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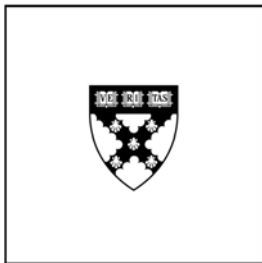
Finance and Social Responsibility in the Informal Economy: Institutional Voids, Globalization and Microfinance Institutions

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Institutional Voids, Globalization and Microfinance Institutions

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ABSTRACT

We examine the heterogeneous effects of globalization on the interest rate setting by microfinance institutions (MFIs) around the world. We consider MFIs as a mechanism to overcome the institutional void of credit for small entrepreneurs in developing and emerging economies. Using a large global panel of MFIs from 119 countries, we find that social globalization that embraces egalitarian institutions on average reduces MFIs' interest rates. In contrast, economic globalization that embraces neoliberal institutions on average increases MFIs' interest rates. Moreover, the proportions of female borrowers and of poorer borrowers negatively moderate the relationship between social globalization and MFI interest rate, and positively moderate the relationship between economic globalization and MFI interest rate. This paper contributes to understanding how globalization processes can both ameliorate and exacerbate challenges of institutional voids in emerging and developing economies.

Keywords: Institutional voids, microfinance institutions, economic globalization, social globalization

Finance and Social Responsibility in the Informal Economy: Institutional Voids, Globalization and Microfinance Institutions

Small- and medium-sized enterprises and entrepreneurs around the world frequently face "institutional voids" of credit, that is, in many places there are systematic constraints to obtaining credit stemming from underdeveloped capital and intermediary markets, regulatory systems, contract-enforcing mechanisms and weak or even absent institutional arrangements that support these markets (Khanna & Palepu, 1997; Mair & Marti, 2009). In many countries, microfinance institutions (MFIs) have emerged as an important mechanism to overcome such voids by providing small and low-interest loans to low-income individuals for them to establish small businesses (Chakrabarty & Bass, 2013; Sun & Im, 2015; Yunus, 2007). Yet, despite the vast literature on the effects of MFIs in facilitating the development of SMEs and small entrepreneurs (e.g. Morduch, 1999; Barr, 2005; Chakrabarty & Bass, 2013, 2014a, 2014b; Cull, Demirguc-Kunt, & Morduch, 2007), to date, little is known on how variation in institutional context shapes the extent to which MFIs are effective in bridging these voids (Ault & Spicer, 2013): What kind of institutions support MFIs to help more poor people escape poverty? How does the institutional context shape MFIs' responses to institutional voids in an increasingly globalized world?

We examine these questions by studying the effect of globalization on MFI operations across developing and emerging economies. The literature on globalization is mixed on the extent to which globalization would ameliorate or exacerbate problems stemming from institutional voids and so affect the operation of MFIs. Positive views on the effects of globalization argue that globalization greatly facilitates trade and information exchange by lowering the restrictions of capital and flow of

information, which fuels economic growth. In addition, it helps spread egalitarian institutions around the world (Dreher, 2006). The negative view argues that much of the benefits brought by neoliberal-based globalization are enjoyed by developed countries and the formal sectors, while developing countries and the poor population actually suffer from it due to increased competition and income gaps between the rich and the poor (Stiglitz, 2002; Rodrik, 2006). These different effects of globalization could interact with institutional voids to influence organizational strategies and change processes that aim to overcome these voids. For example, globalization that is related to more egalitarian institutions helps reduce the huge information asymmetry between organizations and their stakeholders (e.g., customers and suppliers) that are created by institutional voids, thus significantly increase the bargaining power of the vulnerable and disadvantaged in societies. On the contrary, globalization that is related to more competitive institutions may amplify such asymmetry of information and bargaining power between the advantaged and disadvantaged.

