and more meaningful explanation of the  
15 relationship between microfinance and microenterprise performance.  
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18 The above has exactly been the motivation of the present study. Essentially, we have gone back  
19 to the city of Surabaya and conducted a much wider and larger survey—we have extended and updated  
20 the 2010 survey. The new survey compliments and strengthens the 2010 survey in the following ways:  
21 (1) 556 respondents were interviewed (more than three times in size compared to that of the 2010 survey)  
22 - excluding incomplete responses, outliers and other non-conforming criteria, 453 valid responses used  
23 for analysis, compared to 130 in the earlier study; (2) about one-fifth of the respondents were men-owned  
24 microenterprises in the new survey compared to none in the previous; (3) the new survey was more  
25 heterogeneous compared to the 2010 as it covered five microcredit providers compared to only one  
26 previously; and (4) new questions have been added.  
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31 There are two main objectives of this paper. First, we are interested to see if the main findings of  
32 Atmadja et al. (2016) would prevail with the updated and extended survey data. Second, the updated and  
33 extended survey enables us to explore a few more interesting research questions, which have not been  
34 addressed previously in the context of microfinance, including, would different lending schemes (group  
35 vs. individual) matter for business performance? What about gender? And, does a micro-entrepreneur's  
36 ability and/or willingness to separate their personal/consumption expenses from business-related (money  
37 separation, hereafter) make any difference to business performance?  
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40 The findings of the updated and extended survey are intriguing and yet conforming. Overall, we  
41 find that even with a much larger sample, including both men and women-owned microenterprises and  
42 greater heterogeneity, microfinance by itself may not necessarily improve business performance. Thus,  
43 our findings, by and large, confirm the findings of the Atmadja et al. (2016) study and conform to the  
44 strand of literature (e.g. Adams and Von Pischke (1992), Imai, Arun, and Annim (2010), Johnston and  
45 Morduch (2008)) which argues that microfinance may not really matter for microenterprise performance.  
46 With respect to the new research questions, while microcredit schemes (individual versus group) and  
47 gender effects may not matter significantly, money separation does appear to have a positive and  
48 significant relationship with performance. On the policy front, this paper recommends that non-financial  
49 factors such as human capital, spousal involvement, and money separation be considered as important  
50 factors for improving microenterprise business performance in the case at least of Indonesia, with less  
51 focus on microfinance *per se*.  
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The rest of this paper is outlined as follows. Section 2 provides a brief literature review. Section 3 describes the research methodology. Section 4 provides empirical results with discussion. Section 5 provides policy implications. Section 6 concludes.

## 2. Brief literature review and hypothesis development

In this section, we develop our hypothesis with respect to each independent variable based on extant literature. With regard to those included in the Atmadja et al. (2016) study, we summarise the literature review and restate the hypotheses since we concur with them—for details, we invite the reader to peruse that study, which can be found in Atmadja et al. (2016). With regard to the three new independent variables—microcredit scheme, gender and money separation—we develop our hypothesis based on a brief review of the literature. Essentially,  $H_1$  to  $H_3$  below are those adopted from the Atmadja et al. (2016) study and  $H_4$  to  $H_6$  are developed in this study.

Hypothesis 1: The relationship between financial capital and microenterprise business performance will be negative.

Hypothesis 2: Human capital will be positively associated with microenterprise business performance.

Hypothesis 3: Social capital will be positively associated with microenterprise business performance.

### 2.1. Microcredit schemes and microenterprise performance

In the microfinance industry, the individual and group lending credit schemes are the most common types available to microenterprises. Under the former, the size of the loan is determined primarily on the basis of the pledged collateral, which may be repossessed in the event of default. Thus, while on a much lower scale, some parallels can be drawn between this and loans obtained from the formal sector such as banks.

Under the latter, microcredit is offered to individuals only via “groups”—an individual borrower applies for a loan through their “lending group”. The lending group, assisted by an officer appointed by the microfinance provider, decides on the amount to be approved and subsequently becomes liable for repayment in the event of default<sup>2</sup>. To ensure timely repayment of the loan, the group lending scheme involves frequent repayment meetings and peer pressure. For some borrowers, these might be burdensome, especially if the group is formed from communities with a high degree of social ties. Nevertheless, evidence suggests that the frequent meetings might also benefit the members. For example, using field experiments in India, Feigenberg, Field, and Pande (2010) provide evidence on the role of microfinance in building social capital by reporting that more frequent group meetings can in practice

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<sup>2</sup> Many microfinance providers in developing economies rely on joint liability for their business operations as a means to induce peer monitoring and reduce ex ante (Armendariz de Aghion & Morduch, 2005; Banerjee, Besley, & Guinnane, 1994; Stiglitz, 1990) as well as ex post (Besley & Coate, 1995; Bhole & Ogden, 2010) moral hazard over investment choice particularly in the absence of collateral and the providers' credit screening. However, if trust between members in a lending group is low, along with little enforcement of contracts, this may also become liabilities for the microfinance providers.

