Gender, microcredit, and poverty alleviation in a developing country: the case of women entrepreneurs in Pakistan

Javed G. Hussain

Birmingham City Business School
Birmingham City University
15 Bartholomew Row
Birmingham, UK, B5 5JU
t: + 44 121 331 5690
e: javed.hussain@bcu.ac.uk

Samia Mahmood

University of Wolverhampton Business School
University of Wolverhampton
Nursery Street
Wolverhampton, UK, WV1 1AD
t: + 44 1902 321786
e: samia.mahmood@wlv.ac.uk

Jonathan M. Scott

Newcastle Business School
Northumbria University
City Campus East
Newcastle-upon-Tyne, UK, NE2 1UY
t: 44 (0) 7500708539
e: jonathan.scott@northumbria.ac.uk

ABSTRACT

The paper explores the impact of financial exclusion on financial and human poverty amongst women in Pakistan. The findings suggest that persistent financial exclusion, gender discrimination, and conservative religious values adversely impact women's empowerment. There is an inverse correlation between the size of microcredit and women's financial poverty, which is not the case for human poverty. Larger families experienced higher rates of poverty reduction than smaller families. The study offers evidence, and supports theories on the impact of microcredit upon poverty alleviation. These findings inform policy makers, women entrepreneurs, and microfinance institutions.

Key words: microfinance, gender, entrepreneurs, poverty reduction, Pakistan, human poverty, financial poverty

JEL: L26 (Entrepreneurship), G21 (micro finance institutions), J16 (economics of gender), I32 (measurement and analysis of poverty)[1]

1 "An earlier version of this paper was published in Research Handbook on Entrepreneurial Finance, Hussain and Scott, 2016. Material reproduced here with kind permission from Edward Elgar, Cheltenham."

1. Introduction

To address the prevalence of extreme poverty amongst disfranchized people in developing countries, microfinance institutions (MFIs) provide financial services to clients in general who either have no income or low incomes to support potential equitable and sustainable socio-economic development (Rahman, 1999; Monteza *et al.*, 2015; Stevens and Morris, 2001). Given the inherent dynamics amongst MFIs to alleviate poverty (Ledgerwood, 1999), they tend to operate uniform business practices (Beisland *et al.*, 2015) to support sustainable new business ventures, especially amongst women. Microfinance has gained traction amongst the public (Beisland *et al.*, 2015), since financial exclusion for those at the margin of society accentuates poverty in all economies. Indeed, financial exclusion is exacerbated in developing economies, which have less established credit markets, especially for women aspiring to establish new business ventures. For example, prior studies in Mexico (Bruhan and Love, 2014) and in rural India (Burgess and Pande, 2005) reported that an increased access to financial services causes a direct rise in the income of poor people and, therefore, promotes business start-up, for which access to finance and a conducive business environment is a pre-requisite, especially for women. Women's micro-entrepreneurship in developing countries is visible on the crowded streets as they seek to earn money to support their families (Nag and Das, 2015). The profile of women entrepreneurs is diverse across different developing economies depending on their geographical, rural-versus-urban, and population demographic, but women's empowerment remains pivotal to their success (Baughn *et al.*, 2006; Lock and Smith, 2016). Microfinance programmes have been hailed as a policy lever to promote entrepreneurial activities and to alleviate women's poverty and financial exclusion (Young and Grinsfelder, 2011). Entrepreneurship is a broad concept with a number of interchangeable Western-centric definitions (Matlay, 2005), such as self-employment and new venture creation. Being mainly a Western concept, its application in developing countries such as Pakistan (despite being used by policy-makers and development agencies) is contested. The entrepreneurial role of women is constrained by the economic, cultural and educational environment that limits their awareness about entrepreneurship and access to credit. For this study, an entrepreneur is defined as someone who discovers and exploits opportunities, and takes risks to start a new business (i.e. new venture creation). Many women entrepreneurs face the challenge of accessing finance. MFIs, specifically in developing countries, assist them by providing credit and services such as entrepreneurial training and marketing support. Further, many extant empirical studies on the phenomenon of microfinance focus largely on poverty, health, and employment outcomes (Nawaz, 2010; Hamid *et al.*, 2011), but few offer empirical evidence on the impact of this important phenomenon on women in developing countries.

Women account for approximately half of the population of most countries and they contribute to the output of the economy and to social cohesion. In addition to other interventions, women can be empowered by improving their access to finance (Cheston and Kuhn, 2002). Financial exclusion to limits their economic engagement and, therefore, restricts countries' economic development (Manji, 2010). Finance constraints hinder new venture creation by women (Lock and Smith, 2016). Interventions to improve access to finance could assist the alleviation of deeply embedded poverty (Hanmer and Klugman, 2016)). Whilst financial exclusion is a challenge for developed economies (irrespective of gender), it is more acute in developing countries where the financial environment and institutions are underdeveloped (see also Kimmitt *et al.*, 2016; Kimmit and Munoz, 2017), and with challenging economies. The problems are further exacerbated due to illiteracy, inadequate health facilities, underdeveloped financial sectors and poor infrastructure that gives rise to acute poverty. To meet the needs of financially excluded women, MFIs aim to support women to establish new business ventures (Wennekers and Thurik, 1999; Dadhich, 2001).

Conventional small business finance theory offers some explanations as to why women are financially excluded. Recognizing that women have a low propensity to save, are less educated, experience information asymmetry, and often have no collateral (Armendariz de Aghion and Morduch, 2005; Morrison *et al.*, 2007), lenders financially exclude women on the basis of these *gendered* attributes. Given their lack of access to formal and informal sources, they cannot even follow Berger and Udell's (1998) Pecking Order Hypothesis (POH) and informal sources often do not have the capacity to meet – often dispossessed and marginalized – women's financial needs (Bhatt and Tang, 2001; Garai, 2017). As a consequences, government agencies and non-governmental organizations (NGOs) intervene through the provision of subsidized loans to reduce poverty, increase social cohesion and wellbeing. However, these interventions, though well intended, as suggested by prior authors (e.g. Goheer, 1999; Khan Shaorong, 2016), instead benefit rich landlords or the agencies themselves disproportionately. Therefore, alternative credit scoring, networks and social collateral are essential to reach the most vulnerable women (Pedrini *et al.*, 2016); using credit alone as a development intervention is neither justified nor helpful.

Garikipati (2017) concludes that the economic impact of lending to the poor is modest and is not easily generalized – hence we must be cautious in using microcredit alone as a development tool, although they do provide financial services for poor women entrepreneurs (Strom *et al.*, 2014) and are seen as exemplary policy levers to support the poor (Bhatt and Tang, 2001). Despite being badges as 'gender-neutral', MFIs' core clients are relatively immobile, poor women who tend to have lower default rates than men (Lucy *et al.*, 2008); MFIs' interventions have

significant but underreported economic impacts (Ardener, 2017; Van Rooyen *et al.*, 2012) as women work within households, are often unremunerated, and accumulate limited start-up capital (if any). MFIs have become Increasingly risk averse and 'financialized', i.e. they have become more like mainstream financial institutions (Brière and Szafarz, 2015). Nonetheless, MFIs do in some cases support women to establish new business ventures and, therefore, alleviate their poverty, but not universally. Consequently, microfinance provision remains something of an enigma in enabling women to access microbusinesses finance.

The article is structured as follows. Firstly, it reviews the extant microfinance related literature and, secondly, synthesizes a theoretical framework therefrom: particularly focusing on South Asian women in north Pakistan. Thirdly, a set of research questions are formulated by examining the literature on microfinance and women's entrepreneurship-led empowerment. The fourth section explains the methodology, defines its variables and specifies the data used, tests the model's robustness, and reports the empirical findings. The fifth, sixth, and final sections describe then discuss the results and conclude with the implications for MFIs and women borrowers.

2. Microfinance: An Overview of Practice and Theory

2.1 Practice: Microfinance in Pakistan

Governmental support for the microfinance sector arose from the establishment of both the Pakistan Poverty Alleviation Fund (PPAF) and the Microfinance Bank (MFB) / Khushhali Bank in 2000. The first private sector microfinance bank, First Microfinance Bank Limited, was formed in 2002 under the Microfinance Institutions Ordinance (2001). The State Bank of Pakistan established a separate microfinance division in 2007 to oversee the sector's activities; thereby upgrading the status of MFIs from social services to financial enterprises (Hussein and Khan, 2009). Various Specialized Microfinance Institutions (SMFIs), Microfinance Banks (MFBs), Rural Support Programmes (RSPs), and NGOs in Pakistan also provide microfinance. SMFIs are NGO-based microfinance organizations registered under the Societies Act, Trust Act, and the Companies Ordinance. MFBs are licensed commercial banks under the prudential regulation of the State Bank of Pakistan (SBP) that serve the microfinance industry. MFBs are authorized to accept deposits and can offer savings products. RSPs, registered as NGOs under the Securities and Exchange Commission of Pakistan (SECP), mainly focus on rural credit.