To better identify and understand effects of globalization on how organizations such as MFIs bridge institutional voids, we unpack the multi-dimensional nature of globalization (Brady, Beckfield, & Seeleib-Kaiser, 2005, Stiglitz, 2002). *Social globalization* embraces more egalitarian institutions and is associated with the spread of ideas, information, images, and people (Norris, 2000; Dreher, 2006), which help alleviate problems with institutional voids, such as information asymmetry and stereotype. In contrast, *economic globalization* typically embraces neoliberal economic policies such as facilitating international trade, FDI, portfolio investment, and removal of trade restrictions such as tariffs, capital account restriction and hidden import barriers. Such classification allows us to disentangle its heterogeneous effects on organizational behavior such as that of MFIs in the informal economy. The informal sector served by MFIs is arguably more sensitive to the heterogeneous effects

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of globalization, given its large population and fragile nature (Armendáriz de Aghion & Morduch, 2005). How globalization influences MFIs' willingness and capability to overcome institutional voids, and how globalization processes and MFIs interact with each other in helping the poor, are the foci of our study.

A key outcome to understand MFI operation and effectiveness is the interest rates they charge their customers. For small entrepreneurs, lower costs of borrowing from MFIs gives informal entrepreneurs easier financing, thus makes it easier for their businesses to operate and survive, which further leads to better development of the informal sector and thus more inclusive growth in the society (Bruton, Khavul, & Chavez, 2011, Robinson, 2001). That is, interest rate setting largely manifests MFIs' social responsibility in caring about the welfare of poor borrowers across countries informal economies (Sun & Im, 2015). Therefore, we focus on the heterogeneous effects of globalization on MFIs' micro-credit loan interest rates to small entrepreneurs. If globalization can benefit SMEs and small entrepreneurs, it would help to reduce the barrier of informal entrepreneurs' access to finance (lower microfinance interest rates). However, if globalization has negative effects on SMEs and small entrepreneurs, it would make their access to finance even more difficult (higher microfinance interest rates).

Our paper is distinguished from—and contributes to—the existing literature in at least two central ways. At a basic level, our paper contributes to understanding of the dynamics of institutional voids in emerging economies. The conventional wisdom holds that inclusive growth is fueled by inclusive institutions, which constrain the elite and protects property rights (Acemoglu & Robinson, 2012). However, as we show in this paper, different types of institutions introduced by globalization can affect organizational behavior in different ways, thus have different implications for social welfare.

Second, at the organizational level, our paper contributes empirically to the recent resurgence of academic attention on social enterprises and hybrid organizations (Battilana & Lee, 2014). Social enterprises such as MFIs are emblematic of economy-wide increases in activity at the interface between business and charity, as corporations increasingly engage in social responsibility-related activities, and non-profits increasingly engage in commercial activities to complement their primary, philanthropic sources of funding (Battliana & Dorado, 2010; Battilana et al., 2012). Our findings about MFIs strategies therefore shed light on how hybrid organizations in the informal economy operate to balance their social mission with financial profitability.

MICROFINANCE IN DEVELOPING AND EMERGING ECONOMIES

Microfinance is traditionally defined as small loans delivered to low-income entrepreneurs to support business expansion and growth (Ault & Spicer, 2013; Robinson, 2001; Yunus, 2007). Microfinance has been considered as a tool to address poverty and foster "inclusive growth" by extending financial services to impoverished populations in the informal economy (Van Sandt & Sud, 2012; Zhao & Wry, 2014). The rationale is that individuals have the potential to break out of poverty when they have access to loans that enable them to start and grow small businesses – microcredit allows individuals to smooth cash flows, manage risk, cope with economic shocks, and purchase more productive assets, which, in turn, fosters entrepreneurship that has been tied to numerous positive economic and social outcomes (Armedariz de Aghion & Morduch, 2010; Ault & Spicer, 2013).

The preponderance of research on MFIs is from economic and finance perspectives. For example, researchers have studied the determinants of the *individual* microfinance loans, which primarily focus on borrowers' characteristics, such as the poor's credit worthiness (Johnson & Morduch, 2008), peer

screening (Michels, 2012), monitoring (Karlan, 2007), and joint liability (Ahlin & Townsend, 2007). Others have studied the economic consequences of MFIs, such as poverty reduction (Khandker, 2005) and entrepreneurship (Bruton, Khavul, & Chavez, 2011). Recently, some scholars have taken the lender's perspective and investigated how microfinance loans are influenced by MFIs organizational characteristics. This line of research usually applies agency theory to the relationship between MFIs' ownership and profitability (Mersland & Strom, 2008), outreach and financial sustainability (Hartarska & Nadolnyak, 2007; Im & Sun, 2014; Quayes, 2011), corporate governance (Mersland & Strom, 2009; Charkrabarty & Bass, 2014), and cost efficiency (Caudill, Gropper, & Hartarska, 2009).