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4 lead to greater social interactions. These interactions might provide members with alternative sources of  
5 information that might not otherwise be available to individuals, which might help discover or create new  
6 opportunities in the market (Shepherd, McMullen, & Jennings, 2007). As one of the manifestations of  
7 weak ties, a lending group can create social capital through increased communication, information  
8 diffusion, and social support (Paxton, 1999). The lending group might develop new or deepen already  
9 existing social relationships within the group that might yield economic gains and increase the likelihood  
10 of loan repayment (Anthony, 2005).  
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13 The joint liability mechanism of lending groups might also encourage risk taking behaviour by  
14 individuals (G. Fischer, 2013; Giné, Jakiela, Karlan, & Morduch, 2010). However, the strict peer  
15 monitoring practices might, on the other hand, serve to discourage such behaviour (G. Fischer, 2013).  
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17 The most recent study regarding the impact of microcredit schemes on borrowers has been  
18 reported by Attanasio et al. in 2013. Using a randomized field experiment of 1,148 women who were  
19 members of a microfinance institution (MFI) across rural Mongolia, they compared the impact of  
20 individual versus group lending microcredit on borrowers. The study finds that microcredit significantly  
21 influences business creation in the case of women receiving loans via group lending schemes. The authors  
22 argue that one possibility might be that the group lending scheme allows women to mutually insure each  
23 other against adverse business outcomes, which may in turn reduce investment uncertainty, increase loan  
24 take up, and eventually lead to larger long-run effects such as increase in business performance.  
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28 In light of the foregoing,

29 Hypothesis 4: Group-lending scheme funded microenterprises are likely to perform better than those  
30 funded otherwise.  
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## 33 2.2. Gender and microenterprise performance

34 Studies comparing the performance of men and women-owned firms show that those headed by  
35 women tend to be generally smaller across various dimensions, including gross revenue, number of  
36 employees, sales, assets, and profit levels (Ellis et al., 2010; E. M. Fischer, Reuber, & Dyke, 1993;  
37 Kalleberg & Leicht, 1991; Rosa, Carter, & Hamilton, 1996; Watson & Robinson, 2003). Women-owned  
38 enterprises tend to also expand more slowly than those owned by men (Cooper, Gimeno-Gascon, & Woo,  
39 1994; GEM, 2010), which might be due to women being generally more risk-averse (Cliff, 1998) and  
40 lack relevant industry-specific experience (Loscocco, Robinson, Hall, & Allen, 1991).  
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44 Other studies report that women have narrower and more homogenous social networks<sup>3</sup> (GEM,  
45 2010; Loscocco, Monnat, Moore, & Lauber, 2009) and have more limited access to finance (Parker,  
46 2009) compared to men. Yet another study Kessy (2009) finds that men-headed enterprises have higher  
47 business performance compared to those headed by women. The study also notes that men in general  
48 have higher assets, sales revenue and number of employees than women.  
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51 Although some other studies report that women had particularly lower rates of loan default  
52 compared to men (Khan, 1999; Khandker, 1998; Panjaitan-Drioadisuryo & Cloud, 1999; Remenyi, 2000)  
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55 <sup>3</sup> Women's social networks emphasize interpersonal relationships over instrumental relationships; hence women are  
56 exposed to fewer business-relevant sources (Brush, 1992).  
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4 which might reduce financial risk to the lenders (Armendariz de Aghion & Morduch, 2005), it does not  
5 always necessarily mean that women-owned enterprises performed better than those owned by men. The  
6 low default rates could instead be due their more risk-averse nature (Cliff, 1998; Velasco & Marconi,  
7 2004).

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9 Women and men might become entrepreneurs for different reasons as well (Ellis et al., 2010).  
10 While men appear to be more often driven by economic opportunities (“opportunity-motivated”), women  
11 tend to be more “necessity-motivated” entrepreneurs who desire to meet the basic necessities or to just  
12 find employment. An enterprise helps women improve their earnings capabilities and at the same time  
13 enables the desired flexibility of a balanced work—family commitment (Bird & Brush, 2002; Brush,  
14 1992; Ellis et al., 2010). Consequently, female borrowers tend to have a greater social impact compared  
15 to male borrowers because they invest more capital in family education, nutrition and health care  
16 (Armendariz de Aghion & Morduch, 2005; Blumberg, 1988; Panjaitan-Drioadisuryo & Cloud, 1999; Pitt,  
17 Khandker, & Cartwright, 2006).

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19 In light of the foregoing,

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21 Hypothesis 5: Men-owned microenterprises are likely to perform better than women-owned ones.  
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### 24 25 2.3. Money separation and microenterprise performance

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27 Literature suggests that microcredit often fails to help microenterprises grow because borrowers  
28 tend to have limited skills to use the borrowed funds effectively (Adams & Von Pischke, 1992; Imai et  
29 al., 2010; Johnston & Morduch, 2008). Evidence shows that the borrowers may not use the funds for the  
30 intended purpose such as purchasing productive assets, or working capital (Barnes et al., 2001; Collins,  
31 Morduch, Rutherford, & Ruthven, 2009; De Mel, McKenzie, & Woodruff, 2008; Rutherford, 2006).  
32 There are at least two possible reasons for this inability to distinguish between intended and actual  
33 purpose of the loan—or, *money separation* as we refer to in this study. Firstly, self-control problems or  
34 lack of self-discipline can often lead individuals to neglect productive investments today that have would  
35 large payoffs in the future (Banerjee & Mullainathan, 2010; Duflo, Kremer, & Robinson, 2009).  
36 Secondly, there is a lack of access to credit services for the financially disadvantaged to smooth their daily  
37 consumption and to deal with emergency as this group are historically thought of as having no need for  
38 credit services; hence, microcredit becomes the only credit available to such families (Collins et al., 2009;  
39 Hoque, 2004).