Women's underachievement in the Gender Development Index (GDI) in Pakistan is 0.742 and being at the 147th place – out of 188 countries– in the Human Development Index (HDI) (Human Development Report, 2016) both explain the lower ratios of women entrepreneurs in Pakistan. In recent years only 5% of all entrepreneurs (GEM,

2012). According to Niethammer *et al*. (2007), women entrepreneurs have limited access to institutional credit because they lack knowledge of how to access formal finance and having do not own or control land or property that could be used as collateral. Anecdotal evidence suggests that this issue is for women in Pakistan. Roomi (2005) identified various obstacles experienced by women entrepreneurs in Pakistan at the start-up and development phases of their business. He reported that women have mobility barriers, not only as a result of poor infrastructure but also due to the social and cultural norms that discourage them from independently moving freely (ibid). This limited mobility often restricts their choice of business that they establish (ibid). Most women engage in businesses that do not require mobility, consequently they establish businesses that cater for women: for example, beauty salons (ibid). Women struggle to exercise authority and gain acceptance from either male employees or establish credibility with customers and suppliers due to their gender in male-dominated working environments/cultures (ibid). These attitudes are hence reflected in women's difficulties in accessing finance, an additional barrier which increases the constraints they face. MFIs attempt to consider wider social challenges and dynamics when lending to women entrepreneurs to mitigate such detriments,.

2.2 Theory: Microfinance and Women Entrepreneurs

Poverty reduction has been widely researched (Narayan-Parker, 2002), with social capital having been suggested as one possible aspect that can alleviate poverty (see, for example, Woolcock and Narayan, 2000; Narayan, 2002). Academics, policymakers, and practitioners generally agree that poverty and access to finance are interlinked. MFIs have been credited with alleviating poverty for poor people in emerging economies (Bennett and Cuevas, 1996; Mahajan and Ramola, 1996; Ghate et al., 1996; Matin et al., 2002; Rutherford, 1998). Given that over 1.3 billion women worldwide are excluded from the formal financial system (Demirgüç-Kunt *et al.*, 2013), small loans from MFIs could potentially serve as a catalyst for greater access to formal finance leading to women's empowerment (ibid). Whilst access to finance can positively enhances recipients' welfare (Gennaioli *et al.*, 2013), women who experience inadequate access to finance do not realize their full potential, allowing poverty to fester which cause inefficiencies and welfare losses for their resident countries (Moro Visconti, 2012). Recently, theorists and practitioners have recognized that women's empowerment and their self-esteem are both heavily dependent on their resource bundles and their ability to make economic and social decisions (Van Rooyen *et al.*, 2012). Microfinance has emerged in the last 45 years, particularly after its success in several districts of Bangladesh in 1972 (Sengupta and Aubuchon, 2008), as an important policy lever to enable women to participant self-employment and thus to alleviate poverty, and thereby mitigating its ill effects and strengthening the sustainable development of the financial system (Scholtens, 2008; Busch *et al.*, 2016; Kanak and Iiguni, 2007)

and, indeed, wider sustainable socio-economic development (Gladwin *et al.*, 1995; Starik and Kanashiro, 2013, including in developed economies: see Schreiner and Woller, 2003).

And yet, the extant empirical evidence is on the impact of microfinance on women's poverty and empowerment is mixed. There is some evidence that microfinance has positive social impacts and, further, that it can empower women (Kabeer, 2003, 2005; see also Schreiner, 2002). Gender inequality in accessing finance has been reported in a study of nine Sub-Saharan Africa countries (Ateriod *et al.*, 2011), as also is the case in South East Asia. Women are disproportionately affected by *gendered* economic inequality resulting from their environment, socio-economic structure, and institutions – *viz*, access to bundles of resources, and material, cultural and religious norms whilst inequalities in opportunities corrode the social fabric, negatively impacting upon trust, community cohesion and engagement. Women in Pakistan are disadvantaged because bank loans require men as guarantors, with married women being required to have the permission of their husbands to borrow and unmarried women being generally considered un-creditworthy (Safavian, 2012). While even in developed economies women are viewed by lenders as having deficits in human capital, e.g. education and business experience (Carter *et al.*, 2003; Menzies *et al.*, 2004), having less collateral (Buvinic and Berger, 1990) and poorer credit histories – in conjunction with inflexible lending technologies that support lending decisions, – microfinance is considered a counterweight to these institutional, environmental, and structural bastardizing progenitors of women's financial exclusion (Chowdhury, 2009).

Microfinance has been critiqued, for example, by Kent and Dacin (2013) who explained how MFIs, which were originally founded to alleviate poverty, have recruited professionals who have brought a 'commercial banking logic', leading to a 'paradox' of 'commercial principles' versus 'poverty alleviation' (ibid: 759) as banking logics supplant poverty reduction/development logics. Perhaps MFI now needs to be 'resocialized' too (Maurer, 2008). Other prominent critics of microfinance cite Banerjee *et al.* (2013) who reported that microfinance has no positive effect upon health, education, and women's empowerment in Hyderabad, India. Whilst microfinance is generally assumed to offer various economic and social benefits, these assumptions are contested by some such as Morduch (1999), who argues that the benefits are more modest than is often claimed. Khavul (2010), however, revealed how information asymmetry and lack of creditworthiness amongst poorer people have led to MFIs replacing commercial financial institutions. Thus, despite MFIs' limitations, they are meeting a latent demand and there is little evidence of any superior financial innovations being introduced for poor, especially rural, communities. Further, sustainability (Bennett and Cuevas, 1996; Mahajan and Ramola, 1996; Von Pischke, 1996) and default

are problematic for MFIs while, on the other hand, group lending (see also Bennett et al., 1996) enable repayment to be achieved (Khavul, 2010).

Furthermore, the pessimistic view of Mosley and Hulme (1998), though clearly challenging perceived wisdom, found that poor households do not benefit from microfinance and that only those above the poverty line experienced enhanced wellbeing and reduction in poverty (see also Hulme, 2000; Mosley, 2001). Indeed, positive results in empirical studies may be associated with sample section bias such that microfinance services need to be complemented with financial literacy, training, and skills development (see Chowdhury, 2009; Copestake and Williams, 2011). MFIs could potentially become the largest banking market globally, measured by the number of consumers served (Mersland *et al.*, 2013; Ledgerwood, 1999) and currently MFIs enable savings and provide insurance services for the poorest and most marginalized people (Haq, 2008). They could, therefore, positively impact on the politico-socio-economic development developing countries (Gurses, 2009; Busch *et al.*, 2016). Therefore, there is a case for the adaption of microfinance instruments to provide a progressive economic environment to improve access to financial resources for micro entrepreneurs, especially low income and marginalized women. Alternatives to traditional individual-level loan-based microfinance, such as micro-equity (Pretes, 2002; Ayayi, 2012) and group lending are not without their disadvantage either and, indeed, 'peer pressure' can be exhibited within group lending situations (Montgomery, 1996).

The unique feature of microfinance is that, in addition to providing financial services such as savings, insurance and money transfer (Sengupta and Aubuchon, 2008), it provides entrepreneurs with social bonds, borrower participation in management and unsubsidized interest rates (Jain and Moore, 2003). Proponents of microfinance (such as Alimukhamedova and Hanouseke, 2015; Marconi and Mosley, 2009; Islam, 2009) argue that it fills a finance gap for the financially excluded who lack collateral and cannot thereby engage in income-generating activities such as establishing new business ventures. The loans offered by MFIs are distinct from those of risk-averse formal financial institutions and exhibit innovative lending techniques, such as group lending, accepting informal collateral, and small instalments with frequent repayments. Group and community lending both evidence lower default rates, with community reference being a substitute for credit history by mitigating moral hazard and adverse selection (Armendariz de Aghion and Morduch, 2005; Rallen and Ghazanfar, 2006). The overarching advantage of microfinance is crystallized by the Woller and Woodworth's (2001, p.1) definition of microcredit as 'programs that extend small loans to poor people for self-employment projects that generate income'. In other words, its (a) beneficiaries are disproportionately poor, (b) loans are modest; (c) main initial outcome is enabling

self-employment for these beneficiaries, and (d) ultimate outcome is income generation – by implication, alleviation of poverty – for the poor (through self-employment). However, whilst income (as a measure of financial poverty reduction) is an explicit outcome of MFI loans, human poverty reduction, on the other hand, is more implicit and not necessarily a 'taken-for-granted' outcome of MFI loans. Additionally, Shetty (2008) recommends that MFIs, as well as offering loans, should additionally provide business support and advice, which would enable better performing microenterprises, lower default rates, and thus enhanced MFI sustainability.

An historical overview suggests that microfinance is not innovative since the instrument has existed for centuries to support low-income men and women (Helms, 2006). Groups such as the Rotating Saving and Credit Association (ROSCA) and the Credit Cooperative or Credit Union existed but these organizations lacked the capacity to meet the needs of the poor due to their limited financial capital, flexibility in loan sizes, and time-consuming administration (Rallen and Ghazanfar, 2006). Microfinance is inherently associated with poverty. Poverty is a complex interconnected phenomenon that cannot be measured only in monetary terms (Mawa, 2008) alone. However, there is consensus (Greeley, 1994) that income and number of households are good proxy measure (as it is the income of households that meets their material needs) to capture poverty, often referred as the Foster, Greer and Thorbecke set (ibid). However, poverty in any shape or form is corrosive and multifaceted such that it incorporates non-monetary resources such as health, education, self-respect, security and independence (Cagatay, 1998). Weiss et al. (2003) suggest that one should appreciate the causes, consequences of and reasons for poverty to enable it to be reduced. Poverty is non-static and, therefore, any definition needs to take into account its dynamics such as the duration of poverty, the ownership of assets, its transitory or permanent nature, and whether it is due to external shock or is health-related. The chronically poor can be destitute due to their physical or social disadvantage, living below the poverty line. Within liquidity-constrained societies, microfinance can meet the needs of diverse groups of poor people in a bespoke fashion.