While many studies have focused on economic dimensions of micro-credit, less considered is the "hybrid" nature of these organizations. That is, MFIs are social enterprises that on one hand pursue a social mission—helping the poor—while on the other hand engage in commercial activities that sustain their operations (Im & Sun, 2014; Mair, 2010). On the social side, MFIs serve the poorest tier of the world's economic pyramid, which comprises more than four billion people, or around 65 percent of the world's population, who earn less than $3,000 each per year (Charkrabarty & Bass, 2013). In this regard, evidence suggests that microfinance positively affects social outcomes such as women's empowerment, social capital, and economic conditions (Zhao & Wry, 2014). On the commercial side, most MFIs worldwide face the challenge of making sufficient profit to breakeven, and frequently have to raise fees, which undermines their social mission of helping the poor (Cull, Demirguc-Kunt, & Morduch, 2007). MFIs' sustainability as "hybrid organizations" thus depends both on the advancement of their social mission and on their commercial performance (Battliana & Dorado, 2010; Battilana & Lee, 2014; Mair, 2010).

Recent recent studies have begun investigating the challenges of scaling while fulfilling social

mission, finding that, achieving this hybrid ideal is frequently constrained by institutional handicaps.

For example, Ault & Spicer (2013) show how "state fragility" (the failure of the state to act in the

public interest) can thwart MFIs' growth, examining several indicators from the World Bank, such as

voice and accountability, political stability, government effectiveness, regulatory quality, rule of law,

and corruption control. Zhao & Wry (2014) find that patriarchy norms can suppress the founding of

MFIs and their outreach to women, and neoliberal economic policies on one hand attenuate the

patriarchal barriers to MFIs' founding, but on the other hand amplify such suppression to women's

lending. These few studies have mainly taken a static view on the institutional determinants of

cross-country variation in MFIs' lending, and don't address the dynamics of such institutional

effects—especially MFIs' interactions with changing institutions—in an increasingly globalizing

world. In our study, we expand the scope of how institutional contexts affect MFIs, and social

enterprises in general, by focusing on the effects of globalization that bring heterogeneous institutions

into developing and emerging economies.

HYPOTHESIS DEVELOPMENT

The theory and hypotheses we develop below concern the direct impact of different types of

globalization on MFIs' interest rate setting and how these effects are moderated by characteristics of

the MFI. As we elaborate, social globalization that is related to more egalitarian institutions helps

reduce the information asymmetry between organizations and their stakeholders (e.g., customers and

suppliers) that are created by institutional voids, thus significantly increasing the bargaining power of

vulnerable and disadvantaged populations and so leading to a positive relationship between social

globalization and MFI interest rate. In contrast, globalization that is based on neoliberal institutions

tends to increase competition among organizations thus altering industry structure and dynamics that

are created by institutional voids, which can lead to further expansion of the income gap between the economically advantaged and disadvantaged stakeholders, thus further suppress the disadvantaged. These processes then lead to a negative relationship between economic globalization and MFI interest rate. Secondly, if these baseline hypotheses are true, it would also imply that less educated and less productive people are less likely to benefit from social globalization, and more likely to be deprived by the economic globalization. Therefore, we also investigate how those "more likely to be deprived" population—female borrowers and the very poor borrowers—moderate the heterogeneous impact of globalization on MFIs' interest rate setting.

Heterogeneous Effects of Globalization and Institutional Voids

Globalization that embraces more egalitarian institutions can facilitate information flow, help to reduce information asymmetry and encourage risk sharing (Stiglitz, 1990; 2002). Social change in the form of social globalization creates instrumental, relational, and moral motives for organizations to be more socially responsible through increasing social cohesion and collective responsibility (Aguilera, Rupp, Williams, & Ganapathi, 2008). These processes are consistent with the egalitarian doctrines that advocate equality for all people and removal of economic inequality across countries and economies (both formal and informal), and information and ideas should be freely shared among all countries (Norris, 2000).