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41 To provide an example from Indonesia, via a survey of 1,438 households across six provinces of  
42 Indonesia in 2002, Johnston and Morduch (2008) find that at least 50% of the microcredit from MFIs to  
43 microenterprises were for purposes totally unrelated to business. Instead, the loans were used for home  
44 improvement, non-business land or building purchase, school tuition, medical treatment, other loan  
45 repayment, daily needs or retirement needs, vehicle purchase, household goods, ceremony or social  
46 expenditure, holiday needs, jewellery purchase, etc. Moreover, the authors report that female-headed  
47 households were more likely to borrow for daily consumption. The borrowers’ inability to distinguish  
48 their personal/consumption expenses from business-related investment often prolongs their dependence  
49 on external finance (Parker, 2009). This lack of self-discipline is more likely to bring undesirable  
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consequences to the business performance of MEs. It is apparent that a good business or management practice, even in the simplest form such as separating money for business from household expenses, might be important for microbusiness success.

In light of the foregoing,

Hypothesis 6: Money separation is positively related to microenterprise business performance.

### 3. Research method

#### 3.1. The survey

As indicated earlier, the present (2014) survey was conducted in the same location as the previous (2010)—in Indonesia's second largest city of Surabaya and its surroundings, from February to June 2014. The key methodological improvement to note in the 2014 compared to the 2010 surveys is in relation to the number and extent of microfinance providers covered—the 2010 survey covered only one microfinance provider Setya Bhakti Wanita (SBW); the 2014 survey covered five—four more than the previous, including two Islamic-style microfinance providers<sup>4</sup> (Madani and Artha Bina Ummat), one cooperative (Assakinah) and one government-sponsored microcredit providers (BKM Bendul Merisi) plus SBW. Besides, the questionnaire has been extended to include many important questions that the earlier survey did not cover. These methodological improvements are expected to address some limitations in previous studies (Atmadja et al., 2016; Bradley et al., 2011; Neubert et al., 2017; Wood et al., 2015). Table 1 provides a summary of the features of the five providers.

**Table 1: Characteristics of the microcredit providers covered in the 2014 survey**

	Setya Bhakti Wanita	Artha Bina Ummat	Assakinah	Madani	BKM Bendul Merisi
Established	1978	1998	1999	2007	2010
Type	Cooperative	Islamic	Cooperative	Islamic	Community Empowerment
Total membership	12470 (all women)	1592 (842 men, 750 women)	971 (51 men, 920 women)	3515 (1439 men, 2076 women)	205 (113 men, 92 women)
Number of lending groups	418	0	64	0	29
Credit schemes	Individual, Group lending	Individual only	Individual, Group lending	Individual only	Group lending only
Total credit outstanding (in IDR, 2013)	More than 1 billion	More than 1 billion	More than 1 billion	More than 1 billion	Less than 1 billion
Credit ranges (in IDR)	Up to 2b (individual) 1m– 27m (group)	0.5m-40m	Up to 200m (individual) 0.5m to 8m (group)	0.1m to 500m	0.5m to 4.5m
Credit terms	Up to 15 years (individual) 3 – 25 months (group)	Up to 24 months	Up to 24 months (group). 3-6 months (individual)	Up to 48 months	Up to 12 months
Credit	Collateral	Collateral	Collateral	Collateral	Voluntary

<sup>4</sup> Since the microcredit providers are formally registered as multipurpose cooperatives and some of their funding sources come from commercial banks' debts which apply standard conventional banking procedures, they might not be able to strictly implement sharia principles on their lending operations.

requirements	(individual) Compulsory saving and voluntary saving (group)	(individual) Compulsory saving and voluntary saving (group)	saving
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Source: the data was obtained from the 2014 survey interviews with the MFIs.

As Table 1 shows, our sample provides a reasonable mix of microcredit providers, which in turn provides a good robustness test. For example, the sample includes small, medium and large sized providers, with membership ranging from 205 to 12,470. Similarly, the sample microcredit providers are relatively new (2010) to relatively well-established (1978), cover different types—Islamic, cooperatives and others—and with different combinations of lending group versus individual credit schemes and different make up in terms of men and women memberships.

At the time of the survey, the five microcredit providers had a total membership of 17,553, of which 5,531 (205 from BKM, 3164 from SBW, 738 from Assakinah, 575 from ABU, and 849 from Madani) met the critical survey criteria of “owns a microenterprise”. Of the 5,531 who meet the criteria, 1,424 (or 26%) had borrowed via individual credit schemes and the rest, 74%, had borrowed using lending group schemes.

Of the eligible respondents, those using the lending group schemes to borrow belonged to around 178 lending groups (41 from Assakinah, 108 from SBW, and 29 from BKM). From each of these groups, two to three members were randomly selected as prospective respondents—a total of 530. Respondents using the individual credit scheme were also included in the survey—around 270 were randomly selected as prospective respondents.

Thus, a total of 800 prospective respondents were identified and contacted by the sample microfinance providers on behalf of the researchers for their voluntary participation. Of these, only 556—405 belonging to group lending schemes and 151 individuals—agreed to be interviewed. Interviews were conducted mostly at the respondent’s residence or business place to observe their real-life conditions; occasionally the interviews were conducted at group meetings. Of that figure, only 453 completed responses were found to be valid for the purposes of the analysis. Of the 453 respondents, 89 (20%) turned out to be men and 364 (80%) women, a ratio very much reflective of the make-up of the microfinance membership in Indonesia—there are many more women than men.