Whereas gender disparities are more deeply rooted, they stem from cultural, religious and legal inequalities that, in turn, affect income distribution, access to credit, property rights, the labour market and politico-economic institutions (Cagatay, 1998; Lucy et al., 2008) reported that Bangladeshi women and children bear the brunt of the poverty burden in comparison to men. Therefore, there is a need to formulate macroeconomic policies to reduce poverty and gender inequalities. Jones et al. (2006) found that a woman's status in the household increases due to her engagement in economic activity; it also leads to a broader empowerment at individual, household, community and societal levels. Therefore, access to credit, women's empowerment, economic and social security

are intertwined with one another. It is less burdensome to provide access to finance to support women to establish new business ventures than to make welfare provision for their families. Empirical findings suggest that microfinance impacts positively upon poverty reduction (Morris and Barnes, 2005; Khandker et al., 1998; Chemin, 2008; Chowdhury et al., 2005; Khandker, 2005; Pitt and Khandker, 1998; Pitt, 1999), thus suggesting an overwhelming case to formulate strategies and development programmes (such as microfinance) to promote self-reliance (Mawa, 2008). However, other empirical evidence (e.g. Pitt and Khandker, 1998; Ghalib et al., 2012) are inconclusive, mixed, and often contradictory (Hermes and Lensink, 2007) with some (Coleman, 1999, 2006) suggesting negligible impacts of MFIs upon poverty reduction. Consequently, microfinance is no panacea to reduce socio-economic inequalities, motivating our study to bridge this clear gap clear in the extant literature.

3. Research model and hypothesis

Poverty measures vary across developed and developing countries. In many developing countries, poverty is measured in terms income and consumption but it fails to capture multi-dimensional aspect of causes and poverty. In order to eradicate poverty in all its forms requires measurement of this multidimensional phenomenon including its quantitative and qualitative aspects – only the former being addressed in this paper. Within Pakistan, poverty measures take into account income / consumption and also include access to health, education, living standards and other amenities of life (PCP, 2016), aligned with the new global Multidimensional Poverty Index (MPI), suggesting that poverty measurements need to focus on various aspects of poverty. Therefore, this study mainly focuses on two different aspects of poverty. One is financial poverty defined as lack of income, expenditure and savings and other aspect is human poverty that covers the core dimensions of MPI and includes children's education, women's health and family health. The concept of human poverty is helpful in clarifying the relationship between gender inequality and poverty, as it focuses on gender differences in the lack of education and health services and social constraints (Cagatay, 1998). Though the relationship between human and financial poverty is linked through a 'lack of resources' point of view, it is not empirically evident how these two correlate. Our study will not focus on it but results can be inferred to understand this correlation.

Microfinance or the provision of a small credit facility to marginalized and financially excluded people is a key poverty reduction strategy used in Pakistan and in other 60 countries globally (Bateman, 2010). The provision of small loans to the poor is considered an effective tool to increase their income generating activity, thus reducing poverty through enhancing self-employment (Khan 2014). Consequently, microfinance improves the economic condition of the poor people through better standards of living with greater access to not only credit but also

education and health facilities (Banerjee and Jackson, 2017)**.** Datar et al. (2008) and Zhuang et al. (2009) argue that a package consisting of micro-credit and microfinance that includes training, health care, education, and value chain support empowers MFIs' clients and reduces poverty. This study's focus on microcredit (loan size) incorporates some indicators of microfinance (training and education) in the model and variable section.

With regard to microloan size, our hypothesis is that financial poverty is inversely correlated with microloan size since the initial loan is often used to meet immediate needs at the expense of their business needs. Conversely, we test whether a large loan size is more effective in mitigating the effects of poverty on women. To summarize, human poverty is complex and multidimensional, hence our hypotheses investigate the dynamic relationship between women's microloans and financial poverty. The first hypothesis examines the dynamics of the relationship between the microloan size and its impact on financial poverty of women. The second hypothesis explores how loan size variation impacts on women poverty. Therefore:

Hypothesis$_1$: Microloan size is inversely correlated with the financial poverty of women borrowers.

Hypothesis$_2$: Human poverty decreases with increased microloan size of women borrowers.

3. Data and methodology

3.1 Data Collection and Sample

Our study is based on data collected from three selected MFIs, located in the urban districts of Lahore, Gujranwala and the rural districts of Vehari and Kasur in the Punjab province. The Punjab province has a population of 110 million (Census of Pakistan, 2017) and it is the largest province in terms of geographical size, and it ranks second to Karachi in terms of economic activity. It has the highest percentage (70%)[2] of active borrowers of microfinance in Pakistan. Lahore and Gujranwala districts of the Punjab have the highest percentage of active borrowers in the region (Khalid, 2010). The total number of clients served by microfinance providers were 575,747 in the province of the Punjab, and 94,010[3] in the selected districts. We employed purposive sampling to select women borrowers who attended bi-monthly meetings during the fieldwork period[4] from three MFIs in four districts of the Punjab province. The process used to collect data is aligned with the statistical and the exploratory purpose of the research. The sample size was chosen to facilitate an acceptable rigorous statistical analysis (Saunders *et al.*,

[2] Calculated by figures of active borrowers in Punjab province and total active borrowers from Khalid (2010).
[3] The data of active borrower is collected from http://www.microwatchonline.info/Explore.aspx on 30 June 2016.
[4] Data were collected between 02/2011 and 04/2011.

2003). The questionnaire sample is based on the criteria that the household income of women clients was no more than Rs.[5] 180,000[6] (£1,205.02)[7] per annum before they took microloans; indicating the existence of poverty.

For data collection, we initially attempted to utilize semi-structured questionnaires (Newman et al., 2014). However, at the pilot stage it became clear that this method would not be suitable due to the low levels of literacy, lack of confidence, and the willingness of the respondents to complete the self-administered questionnaires manually. Therefore, the questionnaires were administrated and completed by one of two Pakistani women: one of the co-authors and an assistant who she trained in survey techniques. They, therefore, had access to the rural areas of the Punjab. In addition, the researchers were fluent in Urdu, and understood other regional languages (such as Punjabi), the culture, and the household structure that enabled them to gain participants' confidence and co-operation whilst completing the questionnaires (which would not have been possible if men had attempted to gather the data that involved visiting women's homes). In total, 196 women were approached with the questionnaire. However, 80 questionnaires were not useable (62 responses of which were from rural districts and 18 from urban districts) because of incomplete responses or not answering sufficient numbers of questions, leaving 116 complete questionnaires useable. The low rates of questionnaire completions, although typical even of such face-to-face data collection methods, from the rural areas was attributable to lack of literacy, and trust, and confidence of the prospective respondents. Of the total completed questionnaires, 92 were from urban districts and 24 from rural areas: 44% from Lahore, 32% from Kasur, 13% from Vehari and remaining 11% from Gujranwala.

The questionnaire comprised questions on poverty, including relevant financial indicators (increase in income, expenditure on necessity goods and savings) and non-financial indicators of human poverty (improvement in women's health, children's education, and family health) which are dichotomous – and thus perceptual – variables; these base variables are the foundations for both hypotheses. Using the variables, we conducted binary logistic regression to infer a relationship between poverty reduction – represented by the financial poverty (FP) and human poverty (HP) – indicators of the resulting microfinance impact.

3.2 Measures: Model and Variables

Logistic regression is the prediction of the probability of Y occurring, given the known values of X (cf. Field,

[5] Rs.-Rupee is the currency of Pakistan.
[6] It is almost $5 per day for a family with an average household size of four.
[7] Mid-market rate on 31-01-2016: http://www.xe.com/currencyconverter/convert/?Amount=180%2C000&From=PKR&To=GBP

2009). The logistic model *P(Y)* is the probability of Y occurring, the base of natural logarithms, β regression coefficient of variable *X* is:

$$P(Y) = 1/1 + e^{-(\alpha_0 + \beta_1 mfsize_{1i} + \beta_2 mbyear_{2i} + \beta_3 age_{3i} + \beta_4 educa_{4i} + \beta_5 children_{5i} + \beta_6 HH_{6i} + \beta_7 FS_{7i} + \beta_8 AppBankL_{8i} + \beta_9 ETraining_{9i} + \beta_{10} WEnterprise_{10i} + \beta_{11} BusinessFr_{11i} + \beta_{12} WBuEx_{12i} + \beta_{13} Bprofit_{13i})}$$

The terms α and β in this model represent unknown parameters, to be estimated based on data, obtained on the X and on Y (outcome) for women borrowers from 116 questionnaires (Kleinbaum and Klein, 2010). The Y dependent (outcome) variable "financial poverty reduction/human poverty reduction" is expressed as binary variables where poverty reduction is assigned the value 1 and no reduction of poverty the value 0 (Kleinbaum and Klein, 2010). Therefore, the unobserved variable Y in binary logistic regression is:

$$Y = \begin{cases} 1 & \text{if} Y > 0 \\ 0 & \text{if} Y \leq 0 \end{cases}$$

The X (independent) predictor variable is the variable of interest, which is the size of the microloan, a categorical variable with Low 'Rs. 5000-15,000 (£33-£100)[8]' coded as 1, Medium 'Rs. 15,000-25,000 (£100 -£167)' as 2, and High 'more than Rs. 25,000 (> £167) as 3. It is considered that an increase in the amount of microcredit motivates women borrowers to invest more money (i) for the expansion and profitability of their business; and (ii) on the health and education of their family, especially children. Indeed, previous studies (Khandker *et al.*, 1998; Pitt and Khandker, 1998) found that giving credit to women had a positive impact on the household expenditure of women, assets deepening, and children's education.