Informal entrepreneurs are typically uneducated, and lack the knowledge, financial literacy and bargaining power to secure low-interest loans and engage in profitable activities as entrepreneurs in the formal sector do (Armendáriz de Aghion & Morduch, 2005; Webb, Tihanyi, Ireland, & Sirmon, 2009). Social globalization, by facilitating information sharing and personal contact reduces information asymmetry, can make those uneducated entrepreneurs more knowledgeable and more

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financially literate, and harmonize the informational and knowledge gap between formal and informal

entrepreneurs. Consequently, informal entrepreneurs have more bargaining power with MFIs, and

MFIs face less information asymmetry from informal entrepreneurs (Cull, Demirguc-Kunt, &

Morduch, 2007; Stiglitz, 1990). In addition, social globalization also helps to fuel social movements

by social activists and NGOs, which are strong supporters of egalitarianism, e.g., the development of

Fair Trade (Levy, 2008). All these help blur the informational boundaries between the formal sector

and the informal sector regarding entrepreneurs' quality of running business and ability of debt

repayment, thus release MFIs' concern on default and lower the barrier of informal entrepreneurs'

access to micro-credit. Therefore,

H1a. Social globalization reduces MFIs' average loan portfolio interest rates.

In contrast, economic globalization embraces neoliberal policies that facilitates competition

across countries and sectors, which gives formal economy actors and formal entrepreneurs more

options in the competition for resources. This increases the gap between formal entrepreneurs and

informal entrepreneurs in terms of productivity, efficiency, and income (Stiglitz, 2002). In more

extreme cases, the force of economic globalization can destroy existing institutions and introduce

neoliberal-based institutions which are incompatible with the economic conditions in the informal

economy (Bae & Rowley, 2001, Levy, 2008). From a more micro perspective, neoliberal economic

institutions that increase productivity and the income gap can increase the information asymmetry

between borrowers (e.g., informal entrepreneurs) and lenders (e.g., MFIs). Consequently, MFIs may

have greater incentives to raise the cost of borrowing so as to compensate for such increased

information asymmetry. In addition, the interest yields of the small amounts of loans granted to the

very poor customers by MFIs are more difficult to cover the costs associated with administration and

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monitoring under stronger competition, given the current business models and fee structures of most

MFIs (Johnston & Morduch, 2008, Mersland & Strøm, 2010).

The changing economic fundamentals due to economic globalization can further intensify the

aforementioned tensions between MFIs and borrowers. On the MFI side, while they may still have a

social mission, the increasing competition and income gap would strengthen MFIs' economic

orientation, thus they have stronger motivation to pursue economic profit—more similar to other

typical commercial organizations—in relation to social responsibility. On the borrowers' side, the

productivity and income gap usually prevent poor borrowers in the informal economy from

transforming to more skilled, more educated workers and entrepreneurs (La Porta & Shleifer, 2014),

which further raise the barrier of their access to other sources of finance, thus making them heavily

rely on obtaining financing from MFIs (Epstein & Smith, 2007). Taken together, MFIs' social

responsibility of overcoming institutional voids by providing low-interest micro-credit can be

undermined by the heightening competition and income gap brought by economic globalization.

Therefore,

H1b. Economic globalization increases MFIs' average loan portfolio interest rates.

The Moderating Effect of Female Borrower Rate

It is widely recognized that one of the most important missions of MFIs is to empower women by

granting more low-interest loans to them (Yunus, 2007; Yunus, Moingeon, & Lehmann-Ortega, 2010).

However, in reality, women are usually deprived from low-interest loans due to their vulnerability to

income shocks and higher likelihood of default (Sun & Im, 2015). Many have argued that

globalization helps to mitigate such concerns because globalization can (1) promote gender equality;

(2) promote female education; (3) increase job opportunities for women (Cheston & Kuhn, 2002;

Milgram, 2001). All these effects empower women by reducing their vulnerability and likelihood of default. In contrast, the opponents of globalization argue that globalization can also adversely affect women, such as increasing forced labor, trafficking, and disproportionate loss of opportunity relative to their male counterparts. Such processes may also reflect the inadequacies of domestic institutions and policies of governments (Johnson & Kidder, 1999; Milgram, 2001).