The interviewers were local university students, from a final year research methods class who voluntarily wanted to participate in the survey. Ten students were selected based on their academic qualifications and relevant prior experience. The researchers provided training to the interviewers prior to the survey, which included technical understanding about the details of the questionnaire and the implementation of the ethical conduct, and closely supervised/monitored them during the data collection process.

### 3.2. The variables

*Dependent variable.* Consistent with Atmadja et al. (2016) and for the reasons explained in that study, *profit change* is used as the proxy for measuring business performance.



*Independent variables.* Again, consistent with Atmadja et al. (2016) and for the reasons explained in that study, we include the following independent variables in our study: microcredit, human capital, and social capital.

In addition, as noted earlier, we include gender (1 = female; 0 otherwise), credit schemes (1 = group lending; 0 otherwise) and money separation (1 = strict separation; 0 otherwise). The term *money separation* in this study is different from the usage in Karlan and Valdivia (2010)<sup>5</sup>. Data was obtained by asking respondents “how do you separate your money for business and money for household expenses?” It was a close-ended question with three optional responses—no separation; not strictly; strictly. The responses were then transformed into a dummy variable (i.e. 1 for strictly, and 0 otherwise). The reason for settling with the “binary and subjective” response is that micro entrepreneurs in Indonesia tend not to keep proper records of their business transactions; quite often they are not properly trained, qualified or otherwise equipped to do so, which hindered us from obtaining more precise data on proportion of money used for business and for household expenses from the respondents, ideally required for this variable.

*Control variables.* The control variables are change in total assets, competition, number of employees, new products, respondents’ age<sup>6</sup> and length of microfinance membership.

### 3.3. Data description

Table 2 describes the data of selected variables, comparing as well that from the 2014 survey to the 2010 survey. In the table, data from the 2014 survey are presented in two parts – Part A and Part B.

**Table 2. The descriptive statistics of the data.**

Variables		2010	2014					
			Part A			Part B		
			female	male	all	female	male	all
Profit	Decrease	18%	18%	10%	17%	16%	10%	15%
	About the same	34%	19%	8%	18%	20%	9%	18%
	Increase	47%	63%	82%	65%	63%	81%	67%
Microcredit (in millions IDR)	Mean	11.35	9.98	2.03	8.80	9.66	4.36	8.62
Education	Elementary	5%	6%	22%	8%	9%	22%	11%
	Junior high	12%	15%	24%	16%	14%	19%	15%
	Senior high	44%	54%	50%	54%	53%	49%	53%
	University	38%	25%	4%	22%	24%	9%	21%
Prior work experience	No	58%	83%	50%	78%	80%	58%	76%
	Yes	42%	17%	50%	22%	20%	42%	24%
Family business background	No	47%	76%	72%	76%	73%	65%	72%
	Yes	53%	24%	28%	24%	27%	35%	28%
Strongties	Mean	1.99	1.63	1.24	1.57	1.61	1.55	1.60
Weak ties	Mean	7.74	1.68	1.14	1.19	1.16	1.20	1.17
Lending group ties	Mean	31.77	25.42	5.86	22.53	25.42	5.86	22.53
Spousal involvement	Mean	5.18	5.24	4.86	5.18	5.28	5.16	5.25
Change in assets (%)	Mean	5.46	4.95	18.50	6.96	6.12	14.69	7.80
Competition	No	37%	28%	44%	31%	30%	35%	31%
	Yes	63%	72%	56%	69%	70%	65%	69%

<sup>5</sup> Karlan and Valdivia (2010) measure money separation as a binary variable equal to 1 if the MFI’s client thinks that it is not necessary to separate her money from that of her husband or partner or other adult in the household to control expenses and savings. It is treated as a dependent variable.

<sup>6</sup> For the operational definition of the selected variables, please refer to Atmadja et al. (2016).

Number of employees	Mean	2.87	0.91	0.82	0.89	0.87	1.10	0.91
New product	Mean	1.97	3.19	2.72	3.12	3.18	3.09	3.17
Age	Mean	48.02	46.53	46.70	46.56	45.41	44.07	45.15
Gender	Male	0%	0%	100%	15%	0%	100%	20%
	Female	100%	100%	0%	85%	100%	0%	80%
Credit scheme	Individual	0%	0%	0%	0%	21%	44%	25%
	Group lending	100%	100%	100%	100%	79%	56%	75%
Length of membership	Mean	10.25	10.77	4.48	9.78	9.43	4.35	8.43
Number of obs.		130	288	50	338	364	89	453

Source: The data are summarised from the 2014 survey conducted by the researchers.

Part A is calculated based on the 2014 data of three microfinance providers offering group lending credit schemes (i.e. Assakinah, SBW, and BKM).

Part B is calculated based on the 2014 data of both credit schemes (i.e. group lending and individual) from the five microcredit providers.

Part A contains the data of three of the five sample microcredit providers offering group lending credit schemes (i.e. Assakinah, BKM, and SBW) with 338 number of observations. Data from this part are used in the analysis meant to address the first study objective, i.e. to compare our findings with that of Atmadja et al. (2016), which included group lending scheme only. Part B covers the data of both credit schemes (i.e. group lending and individual) from all of the five sample providers with 453 observations used for the analysis aimed at the second study objective, i.e. to test the influence of schemes (individual vs. group), gender and money separation on microenterprise performance.