Another assumption is that the other control variables used in the model affect the relationship, as presented in Table 1. *Age* – age of women borrower includes two categories 18-39, young women and 40 and more, older women. Khandker *et al.* (2008) reported that the marginal returns based on household expenditures are significantly higher for younger than older women participating in the microfinance programme. This study (ibid) also found a higher demand for credit by young women than older women; *Education* – the formal education of women from school, college, university or professional and vocational qualification. Education has a positive impact on entrepreneurship and on the reduction of human poverty (Matlay, 2008).

Other variables included in the model related to microfinance services and membership years are: *Training* – is

[8] 1 GBP (£) = 149.376 PKR (Rs.) on 31-01-2016, available at: http://www.xe.com/currencyconverter/convert/?Amount=180%2C000&From=PKR&To=GBP

the entrepreneurial training provided by MFIs to women borrowers such as financial literacy, market research to find the gap in the market for a product & service and how to access the market to sell the product. Brixiova (2010) suggests that financial literacy and training helps women entrepreneurs to maximize their potential income. *Membership duration* – is the number of years a woman is the client of a MFI. This variable is used by various studies such as Goetz and Gupta (1996), and shows that women's control over loan use increases with the increase in their years of MFI membership and it positively impacts on their children's education and family health.

Furthermore, five control variables of women's businesses are included in the model: *Business Experience* – number of years a woman is running a business or working as self-employed. It includes three categories 'less than 1 year to 2 years', '3 to 5 years' and 'more than 5 years'. *Type of Business* captures the nature of the business for which they borrowed money from MFIs; it includes two categories-the 'existing business' or 'newly established business'. Women borrowing from MFIs tend to start new businesses; in the case of Nepal 61% of the women MFIs' clients started new business by taking out a loan (Gobbi *et al.*, 2005). *Business types* – it includes three types of businesses - 'Manufacturing', 'Services', and 'Retail'. The type of business analysis is useful to identify sector concentration, viability and impact in reducing poverty. *Business Profit* – increases in the business' profit gives women greater purchasing power and assists in reducing financial poverty. *Bank loan* - Small businesses in general and women face challenges in accessing formal finance from commercial banks (Constantinidis *et al.*, 2006; Deakins and Hussain, 1993), which particularly disadvantage women borrowers and limit their income-generating potential, thus perpetuating household poverty.

Other variables that impact the benefits of microfinance on women and their families include: *Household Head* – the household decision-maker who could be defined under three categories: 'Women borrowers', 'Husband' and 'Both husband and wife – jointly making household decisions'. Lucy *et al.* (2008) reported that, where 61% of women in Bangladesh receiving microfinance loans claimed to be the head of household, the impact on poverty reduction and women's empowerment was significant. Microfinance loan recipients were more likely to spend income earned on their children's education and family health. However, a similar impact is not evident where women are not the head of household. In contrast in the case of Pakistan, only 37% of women in the sample could be classified as the head of household and made financial decisions by themselves, the impact on women's empowerment in this case was limited (Gobbi *et al.*, 2005). *Family* – according to Goheer (2003) there are more chances of women running their business independently if they live in the nuclear family (husband, wife and children) than a Joint Family System (nuclear family living with extended families). Women living

within a nuclear family system got greater exposure to social and cultural influences and higher chances, consequently have higher chance of moving out of poverty once engaged with the business. Women with fewer children have greater chances of exiting poverty, hence one such variable is the number of children. The *Number of Children* – we use three categories for this '0 children', 1-4 children' and 5 and more'.

4. Descriptive analysis

Table 1: Independent Variables Statistics

Variables	Percentage	Variables	Percentage
Age of Women (in years)		*Entrepreneurship training provided by MFI*	
18-39	67%	Yes	53%
40+	33%	No	47%
Education of Women		*Applied for bank loan*	
No education	53%		
School education/college/University/		Yes	7%
Professional education	47%	No	93%
Size of Family		*Increase in business profit after microfinance*	
No children	12%		
1-4 children	53%	yes	84%
5 and more children	35%	no	16%
Family system		*Membership years in MFIs*	
		0-1 year	22%
Nuclear	59%	1-3 years	36%
Joint	41%	3-5 years	42%
Household Head		*Sector*	
Woman	27%	Manufacturing	27%
Husband	45%	Services	35%
Both	28%	Retail and Livestock	38%
Business experience of Women		*Microloan size (amount in Rupees)*	
Less than 1 year- 2 years	23%	5000 – 15000-low	47%
3-5 years	26%	15001-25000-medium	35%
6-10 and more years	51%	25001-35000 and more-high	18%
Enterprise developed by Women			
existing enterprise	86%		
newly established enterprise	14%		

The descriptive statistics for the variables for the sample (Table 1) indicate that 67% of women who established a new business venture were 18 – 39 years old. Over 53% reported no formal education or entrepreneurship education. 59% lived within a nuclear family system and 41% in a joint family, but mainly husbands were declared as the head of household (45%). Of the women in the sample, 77% had more than 3 years business experience and yet 93% never applied for a business loan, implying financial exclusion from the formal market. However, 84% reported benefiting from MFIs' loans and 43% had a loan of 5000-15000 rupees and 35% had between 15001 – 25000, representing 82% of the sample. For the analysis, one dependent variable of financial poverty (FP) and

human poverty (HP) each were used to run logistic regression – both of which had three discrete FPs, including, 'increase in household income', 'increase in expenditure on necessity goods' and 'increase in savings' whereas HP had, 'increase in women's health', 'increase in family health' and 'increase in children's education'. The Principal Component Analysis (PCA) was not used to composite the variables as it would have caused the loss of information from the indicators' categories. For the composition, the mean or average was selected as it retains the information on the categories of the indicators of 'No' coded as 0 and 'Yes' coded as 1.

Ravalion (1996) suggested that the aggregate of multiple indicators into a single variable needs to be justified. Therefore, the Spearmen's rho correlation was measured to find the strength of the indicators before compositing. The indicators for each variable of FP and HP were tested for correlation and all of the indicators for each variable have been correlated at the 1% significance level. The Cronbach's Alpha test was used to test the reliability, yielding the value of 0.637 for FP and 0.655 for HP, indicating that both were correlated, reliable and can be composited to represent financial and human poverty reduction variables.

5. Results

The primary aim of the present study is to conduct an in-depth analysis to test the impact of microfinance on financial and human poverty reduction. The findings of Hypothesis 1 and 2, using binary logistic regression, confirms that the size of microloans is inversely correlated with financial poverty amongst women borrowers. In addition to 'microloan size', tests were carried out using other variables (reported in Table 1 - age, education, number of children, family system, head of household, business experience and new or existing business developed by women entrepreneurs, business forms, training, bank loans, business profit, and MFI membership years. Tests carried out using the model that with all predictors is statistically significant, $\chi 2$ (13, N=116) = 54.279, $p < .01$, indicating that the model distinguishes between the women entrepreneurs who have or have not experienced financial poverty reduction after obtaining microfinance. The model explained between 40.4% (Cox & Snell R square) and 59.3% (Nagelkerke R square) of the variance in the reduction of financial poverty, and correctly classified these in 84.8% of the cases. Moreover, Table 2 shows that only three of the variables – 'microloan size', 'increase in business profit after microfinance', and 'household head' – made a statistically significant contribution to the model's explanatory power at 5%, at 1% and 5% respectively (Hussain et al., 2015).

The loan size predictor, whilst controlling for other factors, indicated that women obtaining a medium-sized loan were over 7 times (odd ratio of 7.769) more likely to report a reduction in their household financial poverty than those who obtained a smaller loan; whereas, women obtaining a larger loan were over 36 times more likely to

report a reduction in their financial poverty than those who obtained small and medium-sized loans. This result shows that the logistic regression model supports H_1, as the variable of interest 'loan size' is statistically significant with p value <0.1; leading to policy implications for MFIs and donors; and suggesting a need to focus on large loan sizes, rather than spreading the loan portfolio too thinly by providing many small loans (Hussain et al., 2015).

Furthermore, two additional variables, 'household head' and 'increase in business profit', were also observed to be significant. The former demonstrated that women were more likely to report a reduction in poverty if both spouses were joint heads of the family, as compared to only one spouse. However, if the head of the family was the woman's husband, then this relationship was not significant. The odd ratio of .002 for the increase in business profit is less than 1, indicating that women with increased business profit after obtaining a microloan were .002 times less likely to report reduced financial poverty compared to women with decreased business profit, controlling for all the factors in the model (Pallant, 2007, pp.177-178).