Although social globalization reduces information asymmetry and cultural barriers and embraces egalitarianism, its benefits to the poor may still differ across different types of borrowers. In terms of gender difference, female borrowers are often perceived to be less educated, less productive, and less skilled than men in low-income countries. Although social globalization helps to promote education and financial literacy for both genders, women usually improve less than men (Milgram, 2001; Sun & Im, 2015), and their access to finance is more likely to be suppressed. Extending this logic to the context of borrowing from MFIs, women benefit less from social globalization than men in terms of reduced costs of borrowing (accessing to micro-credit), because women have less personal contact, lower productivity, and so it would have less an effect on their information asymmetry (Bruton et al., 2011; Cull et al., 2007). In other words, men gain more bargaining power from social globalization than women.

Overall, the reduction of barrier to access to finance brought by social globalization is likely to be attenuated by dedication to women borrowers. That is, the more dedicated to female lending the MFI is, the less likely it will take benefits from social globalization and cut interest rates for borrowers. Therefore,

H2a. The female borrower rate of the MFI negatively moderates the relationship in H1a.

We believe that economic globalization is also likely to have different effects on female and male

borrowers' access to finance in informal economy. On one hand, the positive view of economic

globalization suggests that low-income countries have a comparative advantage in labor-intensive

productions (mostly low-skilled labors); where women are low skilled, they therefore gain from more

neoliberal institutions such as freer trade. On the other hand, the negative view may suggest that

high-skilled workers benefit when globalization results in a transfer of technology to low-wage

countries; where women are less skilled than men, they are also likely to suffer more than men from

the negative effects of globalization (Cheston & Kuhn, 2002). In the context of economic globalization,

which has been hypothesized to suppress entrepreneurs in the informal sector, neoliberal institutions

can actually amplify MFIs' suppression of women's lending (Zhao & Wry, 2014). Moreover, increased

international trade and foreign investment leads to increased competition, which further increases

income inequality between men and women at the bottom of pyramid. That is to say, economic

globalization can actually worsen females' access to low-interest loans by inducing competition and

increasing the income-gap between men and women.

Overall, the above arguments suggest that the increase of barrier to access to finance brought by

economic globalization can be exaggerated by dedication to women borrowers. The more dedicated to

female lending the MFI is, the stronger the effect of economic globalization on MFI's interest rate is.

Therefore,

H2b: The female borrower rate of the MFI positively moderates the relationship in H1b.

The Moderating Effect of Poorer Borrowers

We next look at another important aspect of microfinance lending, namely the amount granted to the

very poor borrowers, and how it moderates the effects of social and economic globalization on interest

rate setting. Of course most entrepreneurs borrowing from MFIs are poor compared to those in the

formal sector, but some are much poorer than others, and their micro-credit loan amounts are much

smaller. We believe that, similar to female borrowers, poorer borrowers are also likely to benefit less

or are deprived more from the heterogeneous effects of globalization. To investigate such effects, we

focus on the average amount of loan balance per borrower that the MFI serves. Smaller average

amount of loans per borrower indicates that the MFI is more dedicated to serving the poorer

population at the bottom of pyramid (Hermes, Lensink, & Meesters, 2011; Mersland & Strøm, 2010).

Both as disadvantaged groups, female borrowers and poorer borrowers share a lot of

commonalities, and the arguments for the moderating effects of female borrowers can also apply to

that of poorer borrowers. In particular, poorer borrowers are generally less educated, less skilled, and

less productive, thus benefit less from the positive effects of globalization and suffer more from the

negative effects of globalization. More specifically, social globalization reduces information

asymmetry of the poor, and gives poor borrowers more financial and entrepreneurial knowledge.