In terms of the dependent variables, the table shows that more respondents overall in the 2014 survey experienced growth in profit and sales compared to the 2010 survey. Further, the 2014 respondents generally borrowed less than the 2010's, and men on average borrowed much less compared to women. With respect to human capital (education level, prior working experience and parents/family business background), respondents in the 2010 survey appears to better overall. Moreover, male respondents were less educated but had more family business background and prior working experience than the female respondents in the both surveys.

Although it is relatively narrower compared to the 2010 respondents, the 2014 female respondents appear to have wider social ties/networks than the male respondents. Compared to findings from other country studies (GEM, 2010; Loscocco et al., 2009), it seems that Indonesia female micro-entrepreneurs tend to not only involve more family members, but also more acquaintances into their networks compared to their male counterparts. The size of women's lending groups is also greater than that of men's.

A concern is also put on the mean of the weak ties as it is apparent the 2010 sample has much larger mean than the 2014's. It was suspected that this might be driven by some outliers. However, after re-estimating the model without the seemingly outliers, it was found that the result is not sensitive to those outliers.

#### 4. Empirical results and discussion

Since the dependent variables are ordinal (i.e. 1 for decrease, 2 for about the same, and 3 for increase), the ordered probit is appropriately applied for analysis purposes. Table 3 presents the

estimation results of the models using the group lending scheme subsample. This is to address the first study objective. In the table, the estimation results of Atmadja et al. (2016) is also restated. The equation used in Atmadja et al. (2016) is applied to estimate the 2014 female sample.

Overall, when the dependent variable is profit change, both estimations yield similar results, indicating that the empirical result is not too sensitive across the two samples. Loan has a significant negative relationship with profit change in 2010 (at 10% level) and 2014 (at 5% level). Spouse involvement is the only social capital variable that matters for profit in 2014 as well as in 2010. The association of the both variables is more significant in 2014 (at 1% level) than in 2010 (at 10% level). Nevertheless, the human capital variables have indifferent results. Education significantly matters in 2010, but does not in 2014. Instead, prior work experience influences are significant to profit in 2014.

**Table 3. Ordered probit estimation results of group lending samples**

Variables	2010 <sup>1</sup> Coef	2014 <sup>2</sup> Coef
<i>Financial capital</i>		
Microcredit	-0.0645** (0.0275)	-0.0271* (0.0142)
<i>Human capital</i>		
Education	0.2204* (0.1344)	0.0810 (0.0987)
Prior working experience	-0.1043 (0.2333)	0.4278* (0.2517)
Family business background	0.0755 (0.2274)	-0.2680 (0.1995)
<i>Social capital</i>		
Strong ties	-0.0138 0.0536	-0.0685 (0.0627)
Weak ties	-0.0118 0.0108	-0.0319 (0.0496)
Lending group (LG-ties)	0.0171 (0.0146)	0.0052 (0.0089)
Spousal involvement	0.1332* (0.0719)	0.1292*** (0.0500)
<i>Business Control</i>		
Change in assets	0.0254** (0.0062)	0.0408*** (0.0077)
Competition	0.4968** (0.2369)	-0.5134** (0.2010)
Number of employees	0.0391 (0.0506)	-0.0396 (0.0586)
New product	0.0706 (0.1197)	0.0241 (0.0479)
<i>Individual control</i>		
Age	0.0011 (0.0139)	0.0131 (0.0133)
Length of membership	0.0294	-0.0068

	(0.0189)	(0.0131)
Number of observation	130	288

Note : Dependent variable is profit change (1 if decrease, 2 if about the same, and 3 if increase) used as a proxy of business performance. Unstandardized coefficients and standard error (in parentheses) are presented.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

<sup>1</sup> Restated from Atmadja et al. (2016).

<sup>2</sup> Estimated using female samples of the 2014 data from three microfinance providers offering group lending credit schemes (i.e. Assakinah, SBW, and BKM).

To address the second study objective, five models are estimated using the 2014 data of the both credit schemes. In these models, while business performance remains the dependent variable, lending group ties variable is omitted from the analysis and all covariates used in Table 3 are treated as control variables. In addition, institution dummies (i.e. Arta Bina Umat, Madani, Assakinah, and BKM) and types of industry (i.e. manufacture, wholesale/retail, and services) are included as control variables in the models. The estimation results of the models are presented in Table 4.

In Model 1, microenterprise business performance is regressed on all control variables to provide a baseline model. Table 4 shows that microcredit and the other four variables (i.e. prior work experience, spousal involvement, assets change, and competition) are significantly linked to business performance. Corresponding to H<sub>4</sub> – H<sub>6</sub>, credit scheme is then included as a covariate in Model 2, gender in Model 3, and money separation in Model 4. Finally, business performance is regressed on all variables in Model 5.