Table 2: Logistic regression estimation of financial and human poverty reduction

	Financial poverty (FP) reduction after microfinance			***Human poverty (HP) reduction after microfinance***		
	Coef. B	***Sig. P***	***Odds ratio Exp B***	***Coef. B***	***Sig. P***	***Odds ratio Exp B***
Constant	0.936	.375	2.550	-1.702	.032	.182
Microfinance loan size						
Low	-			-		
Medium	2.050*	.028	7.769	-.254	.708	.776
High	3.610*	.012	36.950	-.891	.299	.410
Membership of microfinance in						
0-1 year						
1-3 years	-			-		
3-5 years	-1.459	.185	.232	-.100	.896	.905
	-1.549	.231	.213	-1.699	.076	5.470
Age						
18-39 years	-			-		
More than 40	-.943	.318	.389	-.385	.586	1.470
Education						
No education	-			-		
School/College/Uni. Education	.062	.945	1.064	.082	.902	1.086
Children						
No children,	-			-		
1-4 children,	1.804	.203	6.074	2.745**	.010	15.570
5 and more	1.473	.329	4.362	2.601*	.031	13.475
Household Head						
Woman	-			-		
Husband	.898	.260	2.456	.581	.393	1.788
Both	2.559*	.029	12.917	.992	.219	2.697
Family system						
Nuclear	-			-		
Joint	1.423	.120	4.150	1.022	.111	2.779

Applied for bank loan						
Yes	-			-		
No	-1.427	.303	.240	.573	.553	1.774
Entrepreneurship training provided by microfinance institution						
Yes	-			-		
No	.712	.386	2.038	.615	.301	1.850
Enterprise developed by Women						
existing enterprise	-			-		
newly established enterprise	.318	.828	1.375	-.391	.662	.676
Business form						
Manufacturing	-			-		
Services	-.460	.659	.631	.312	.677	1.365
Retail and Livestock	-1.700	.092	.183	-.070	.925	.925
Business experience of Women						
Less than 1 year- 2 years	-			-		
3-5 years	-1.020	.408	.361	.004	.997	1.004
6-10 and more years	-1.403	.226	.246	-.456	.545	.634
Increase in profit after microfinance						
Yes	-			-		
No	-5.625**	.002	.004	-3.612**	.000	.027

*FP Notes: - indicates the reference category; number of obs. = 116; R^2 = .565 (Hosmer&Lemeshow), .404 (Cox & Snell), .593 (Nagelkerke); Model χ^2= 54.279, p < .01; * p<.05, **p<.01*

*HP Notes: - indicates the reference category; number of obs. = 116, R^2 = .526 (Hosmer&Lemeshow), .338 (Cox & Snell), .459 (Nagelkerke); Model χ^2= 43.248, p < .01; * p<.05, **p<.01*

The next step is to ascertain whether the microloan size impacts on human poverty. The results of the binary logistic regression analysis of the impact of microloan size on the likelihood of a reduction of human poverty within the model contained thirteen variables, reported in Table 2. The full model containing all predictors is statistically significant $\chi 2$ (13, N=116) = 43.248, p < .01, indicating that the model distinguishes between the women with or without a reduction in their human poverty. The model explained between 33.8% (Cox & Snell R square) and 45.9% (Nagelkerke R square) of the variance in human poverty reduction, and correctly classified 75.2% of cases. Table 2, human poverty reduction, shows that only two independent variables – the number of children and an increase in business profit after obtaining a microloan – made a statistically significant contribution to the model. The number of children predictor indicates that women having 1- 4 children were 15 times (odd ratio of 15.570, p <. 01) and women having 5 or more children were 13 times (odd ratio 13.475, p < .05) more likely to report a reduction of their human poverty than if they were childless, whilst controlling for all other factors in the model. Contrary to our expectations, the probability of a reduction of human poverty was less when there was an increase in business profit after obtaining a microloan compared to cases where there was no profit increase; the inferences would suggest that borrowers with no profits may instead pilfer their loan(s) for household consumption. In the regression, the odd ratio of .032 for the increase in business profit is less than 1, indicating that women with increased business profit after obtaining microfinance are .032 times less likely to

report a reduction in their human poverty in comparison to women with decreased business profit, whilst controlling for all the factors in the model. Here too, the variable of interest 'loan size' was not significant, leaving H_2 un-supported. To test the robustness of the results, the models used in binary logistic regression were run with linear regression to check the robustness of the findings. The findings of the linear regression model supported the results of financial and human poverty, in that they remain robust under the linear regression model (Hussain et al., 2015).

The variable 'increase in business profit after microfinance loan' is significant at $p<0.01$ for both of our binary logistic models. However, this variable demonstrates a negative relationship with human and financial poverty. This phenomenon could be explained by the reinvestment of income earned from microbusinesses to generate more profit in the future. In the short-to-medium term, reinvestment does not reduce women's human poverty but it may provide sufficient financial deepening to enable them to exit poverty in the long run as the family gains skills, better education, and improved health. The cross-sectional nature of the data and the small sample size (although large enough for statistical analysis: Saunders *et al.*, 2003) could not capture the long-term benefits of microfinance achieved by women borrowers, which might alternatively be feasible in the case of larger-scale, longitudinal datasets. To overcome this limitation, Ravalion (1996) suggested the use of repeated cross-sectional surveys to capture the transitory and the dynamic properties of poverty, and which would be consistent with the findings (in six African MFIs) and recommendations of Mosley and Rock (2004). They suggested that microfinance loans not only benefit a family but have wider spill over benefits for the whole community indirectly due to the enhancement of the labour market, human, and social capital in the long run (ibid). However, the success of the loan depends upon the proper utilization of microfinance services for development purposes, which also minimizes pilferage (ibid).

6. Discussion

The study aimed to explain the impact of microfinance loans on women's financial and human poverty and confirms that such loans positively impact women entrepreneurs' ability to overcome financial poverty. However, microloans do not contribute significantly towards human poverty reduction and, as such, these results should be interpreted with some caution as the significance level reported is at $p<.05$. Indeed, closer scrutiny of the empirical analysis reveals that reduced financial poverty was positively correlated with medium-sized or large loans, but not with small loans. As noted earlier, women taking higher loan amounts were more likely to escape from the vicious cycle of poverty with their increased income, expenditures and savings – thus supporting prior evidence

of the positive outcome of microfinance on income and expenditure (Chemin, 2008). The 'household head' variable gives further insight that, when both spouses are joint heads of the household, financial poverty was further reduced. This finding, therefore, suggests that women who have an equal position in their household experience reduced financial poverty, since (in addition to loans) unequal households explain sustained poverty. The findings show that loan size and the head of household status need to be incorporated within MFIs' decision-making processes to maximize the impact of microloans on women's poverty alleviation. Tests could be designed to filter the households with greater inequalities to enhance the success of MFIs' lending practices.

The findings of the regression results do not support the second hypothesis that loan size reduces human poverty, nor did they support that microloans positively impact upon the health and education of women's children. This finding could be attributed to women borrowers not being the main decision-makers within the household relating to the health and education of their children and wider family (Banerjee *et al.*, 2015). Further, it contradicts earlier studies that reported a positive impact of microfinance loan upon family well-being (e.g. Copestake *et al.*, 2001; Ghalib *et al.*, 2015; Mamun *et al.*, 2011; Montgomery, 2006). Our empirical analysis suggests that the extent to which microfinance reduces household human poverty is dependent upon the efficiency of the loan used to support income-generating projects. Banerjee *et al.* (2015) found that expenditure on durable goods by the recipients of MFI loan leads to pilferage. It is possible that financial poverty reduction is more visible in the short run in comparison to human poverty reduction which may require longer term propagation. Human poverty indicators take time to respond to interventions (Ravalion, 1996). Explaining the dynamics of change is beyond the scope of this paper, nor can we differentiate the impact of microfinance upon the chronic and transient poor.

The present study identifies a gap in terms of financial literacy, entrepreneurial knowledge and skills (or *capabilities*: see also Kimmitt and Munoz, 2017; Kimmitt *et al.*, 2016) to mitigate the negative impact of human and financial poverty. Households with larger numbers of children have greater chances of increasing the welfare of women and their family (1-4 children $p<.01$ and more than 5 children $p<.05$) through the use of loans from MFIs. To some extent, this result is counterintuitive to the subjective assumptions of development economists. It is argued that having a larger family is highly correlated with financial and human poverty and high birth rates are by-products of poverty. However, this study suggests that microloans are considered by women with larger families to be of significant use to mitigate the impact of financial and human poverty. Therefore, the implications for policy-makers and practitioners is to upscale the size of loans for women with more children.

Overall, microloans help women borrowers to escape financial poverty when they can access microloans and use

their untried entrepreneurial skills, though human poverty reduction is negligible in the shorter term. Recognizing the gap, authors ought to examine whether a study of this kind would be of value in the context of other developing countries, such as in South Asia, specifically in Pakistan, and also in Sub-Saharan Africa and Latin America.

7. Concluding Comments

Our overarching aim was to examine the impact of microfinance, specifically microloans, and the related extent to which poverty is reduced for entrepreneurial women in a developing country, namely the rural and urban districts of the Punjab Province, Pakistan. The paper uses theoretical foundations from earlier studies (Mahmood *et al.,* 2014; Ghalib *et al.*, 2012**;** Pitt and Khandker, 1998; Pitt, 1999) on microfinance to conduct empirical analysis that revealed that microloans impacted on women's poverty reduction when they engaged in entrepreneurial activity. To test earlier findings, we examined both 'hard' quantitative financial poverty indicators and softer, perceptual indicators of human poverty or the welfare of women and their families. The latent variables of poverty are used to measure, on the one hand, financial poverty (income, savings and expenditure) and, on the other hand, human poverty (by proxy variables such as children's education attainment, women's health and family health).

This empirical study showed that large microloans were positively related to the reduction of women's financial poverty. Moreover, spouses both acting jointly as household heads experienced a positive relationship in terms of the reduction of their financial poverty, whereas the loan size was not a significant variable in the case of human poverty. The more interesting results were that families with many children experienced higher human poverty reduction compared to those with fewer children, indicating there may be variables other than loan size that impact poverty. For example, an increase in business profit has a negative association with financial and human poverty and hence we may infer that women entrepreneurs required retained profits in their business venture to achieve growth. Thus, human poverty reduction is a longer-term process that may be achieved with the reinvestment of business profits and ultimately the growth of the venture which, in turn, may help to alleviate household poverty. An important implication of this article is that women aspiring to exit poverty through entrepreneurial activities could potentially benefit from microcredit and larger recurring loans, thereby serving as the 'signalling' effect that enables them to become bankable and, therefore, access finance from banks.

Our study has some limitations. The data for the study is not for longer periods for the recipients of loans, nor does it consider the impact on women's families. However, this study corroborates the findings of earlier studies (Mawa, 2008; Ghalib *et al.*, 2012) that microloans have reduced poverty amongst women and empowered them

to gain greater autonomy within their households, thus having positive impacts on their health and the educational achievements of their children (Zapaiska *et al.*, 2007).

Another limitation of this study is that the sample size did not include women entrepreneurs at different stages of their business life cycle that would have helped us to understand the relationship between microfinance and human poverty reduction and also to explain the link between business growth and the socioeconomic wellbeing of their household.

Finally, the conundrum of this study, the negative association between increase in business profit and the reduction of human poverty, needs further in-depth longitudinal or panel-based data examination in order to identify and explain the causes and consequences of such a relationship. In terms of the sustainability of MFIs, it was beyond the scope of this paper to address this aspect and thus we have not done so. The MFIs have been relatively successful, however, in helping to reduce women entrepreneurs' poverty at this point of time; future research could examine whether any changes in these relationships or the role of MFIs.

For practitioners and policy makers, our results suggest that different microloan sizes help to reduce financial poverty amongst women borrowers' households. Implications for women entrepreneurs, and those MFIs and other financial institutions who support them, include the important role of microloans in helping women to overcome financial poverty. MFIs and mainstream lenders should examine ways by which they can offer larger loans to women entrepreneurs, for example, by seeking innovative ways to overcome the barriers that they experience (such as lack of collateral, i.e. ownership of assets that could be used to secure larger loans). Group lending has been previously identified as a method by which loans can be offered to women and where default rates are negligible. Other financial innovations that do not incur moral hazards could also be adopted by lenders. Similarly, implications for policy makers might include the recognition that – while financial poverty (an 'economic' outcome of MFIs' microloans) is clearly reduced by microloans, especially larger microloans – the impact on human poverty is much less evident. Policy makers, therefore, should seek alternative means by which they can address issues of human poverty (a 'social' outcome) that are experienced by women and their families can be alleviated. Whilst direct financial poverty reduction through microloans may offer an indirect means by which human poverty can also be reduced, microloans should not be perceived – or advocated – by policy makers as some kind of 'silver bullet' to slay the beast that is human poverty. Targeted social policies are also needed in these communities in areas such as the Punjab, to which NGOs, development agencies, and governments can contribute in parallel with the lending activities of MFIs.

References

Ardener S. 2017. Microcredit, money transfers, women, and the Cameroon diaspora. *Afrika Focus*, **23** (2): Available at: http://ojs.ugent.be/AF/article/view/5002 (Accessed 10 October 2017).

Armendariz de Aghion B, Morduch J. 2005. *The Economics of Microfinance.* MIT Press, Cambridge Massachusetts and London, England.

Aterido R, Beck T, Lacovone L. 2011. Gender and finance in Sub-Saharan Africa: are women disadvantaged?. World Bank Policy Research Working Paper No. 5571. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1774418 (Accessed 10 October 2017).

Ayayi AG. 2012. Micro-credit and Micro-equity: The David and the Goliath of Micro-enterprise Financing. Economic Papers. *A journal of applied economics and policy* **31** (2): 244-254.

Banerjee A, Duflo E, Glennerster R, Kinnan C. 2015. The miracle of microfinance? Evidence from a randomized evaluation. *American Economic Journal: Applied Economics* **7** (1): 22-53.

Banerjee S.B, and Jackson L. 2017. Microfinance and the business of poverty reduction: Critical perspectives from rural Bangladesh. *human relations,* **70**(1): 63-91. Baughn C, Chua B-L, Neupert K. 2006. The normative context for women's participation in entrepreneurship: a multicountry study. *Entrepreneurship Theory and Practice* **30** (5): 687-708.

Bateman M. 2010. Why Doesn't Microfinance Work? The Destructive Rise of Local Neoliberalism. London: Zed Books

Beisland L. A, Mersland R, Strøm R. 2015. Audit quality and corporate governance: Evidence from the microfinance industry. *International Journal of Auditing* **19** (3): 218-237.

Bennett L, Cuevas CE. 1996. Sustainable banking with the poor. *Journal of International Development* **8** (2): 145-152.

Bennett L, Goldberg M, Hunte P. 1996. Ownership and sustainability: Lessons on group-based financial services from South Asia. *Journal of International Development* **8** (2): 271-288.

Berger A, Udell G. 1998. The economics of small business finance: The roles of private equity and debt markets in the financial growth cycle. *Journal of Banking & Finance* **22** (6–8): 613-673.

Bhatt N, Tang SY. 2001. Designing group-based microfinance programs: some theoretical and policy considerations. *International Journal of Public Administration* **24** (10): 1103-1125.

Brière M, Szafarz A. 2015. Does commercial microfinance belong to the financial sector? Lessons from the stock market. *World Development* **67** (C): 110-125.

Brixiova Z. 2010. Unlocking productive entrepreneurship Africa's least developed countries. African Development Review **22** (3): 440-451.

Burgess R, Pande R. 2005. Do rural banks matter? Evidence from the Indian social banking experiment. *The American Economic Review* **95** (3): 780-795.

Busch T, Bauer R, Orlitzky M. 2016. Sustainable development and financial markets: Old paths and new avenues. *Business & Society* **55** (3): 303-329.

Cagatay N. 1998. *Gender and Poverty*. Working paper No. 5. Social Development and Poverty Elimination Division, UN Development Programme, New York NY.

Chemin M. 2008. The benefits and costs of microfinance: evidence from Bangladesh. *Journal of Development Studies* **44** (4): 463–484.

Chowdhury A. 2009. *Microfinance as a Poverty Reduction Tool – A Critical Assessment*. DESA Working Paper No. 89. United Nations Department of Economic and Social Affairs, Geneva. Available at: http://www.un.org/esa/desa/papers/2009/wp82_2009.pdf (Accessed 10 October 2017).

Chowdhury MJA, Ghosh D, Wright RE. 2005. The impact of micro-credit on poverty: evidence from Bangladesh. *Progress in Development Studies* **5** (4): 298–309.

Coleman BE. 1999. The impact of group lending in Northeast Thailand. *Journal of Development Economic*s **60** (1): 105–141.

Coleman BE. 2006. Microfinance in Northeast Thailand: who benefits and how much? *World Development* **34** (9): 1612–1638.

Constantinidis C, Cornet A, Asandei S. 2006. Financing of women owned ventures: The impact of gender and other owner- and firm- related variables. *Venture Capital* **8** (2): 133-157.

Copestake J, Bhalotra S, Johnson S. 2001. Assessing the impact of microcredit: A Zambian case study. *Journal of Development Studies* **37** (4): 81-100.

Dadhich CL. 2001. Micro finance - A panacea for poverty alleviation: A case study of oriental Grameen project in India. *Indian Journal of Agricultural Economics* **56** (3): 419-426.

Datar, S. M., M. J. Epstein and K. Yuthas (2008) 'In microfinance, clients must come first', Stanford Social Innovation Review 6(1):38-45.Deakins D, Hussain G. 1994. Financial information, the banker and the small business: a comment. *The British Accounting Review* **26** (4): 323-335.

Donou-Adonsou F, Sylwester K. 2016. Growth effect of banks and microfinance: Evidence from developing countries. *The Quarterly Review of Economics and Finance* **64** (5): 44-56.

Field A. 2009. *Discovering statistics using SPSS: (and sex, drugs and rock 'n' roll)*, 3rd ed. SAGE, London.

Francisco JS. 2007. Gender inequality, poverty and human development in South East Asia. *Development* **50** (2): 103-114.

Garikipati S. 2017. The impact of microfinance on poverty alleviation: Making sense of the evidence. In *Development Finance*, Giorgioni G (ed.); Palgrave Macmillan: London; 189-206.

Global Entrepreneurship Monitor (GEM), 2012. Global Report [Online] Available at: https://www.gemconsortium.org/report [Accessed 04 June 2018].

Ghalib A, Malki I, Imai KS. 2015. Microfinance and household poverty reduction: empirical evidence from rural Pakistan. *Oxford Development Studies* **43** (1): 84-104.

Ghate P, Ballon E, Manalo V. 1996. Poverty alleviation and enterprise development: The need for a differentiated approach. *Journal of International Development* **8** (2): 163-178.

Gladwin TN, Kennelly JJ, Krause TS. 1995. Shifting paradigms for sustainable development: Implications for management theory and research. *Academy of Management Review* **20** (4): 874-907.

Gobbi MSD, Dhakal NH, Hijazi ST. 2005. *Nepal and Pakistan: Micro-finance and microenterprise development: their contribution to the economic empowerment of women*. SEED working paper no. 69. International Labour Office, Geneva.

Goetz AM, Gupta RS. 1996. Who takes the credit? Gender, power, and control over loan use in rural credit programs in Bangladesh. *World Development* **24** (1): 45-63.

Goheer N. 1999. Micro Finance: A prescription for poverty and plight of women in rural Pakistan. *Periscope,* 2(1). Available at: http://www.gdrc.org/icm/country/pak-microfinance.pdf (Accessed 29 April 2015).

Goheer N. 2003. *Women entrepreneurs in Pakistan: how to improve their bargaining power.* Geneva: International Labour Organisation.

Greeley M. 1994. Measurement of poverty and poverty of measurement. *IDS bulletin* **25**(2), pp.50-58.

Greeley M. 2003. Poverty reduction and microfinance assessing performance. *IDS Bulletin* **34** (4): 10-20.

Gurses D. 2009. Microfinance and poverty reduction in Turkey. *Perspectives on Global Development and*

Technology **8** (1): 90-110.