**Table 4. Ordered probit estimation results of 2014 samples.**

Variables	Model 1	Model 2	Model 3	Model 4	Model 5
<i>Control variables</i>					
Microcredit	-0.0248** (0.0117)	-0.0248** (0.0117)	-0.0244** (0.0117)	-0.0257** (0.0118)	-0.0254** (0.0118)
Education	0.0659 (0.0768)	0.0673 (0.0770)	0.0690 (0.0771)	0.0582 (0.0771)	0.0639 (0.0776)
Prior working experience	0.5140*** (0.1830)	0.5120*** (0.1830)	0.5240*** (0.1830)	0.5540*** (0.1830)	0.5590*** (0.1830)
Family business background	-0.1950 (0.1570)	-0.1960 (0.1570)	-0.1930 (0.1570)	-0.2010 (0.1570)	-0.2010 (0.1570)
Strong ties	-0.0399 (0.0563)	-0.0402 (0.0563)	-0.0451 (0.0564)	-0.0100 (0.0571)	-0.0151 (0.0573)
Weak ties	0.0032 (0.0438)	0.0037 (0.0438)	-0.0007 (0.0438)	0.0020 (0.0438)	-0.0013 (0.0439)
Spousal involvement	0.1320*** (0.0421)	0.1320*** (0.0421)	0.1330*** (0.0422)	0.1260*** (0.0424)	0.1270*** (0.0425)
Change in assets	0.0317*** (0.0049)	0.0319*** (0.0049)	0.0321*** (0.0049)	0.0298*** (0.0049)	0.0304*** (0.0051)
Competition	-0.4480*** (0.1580)	-0.4520*** (0.1590)	-0.4560*** (0.1580)	-0.4410*** (0.1600)	-0.4560*** (0.1610)
Number of employees	-0.0206 (0.0485)	-0.0210 (0.0485)	-0.0326 (0.0488)	-0.0328 (0.0489)	-0.0455 (0.0493)
New product	0.0428 (0.0394)	0.0435 (0.0395)	0.0375 (0.0395)	0.0279 (0.0401)	0.0230 (0.0404)
Age	0.0119	0.0120	0.0114	0.0119	0.0114

	(0.0100)	(0.0100)	(0.0100)	(0.0101)	(0.0101)
Length of membership	-0.0136	-0.0142	-0.0136	-0.0086	-0.0095
	(0.0117)	(0.0119)	(0.0117)	(0.0119)	(0.0122)
Arta Bina Umat	-0.1790	-0.0933	-0.3370	-0.0791	-0.0841
	(0.2260)	(0.3940)	(0.2460)	(0.2290)	(0.4120)
Madani	0.3370	0.4210	0.1430	0.4060	0.3710
	(0.2850)	(0.4280)	(0.3060)	(0.2910)	(0.4490)
Assakinah	-0.2560	-0.2670	-0.2520	-0.1990	-0.2120
	(0.2110)	(0.2140)	(0.2110)	(0.2130)	(0.2170)
BKM	-0.1980	-0.2100	-0.6830	-0.0147	-0.5200
	(0.2880)	(0.2920)	(0.4180)	(0.2940)	(0.4260)
Manufacture	0.0250	0.0268	0.0314	0.0222	0.0318
	(0.1710)	(0.1710)	(0.1710)	(0.1730)	(0.1730)
Trading	0.0201	0.0242	0.0315	-0.0208	-0.0018
	(0.1670)	(0.1670)	(0.1670)	(0.1690)	(0.1700)
<i>Main covariates</i>					
Lending scheme (LG=1)		0.0955			0.1710
		(0.360)			(0.3650)
Gender (female=1)			-0.4780		-0.4800
			(0.2980)		(0.3000)
Money separation				0.4970***	0.5020***
				(0.1550)	(0.1550)
Number of observation	453	453	453	453	453

Note : Dependent variable is profit change (1 if decrease, 2 if about the same , and 3 if increase) used as a proxy of business performance. Unstandardized coefficients and standard error (in parentheses) are presented.

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

The models are estimated using the 2014 data of the both credit schemes from the five microcredit providers.

Table 4 generally show that, in all models, microcredit has negative effect on profit, while the other variables have positive impact on the business performance partially confirming hypothesis 2 and hypothesis 3. These findings are to some extent comparable with those of Atmadja et al. (2016)—and conform to the strand of literature (e.g. Adams and Von Pischke (1992), Collins et al. (2009), De Mel et al. (2008), Imai et al. (2010), Johnston and Morduch (2008)—suggesting that the results are not sensitive to sample size, and the inclusion of the three new variables (i.e. credit scheme, gender and money separation),. However, these findings are not consistent with some other studies proposing a positive impact of microcredit on business performance—see for example Awunyo-Vitor, Abankwah, & Kwansah, 2012; Barnes et al., 2001; Chen & Snodgrass, 2001; Crépon et al., 2011; Dunn & Arbuckle Jr, 2001; Kondo et al., 2008; Mahmood & Mohd Rosli, 2013; Panda, 2009; Ssendi & Anderson, 2009.

Considering entrepreneurship in Indonesia, commonly, due to a lack of options in the labour market, participation by the poor in the local market is often motivated by necessity. Because of this, they are less likely to have proper training, skills and resources necessary for conducting business (Bradley et al., 2011). Microcredit might help overcome liquidity constraints and lead to business formation (Banerjee, Duflo, Glennerster, and Kinnan (2015)). However, this potentially increases the number of imitative businesses and the degree of competition in the local market (Hannan & Freeman, 1984; Schumpeter, 1912), which might, in turn, reduce business profits.

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4 In Model 2 and Model 5 of the tables, while the credit scheme (group vs. individual) shows a  
5 positive relationship with business performance, the association is statistically insignificant, suggesting  
6 that the type of scheme might not really matter for a microenterprise's business performance; hence  
7 rejecting hypothesis 4. This suggests that social capital created through a lending group membership may  
8 not necessarily make a significant difference to business performance. It is possibly because the agenda  
9 of group meetings have not been able to adequately capture business related matters. The group regular  
10 meetings have largely been dominated by loan repayment issues, neglecting thus more meaningful  
11 business related discussions. Our survey shows that majority (more than 70%) of the respondents with  
12 group-lending schemes ranked loan repayment as top priority when asked for the time typically spent in  
13 regular group meetings; hence, the opportunity for exchanging and gaining valuable information about  
14 business opportunities and ideas is rather limited<sup>7</sup>.