Hanmer, Klugman. 2016. Exploring women's agency and empowerment in developing countries: Where do we stand?. *Feminist Economics* **22** (1): 237-263.

Haq A. 2008. *Microfinance Industry Assessment: A Report on Pakistan*. Pakistan Microfinance Network and SEE Network, Islamabad. Available at: www.pmn.org.pk/assets/articles/MF%20Industry%20Assessment.pdf (Accessed 29 April 2015).

Helms B. 2006. *Access for All: Building Inclusive Financial Systems*. The World Bank, Washington DC. Available at: http://www.cgap.org/sites/default/files/CGAP-Access-for-All-Jan-2006.pdf (Accessed 29 April 2015).

Hermes N, Lensink R. 2007. Impact of microfinance: a critical survey. *Economic and Political Weekly*, 10 Feb, 462-465. Available at: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.182.2949&rep=rep1&type=pdf (Accessed 29 April 2015).

Hulme D. 2000. Is micro debt good for poor people? A note on the dark side of microfinance. *Small Enterprise Development* **11** (1): 26-28.

Human Development Report. 2016. *Gender Development Index.* Available at http://hdr.undp.org/en/composite/GDI (Accessed on 04 June 2018)

Hussain J. G., Mahmood M. and Scott J. 2015. Entrepreneurial Finance, Poverty Reduction and Gender: The Case of Women Entrepreneurs' Microloans in Pakistan, in J. G. Hussain and J. M. Scott (ed.) Research Handbook on Entrepreneurial Finance, Cheltenham: Edward Elgar, pp.248-264.

Hussein, H. and Khan, F., 2009. State of microfinance in Pakistan. [Online]. Institute of Microfinance(InM). Available at: http://www.microfinancegateway.org/library/state-microfinance-pakistan [Accessed 4 June 2018]

Islam N. 2009. Can microfinance reduce economic insecurity and poverty? By how much and how? DESA Working Paper No. 82. United Nations Department of Economic and Social Affairs, Geneva. Available at: http://www.un.org/esa/desa/papers/2009/wp82_2009.pdf (Accessed 29 April 2015).

Jain P, Moore M. 2003. What makes microcredit programmes effective? Fashionable fallacies and workable realities. *IDS Working Paper* 177. Institute of Development Studies, Brighton, UK.

Johnson SL, Wibbles E, Wilkinson R. 2015. Economic inequality is related to cross-national prevalence of psychotic symptoms. *Social psychiatry and psychiatric epidemiology* 50 (12): 1799-1807

Jones L, Snelgrove A, Muckosy P. 2006. The double-X factor: harnessing female human capital for economic growth. *International Journal of Emerging Markets* **1** (4): 291-304.

Kabeer N. 2003. Part III: wider social impacts: 10. Assessing the "wider" social impacts of microfinance services: concepts, methods, findings. *IDS Bulletin* **34** (4): 106-114.

Kabeer N. 2005. Is microfinance a 'magic bullet' for women's empowerment? Analysis of findings from South Asia. *Economic and Political Weekly* **40** (44/45): 4709-4718.

Kanak S, Iiguni Y. 2007. Microfinance programs and social capital formation: the present scenario in a rural village of Bangladesh. *The International Journal of Applied Economics and Finance* **1** (2): 97-104.

Kent D, Dacin MT. 2013. Bankers at the gate: Microfinance and the high cost of borrowed logics. *Journal of Business Venturing* **28** (6): 759-773.

Khalid Z. 2010. *MicroWatch* **18** (4). Pakistan Microfinance Network, Islamabad.

Khan, M. 2014. Microfinance- poverty reduction agent in Pakistan. Available at: http://www.microfinancegateway.org/library/microfinance-%E2%80%93-poverty-reducing-agent-pakistan (Accessed 04 June 2018).

Khan W, Shaorong S. 2016. Microfinance mission of poverty alleviation: Empirical evidence from South Asia. *Sarhad Journal of Management Sciences* **2** (1): 1-8.

Khandker SR. 2005. Microfinance and poverty: Evidence using panel data from Bangladesh. *The World Bank Economic Review* **19** (2): 263-286.

Khandker SR, Samad HA, Khan ZH. 1998. Income employment effects of microcredit evidence from Bangladesh. *The Journal of Development Studies* **35** (2): 96-124.

Khandker S, Koolwal G, Sinha N. 2008. Benefits of Improving Young Women's Labor Market Opportunities: Evidence from Group-based Credit Programs in Rural Bangladesh. *The Adolescent Girls Initiative. World Bank*, *8*.

Khavul S. 2010. Microfinance: creating opportunities for the poor? *The Academy of Management Perspectives* **24** (3): 58-72.

Kimmitt J, Munoz PA. 2017. Entrepreneurship and financial inclusion through the lens of instrumental freedoms. *International Small Business Journal*, forthcoming.

Kimmitt J, Scarlata M, Dimov D. 2016. An empirical investigation of the interplay between microcredit, institutional context, and entrepreneurial capabilities. *Venture Capital* **18** (3): 257-276.

Kleinbam DG, Klein M. 2010. *Logistic Regression: A self-learning text*, 3rd ed. Springer, New York.

Ledgerwood J. 1999. *Sustainable Banking with the Poor Microfinance Handbook*.

Lock R, Smith HL. 2016. Impact of female entrepreneurship on economic growth in Kenya. *International Journal of Gender and Entrepreneurship* **8** (1): 90-96.

Lucy DM, Ghosh J, Kujawa E. 2008. Empowering women's leadership: a case study of Bangladeshi microcredit business. *S.A.M. Advanced Management Journal* **73** (4): 31-50.

Mahmood S, Hussain J, Matlay H. 2014. Optimal microloan size and poverty reduction amongst female entrepreneurs in Pakistan. *Journal of Small Business and Enterprise Development* **21** (2): 231-249.

Mahajan V., Ramola BG. 1996. Financial services for the rural poor and women in India: Access and sustainability. *Journal of International Development* **8** (2): 211-224.

Mamun A, Malarvizhi CA, Hossain S, Abdul Wahab S. 2011. Examining the effect of participation in microcredit programs on assets owned by hardcore poor households in Malaysia. *African Journal of Business Management* **5** (22): 9286-9296

Manji A. 2010. Eliminating poverty? 'Financial inclusion', access to land, and gender equality in international development. *The Modern Law Review* **73** (6): 985-1004.

Matlay, H., 2005. Researching entrepreneurship and education: Part 1: what is entrepreneurship and does it matter? Education & Training; 47, 8/9; pp. 665-677Matlay H. 2008. The impact of entrepreneurship education on entrepreneurial outcomes. Journal of Small Business and Enterprise Development **15** (2): 382-396.

Matin I, Hulme D, Rutherford S. 2002. Finance for the poor: from microcredit to micro financial services. *Journal of International Development* **14** (2): 273-294.

Maurer B. 2008. Resocializing finance? Or dressing it in mufti? Calculating alternatives for cultural economies. *Journal of Cultural Economy* **1** (1): 65-78.

Mawa B. 2008. Impact of microfinance: towards achieving poverty alleviation? *Pakistan Journal of Social Sciences* **5** (9): 876-882.

Monteza PP, Blanco JLY, Valdivieso MR. 2015. The educational microcredit as an instrument to enable the training of women. *Journal of Social and Behavioral Sciences* **27** (1): 2478-2483.

Montgomery H. 2006. Serving the poorest of the poor: The poverty impact of the Khushhali Bank's microfinance lending in Pakistan. In *Poverty Strategies in Asia: A growth plus approach*, Weiss J, Khan HA (eds.); Edward Elgar: Cheltenham; 222-244.

Montgomery R. 1996. Disciplining or protecting the poor? Avoiding the social costs of peer pressure in micro credit schemes. *Journal of International Development* **8** (2): 289-305.

Moro Visconti R. 2012. *Global Recession and Microfinance in Developing Countries: Threats and Opportunities*. Available at: https:http://ssrn.com/abstract=131858. (Accessed 29th April 2015)

Morris G, Barnes C. 2005. An assessment of the impact of microfinance: a case study from Uganda. *Journal of Microfinance* **7** (1): 39-54.

Morduch J. 1999. The microfinance promise. *Journal of Economic Literature* **37** (4): 1569-2004.

Morrison A, Raju D, Sinha N. 2007. Gender equality, poverty and economic growth. Gender and development group, poverty reduction and economic management network, WPS4339. The World Bank, Washington DC. Available at: http://www.worldbank.org. (Accessed 6 June 2009).

Mosley P, Hulme D. 1998. Microenterprise finance: Is there a conflict between growth and poverty alleviation? *World Development* **26** (5), 783-790.

Mosley P, Rock J. 2004. Microfinance, labour markets and poverty in Africa: A study of six institutions. *Journal of International Development* **16** (3): 467-500.

Mosley P. 2001. Microfinance and poverty in Bolivia. *Journal of Development Studies* **37** (4): 101-132.

Nag D, Das N. 2015. Development of various training methods for enhancing the effectiveness and skill development among micro-entrepreneurs in India. *Journal of Entrepreneurship Education* **18** (1): 1-18.

Narayan D. 2002. Bonds and bridges: social capital and poverty. *Social capital and economic development: well-being in developing countries. Northampton, MA: Edward Elgar*, 58-81.

Narayan-Parker D. (Ed.). 2002. *Empowerment and poverty reduction: A sourcebook*. World Bank Publications.

Newman, A., S. Schwarz and D. Borgia. 2014. 'How does microfinance enhance entrepreneurial outcomes in emerging economies? The mediating mechanisms of psychological and social capital', International Small Business Journal 32(2):158–179.

Niethammer, C., Saeed, T., Mohamed, S. S. and Charafi, Y., 2007.Women entrepreneurs and access to finance in Pakistan. Women Policy Journal, 4, pp. 1-12OECD. 2008. *Handbook on Constructing Composite Indicators: Methodology and User Guide*. OECD, Paris. Pallant J. 2007. *SPSS Survival Manual: a step by step guide to data analysis using SPSS version 15*. Open University Press, Maidenhead.

PCP, 2016. Multidimensional Poverty in Pakistan, Ministry of Planning, Development and Reform, UNDP and OPHI, Islamabad

Pedrini M, Bramanti V, Minciullo M, Ferri LM. 2016. Rethinking microfinance for developed countries. *Journal of International Development* **28** (2): 281-302.

Pitt M. 1999. Reply to Jonathan Morduch's 'Does microfinance really help the poor? New evidence from flagship programs in Bangladesh', Providence, RI: Department of Economics, Brown University. Available at: http://www.brown.edu/research/projects/pitt/sites/brown.edu.research.projects.pitt/files/uploads/reply_0.pdf. (Accessed 29 April 2015).

Pitt MM, Khandker SR. 1998. The impact of group-based credit programs on poor households in Bangladesh: does the gender of participants matter? *Journal of Political Economy* **106** (5): 958-996.

Pretes M. 2002 Microequity and Microfinance. *World Development* **30** (8): 1341-1353.

Rahman A. 1999. Micro-credit initiatives for equitable and sustainable development : Who pays. *World*

Développement **27** (1) : 67-82.

Rallen T, Ghazanfar SM. 2006. Microfinance recent experience, future possibilities. *The Journal of Social, Political and Economic Studies* **31** (2): 197-212.

Ravalion M. 1996. Issues in measuring and modelling poverty, policy research working paper no. 1615.World Bank, New York NY. Available at http://elibrary.worldbank.org/doi/pdf/10.1596/1813-9450-1615 (Accessed 29 April 2015).

Roomi, M. A., 2005. Women entrepreneurs in Pakistan: profile, challenges and practical recommendations. In: ICSB (International Council of Small Business), ICSB World Conference, 2005. Washington DC, 15-18 June, 2005. Available at: ww.sbaer.uca.edu/research/icsb/2005/164.pdf [Accessed October 15, 2009].

Rutherford S. 1998. The savings of the poor: Improving financial services in Bangladesh. *Journal of International Development***10** (1): 1-15.

Saunders M, Lewis P, Thornhill A. 2003. *Research Methods for Business Students*, 3rd ed. Pearson Education, London.

Scholtens B. 2008. A note on the interaction between corporate social responsibility and financial performance. *Ecological Economics* **68** (1): 46-55.

Schreiner M. 2002. Aspects of outreach: A framework for discussion of the social benefits of microfinance. *Journal of International Development* **14** (5): 591-603.

Schreiner M, Woller G. 2003. Microenterprise development programs in the United States and in the developing world. *World Development* **31** (9): 1567–1580.

Sengupta R, Aubuchon C. 2008. The Microfinance revolution: an overview. *Federal Reserve Bank of St. Louis Review* **Jan**: 9-30.

Shetty NK. 2008. Microfinance for micro enterprise development: An inquiry for a new paradigm. *ICFAI Journal of Financial Economics* **6** (1): 88-98.

Starik M, Kanashiro P. 2013. Toward a theory of sustainability management: Uncovering and integrating the nearly obvious. *Organization & Environment* **26** (1): 7-30.

Stevens K, Morris J. 2001. Struggling toward sustainability: considering grassroots development. *Sustainable Development,* **9** (3): pp 149 – 164.

Strom RO, D'Espallier B, Mersland R. 2004. Female leadership, performance, and governance in microfinance institutions. *Journal of Banking & Finance* **42** (1): 65–75.

Van Rooyen C, Stewart R, De Wet T. 2012. The impact of microfinance in sub-Saharan Africa: a systematic review of the evidence. *World Development* **40** (11): 2249-2262.

Von Pischke JD. 1996. Measuring the trade-off between outreach and sustainability of microenterprise lenders. *Journal of International Development* **8**(2): 225-239.

Weiss J, Montgomery H, Kurmanalieva E. 2003. Microfinance and poverty reduction in Asia. In *Poverty Targeting in Asia*, Weiss J (ed.); Edward Elgar: Cheltenham; 247-268.

Wennekers S, Thurik R. 1999. Linking entrepreneurship and economic growth. *Small Business Economics* **13** (1): 27–55.

Woller GM, Woodworth W. 2001. Microcredit as a grass-roots policy for international development. *Policy Studies Journal* **29** (2): 267-282.

Woolcock M, Narayan D. 2000. Social capital: Implications for development theory, research, and policy. *The World Bank Research Observer* **15** (2): 225-249.

Wydick B. 2002. Microfinance among the Maya: Tracking the progress of borrowers. *Development & Change* **33** (3): 489-509.

World Bank. 2007. *Microfinance in South Asia - towards the financial inclusion for the poor*. World Bank, New York.

Young DR, Grinsfelder MC. 2011. Social entrepreneurship and the financing of third sector organizations. *Journal of Public Affairs Education* **17** (4): 543-567.

Zapalska AM, Brozik D, Rudd D. 2007. The success of micro-financing. *Problems and Prospects in Management* **5** (4): 84-90.

Zhuang, J., H. Gunatilake, , Y. Niimi, M. E. Khan, et al. (2009) 'Financial Sector Development, Economic Growth, and Poverty Reduction: A Literature Review'. ADP Economics Working Paper no. 173. Phillippines: Asian Development Bank

Table 1: Independent Variables Statistics

Variables	Percentage	Variables	Percentage
Age of Women (in years)		*Entrepreneurship training provided by MFI*	
18-39	67%	Yes	53%
40+	33%	No	47%
Education of Women		*Applied for bank loan*	
No education	53%		
School education/college/University/ Professional education	47%	Yes	7%
		No	93%
Size of Family		*Increase in business profit after microfinance*	
No children	12%		
1-4 children	53%	yes	84%
5 and more children	35%	no	16%
Family system		*Membership years in MFIs*	
		0-1 year	22%
Nuclear	59%	1-3 years	36%
Joint	41%	3-5 years	42%
Household Head		*Sector*	
Woman	27%	Manufacturing	27%
Husband	45%	Services	35%
Both	28%	Retail and Livestock	38%
Business experience of Women		*Microloan size (amount in Rupees)*	
Less than 1 year- 2 years	23%	5000 – 15000-low	47%
3-5 years	26%	15001-25000-medium	35%
6-10 and more years	51%	25001-35000 and more-high	18%
Enterprise developed by Women			
existing enterprise	86%		
newly established enterprise	14%		

Table 2: Logistic regression estimation of financial and human poverty reduction

	Financial poverty (FP) reduction after microfinance			***Human poverty (HP) reduction after microfinance***		
	Coef. B	***Sig. P***	***Odds ratio Exp B***	***Coef. B***	***Sig. P***	***Odds ratio Exp B***
Constant	0.936	.375	2.550	-1.702	.032	.182
Microfinance loan size						
Low	-			-		
Medium	2.050*	.028	7.769	-.254	.708	.776
High	3.610*	.012	36.950	-.891	.299	.410
Membership of microfinance in						
0-1 year						
1-3 years	-			-		
3-5 years	-1.459	.185	.232	-.100	.896	.905
	-1.549	.231	.213	-1.699	.076	5.470
Age						
18-39 years	-			-		
More than 40	-.943	.318	.389	-.385	.586	1.470
Education						
No education	-			-		
School/College/Uni. Education	.062	.945	1.064	.082	.902	1.086
Children						
No children,	-			-		
1-4 children,	1.804	.203	6.074	2.745**	.010	15.570
5 and more	1.473	.329	4.362	2.601*	.031	13.475
Household Head						
Woman	-			-		
Husband	.898	.260	2.456	.581	.393	1.788
Both	2.559*	.029	12.917	.992	.219	2.697
Family system						
Nuclear	-			-		
Joint	1.423	.120	4.150	1.022	.111	2.779
Applied for bank loan						
Yes	-			-		
No	-1.427	.303	.240	.573	.553	1.774
Entrepreneurship training provided by microfinance institution						
Yes	-			-		
No	.712	.386	2.038	.615	.301	1.850
Enterprise developed by Women						
existing enterprise	-			-		
newly established enterprise	.318	.828	1.375	-.391	.662	.676
Business form						
Manufacturing	-			-		
Services	-.460	.659	.631	.312	.677	1.365
Retail and Livestock	-1.700	.092	.183	-.070	.925	.925
Business experience of Women						
Less than 1 year- 2 years	-			-		
3-5 years	-1.020	.408	.361	.004	.997	1.004
6-10 and more years	-1.403	.226	.246	-.456	.545	.634
Increase in profit after microfinance						
Yes	-			-		
No	-5.625**	.002	.004	-3.612**	.000	.027

*FP Notes: - indicates the reference category; number of obs. = 116; R^2 = .565 (Hosmer & Lemeshow), .404 (Cox & Snell), .593 (Nagelkerke); Model χ^2= 54.279, p < .01; * p<.05, **p<.01*

*HP Notes: - indicates the reference category; number of obs. = 116, R^2 = .526 (Hosmer & Lemeshow), .338 (Cox & Snell), .459 (Nagelkerke); Model χ^2= 43.248, p < .01; * p<.05, **p<.01*