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19 Secondly, in some microfinance providers, the group lending size was too large (up to 50  
20 members per group). On the one hand, this can broaden business/social networks among the members. On  
21 the other hand, this could adversely affect the quality of peer credit screening and monitoring within  
22 groups. Particularly in the situation when numerous loan applications needed to be reviewed promptly,  
23 the group's considerations were more often based on credit ceiling and track records of the applicants  
24 with little attention paid to the purpose of the loan. This might stimulate risk taking behaviour of the  
25 applicants (G. Fischer, 2013; Giné et al., 2010), which possibly ends up with either business success or  
26 business failure. It might be true that group lending has a positive impact on business creation (Giné et al.,  
27 2010); however, it does not necessarily mean that the performance will always be better.

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31 This study also finds that there is no significant gender effect on microenterprises business  
32 performance, as shown in Model 3 and Model 5. Although the negative sign of the variable's coefficient  
33 might indicate that men-owned microenterprises are more likely to perform better than women-owned  
34 ones, the difference is not significant statistically. This rejects hypothesis 5.

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36 While credit schemes and gender do not significantly matter for performance, money separation  
37 apparently has an important role. The result of Model 4 and Model 5 in Table 4 show that the variable's  
38 coefficients are significant at 1% level with positive signs confirming hypothesis 6. Thus, holding other  
39 variables unchanged, microenterprises owned by micro-entrepreneurs who strictly separate their money  
40 for business from household use are more likely to experience better business performance compared to  
41 others. This finding provides an empirical support to the prior studies stating that borrowers' lack of self-  
42 discipline in using the loan could results in poor business performance and long-term dependence on  
43 external funding (Adams & Von Pischke, 1992; Imai et al., 2010; Johnston & Morduch, 2008; Parker,  
44 2009).

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48 With relatively higher interest rate imposed on the loan, the inability of micro-entrepreneurs to  
49 properly manage the loan might cause a financial burden to the enterprises, especially if they are not able  
50 to generate higher profits to compensate the relatively higher interest costs, leading to long-term  
51 dependence on external finance. Conversely, if the entrepreneurs are able to strictly separate the money,  
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55 <sup>7</sup> The data also show that less than 5% of the group-lending respondents listed their lending group as  
56 becoming their main source of business ideas.

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4 they might have sufficient reserves for financing working capital and/or purchasing business assets to  
5 expand their business to generate more profit. This basic business practice appears to have benefited the  
6 performance of Indonesian microenterprises.  
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## 9 **5. Policy implications**

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11 Considering the above findings, the first implication that can be drawn is that microcredit *per se*  
12 might not enhance microenterprise business performance. Results using both the 2010 (Atmadja et al.,  
13 2016) and the 2014 data (this study) consistently show that microcredit negatively affects  
14 microenterprises' business performance. Parker (2009) points out that entrepreneurs are often unable to  
15 distinguish between consumption and business financing decisions. This argument is also supported by  
16 our study that respondents who strictly separated money for business and household expenses performed  
17 better in business. Hence, the lack of self-discipline or inability of micro entrepreneurs to adequately  
18 manage finances might be a key factor, suggesting the important roles of business and financial  
19 management skills for microenterprise success. To enhance business performance, micro entrepreneurs  
20 should not only be provided with easy access to finance but also be equipped with sufficient abilities to  
21 appropriately manage their business. For example, evidence from Tanzania shows that enterprises whose  
22 owners received business training performed better than those that did not (Kuzilwa, 2005). Our study  
23 highlights that training, mentorship, advisory services (in marketing, business and management), as well  
24 as networking services, should ideally complement microcredit; alternatively, as has been suggested by  
25 Karlan and Zinman (2011), lenders should carefully monitor the use of the loans. In addition, the most  
26 current study of self-employed business owners in developing countries conducted by Campos et al.  
27 (2017) suggests that a psychology-based personal initiative training approach, which inculcates a  
28 proactive mindset and focuses on entrepreneurial behaviour, might also be considered complements of  
29 microcredit in boosting microenterprise business success.  
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33 Alternatively, as has been suggested by Fafchamps, McKenzie, Quinn, and Woodruff (2011), to  
34 overcome the micro-entrepreneurs' self-control problem or lack of self-discipline, especially in utilising  
35 microcredit, microcredit might be provided 'in-kind' (e.g. purchasing equipment, inventories or raw  
36 materials), instead of in cash. This would ensure that the loan is invested in business; hence, it might help  
37 avoid using the loan for other purposes. Evidence shows a stronger impact of in-kind loans than of cash  
38 loans on business profits because more in-kind loans than cash loans end up in business (Fafchamps et al.,  
39 2011). Thus, it appears more effective for MFIs to help micro-entrepreneurs provide their business needs  
40 (i.e. equipment, inventories or raw material) by paying the money to the suppliers rather than giving cash  
41 to the entrepreneurs. Nevertheless, different cultural backgrounds and gender compositions between the  
42 Ghanaian study and this study should also be considered carefully when implementing this suggestion in  
43 Indonesia.  
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47 Regarding microcredit lending schemes, group-lending scheme might not provide any additional  
48 benefits to microenterprise business performance. Participating in a lending group, ideally, might assist its  
49 members in growing their business if activities if the group meetings can focus on business-related  
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4 conversations. This is particularly to give members opportunity to acquire information that might not be  
5 directly available to a particular individual. The information might help them not only discover or create  
6 opportunities in the market (Shepherd et al., 2007), but also to improve enterprises performance (Bruderl  
7 & Preisendorfer, 1998). Besides reducing the group size, the ability of loan officers, the representatives of  
8 microcredit providers, and group leaders could play key roles in encouraging members to have more  
9 business-related conversations.  
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11 Non-financial factors (i.e. human capital and spousal involvement) appear to be important for  
12 business success as well. Thus, it might be useful for policy makers to consider these factors as well in  
13 developing appropriate policies.  
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## 16 17 **6. Conclusion** 18

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20 Essentially, this study attempts to mitigate the limitations of a recent study by Atmadja et al.  
21 (2016), which apparently was the first to test the effect of microcredit on the performance of  
22 microenterprises in the case of Indonesia and finds a negative relationship. The limitations of that study,  
23 based on a survey of women microenterprises undertaken in 2010 in Surabaya, Indonesia's second largest  
24 city, included relatively small sample, lacked heterogeneity, and focussed only on women. The present  
25 study is based on an extended and updated survey of microenterprises in Surabaya—with a larger, more  
26 heterogeneity sample, and includes men owned enterprises.  
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29 In addition to testing the main findings of the Atmadja et al. (2016) study, we investigate if  
30 different lending schemes (group vs. individual), gender and a micro-entrepreneurs' ability and/or  
31 willingness to separate their personal/consumption expenses from business—which we call “money  
32 separation”—might matter for business performance. Overall, we find that even with a much larger  
33 sample, including both men and women-owned microenterprises and greater heterogeneity, microfinance  
34 by itself may not necessarily improve business performance. Thus, our findings, by and large, confirm the  
35 findings of the Atmadja et al. (2016) study and conform to the strand of research which argues that  
36 microfinance may not really matter for microenterprise business performance. We also find that while  
37 microcredit schemes (individual versus group) and gender effects may not matter significantly, money  
38 separation does appear to have a positive and significant relationship with performance. Thus, on the  
39 policy front, this paper recommends that non-financial factors such as human capital, spousal  
40 involvement, and money separation be considered as important factors for improving microenterprise  
41 business performance in the case at least of Indonesia, with less focus on microfinance *per se*.  
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47 Future studies might involve an even larger, more balance and more heterogeneous sample size  
48 from across Indonesia. The inclusion of more male respondents and more variables affecting the  
49 microenterprises' business performance might be taken into consideration as well. It might also be  
50 necessary to provide a deeper explanation of the relationships noted in this study, for example, why loan  
51 size has a negative effect on profit but not on sales, why social ties/networks do not matter to  
52 performance, and whether applying alternative credit schemes (e.g. individual credit scheme) might  
53 differently affect business performance.  
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3 **Microfinance and microenterprise performance in Indonesia: an extended and updated**  
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7 Adwin Surja Atmadja<sup>1</sup>, Parmendra Sharma<sup>2\*</sup> and Jen-Je Su<sup>2</sup>  
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Bukti konfirmasi artikel accepted  
(27 Oktober 2017)

**Re: International Journal of Social Economics - Decision on Manuscript ID IJSE-02-2017-0031.R1**

Parmendra Sharma &lt;p.sharma@griffith.edu.au&gt;

Min 29/10/2017 11.30

Kepada: Adwin Surja A. &lt;aplin@petra.ac.id&gt;

Cc: Jen-Je Su &lt;j.su@griffith.edu.au&gt;; adwin.atmadja@griffithuni.edu.au &lt;adwin.atmadja@griffithuni.edu.au&gt;

Congrats, Adwin! You now have another pub. Let's now work on the SWB paper and try to submit to at least an A.

cheers,  
PS

On 29 October 2017 at 10:34, Adwin Surja A. &lt;aplin@petra.ac.id&gt; wrote:

Thanks, Parmendra & JJ.  
Congratulation.

On Sat, 28 Oct 2017 at 8:16 am, Jen-Je Su &lt;j.su@griffith.edu.au&gt; wrote:

Thanks, Parmendra. Congratulations, Adwin and Parmendra! JJ

On Sat, 28 Oct 2017 at 6:18 am, Parmendra Sharma &lt;p.sharma@griffith.edu.au&gt; wrote:

Dear Professor Connelly,  
Thank you very much for this great news--we will certainly do as requested. We look forward to seeing the paper in print soon.  
Kind regards,  
Parmendra

On Saturday, 28 October 2017, International Journal of Social Economics &lt;onbehalfof+J.Connelly+hull.ac.uk@manuscriptcentral.com&gt; wrote:

27-Oct-2017

Dear Dr. Sharma:

It is a pleasure to accept your manuscript entitled "Microfinance and microenterprise performance in Indonesia: an extended and updated survey" in its current form for publication in International Journal of Social Economics. The comments of the reviewer(s) who reviewed your manuscript are included at the foot of this letter.

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Thank you for your contribution. On behalf of the Editors of International Journal of Social Economics, we look forward to your continued contributions to the Journal.

Sincerely,  
Prof. James Connelly  
Editor, International Journal of Social Economics  
J.Connelly@hull.ac.uk

Reviewer(s)' Comments to Author:

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Sent from Gmail Mobile

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