Consequently, MFIs will find these poor borrowers are less informationally opaque, and poor

borrowers themselves become more financially literate and knowledgeable about loan clauses. All

these give poor borrowers stronger bargaining power in relation to MFIs (Bruton et al., 2011; Yunus,

2007). However, such benefits of social globalization are not likely to be enjoyed equally across

different borrowers. Due to deficiencies in education, skills, and productivity, poorer borrowers may

benefit less from such reduction brought by social globalization. In our context, poorer borrowers are

those who borrow smaller amounts of loans, and MFIs which have lower average loan amount per

borrower are those that are more dedicated to poorer borrowers. Therefore, while social globalization

can help reduce MFIs' interest rates, MFIs that are more dedicated to poorer borrowers (have lower

average loan amount per borrower) will have a smaller interest rate cut as compared to other MFIs.

Therefore,

H3a. The amount of loans to the poor borrowers of the MFI positively moderates the relationship in H1a.

Similarly, for economic globalization, increased international trade and investment leads to an increased income gap between the rich and the poor, and between the poor and the very poor at the bottom of the pyramid. This increases the risk of repayment and financial burden by the poorer borrowers relative to those less-poor entrepreneurs. On the MFIs' side, higher risk of default makes MFIs more reluctant to grant loans with low interest rates to the poorer borrowers (Armendáriz de Aghion & Morduch, 2005). On the borrowers' side, the lack of education, skills, and productivity usually makes poorer borrowers less competitive in obtaining limited resources, which further raises barriers for their access to finance (Morduch, 1999). All these factors result in poorer people having weaker bargaining power in relation to both MFIs and other less-poor borrowers in competing for limited funding. In other words, due to increased competition for limited resources brought by economic globalization, poorer borrowers are more likely to be deprived by the providers of financing and their competitors. Consequently, while economic globalization functions to raise MFIs' interest rates, MFIs that are more dedicated to poorer borrowers (have lower average loan balance per borrower) will charge even higher interest rates to poorer borrowers, compared to other MFIs with higher average loan amount per borrower. Therefore,

H3b. The amount of loans to the poor borrowers of the MFI negatively moderates the relationship in H1b.

DATA AND METHODOLOGY

Data and Sample

We empirically test the above hypotheses using a large and extensive panel with country- and organizational-level data. MFI's organizational data were collected from the Microfinance Information Exchange, Inc. (MIX), which focuses on providing comprehensive, objective, and relevant information about microfinance providers and its data is used extensively in microfinance research (e.g., Armendariz de Aghion & Morduch, 2010; Sun & Im, 2015). One of the strong features of the MIX data is that the numbers are adjusted by international accounting standards (Cull, Demirguc-Kunt, & Morduch, 2009). In addition, the data provide not only financial information but also information on the proportion of female borrowers, as well as the legal status of MFIs and their target markets. While the MIX data is fairly comprehensive, it does not cover all MFIs that have ever existed. Therefore, potential concerns may exist regarding self-selection bias with the sample since MFIs voluntarily report information on their activities. However, the organizations that are included represent over 85% of global microfinance customers, and the data present leading MFIs activities with rigorous reporting standards (Cull et al., 2009; Krauss & Walter, 2009). Our sample covers 2,306 MFIs from 119 emerging and developing countries around the world over the period 2002-2012.

Data on globalization are from Eidgenössische Technische Hochschule (ETH) Zürich's KOF Index of Globalization. The Social Globalization Index is constructed by (i) data on personal contact, including telephone traffic, transfers (percent of GDP), international tourism, foreign population (percent of total population), and international letters (per capita); (ii) data on information flows, including internet users (per 1000 people), television (per 1000 people), and trade in newspapers (percent of GDP); (iii) data on cultural proximity, including number of McDonald's Restaurants (per capita), Number of Ikea (per capita), and trade in books (percent of GDP). The Economic Globalization Index is constructed by (i) actual flows, including trade (percent of GDP), foreign direct

investment stocks (percent of GDP), portfolio investment (percent of GDP), and income payments to

foreign nationals (percent of GDP); (ii) restrictions, including hidden import barriers, mean tariff rate,

taxes on international trade (percent of current revenue), and capital account restrictions. Both indices

are scaled to 0-100. Other country-level variables are from World Bank and World Governance

Indicators.

Empirical Strategy

We apply a multi-level analysis approach in all our regressions. The multilevel quantitative

models control for variations at different levels and intragroup correlations (e.g., time and country

levels). Multilevel quantitative research has been widely applied in the field of international business

(Hitt, Beamish, Jackson, & Mathieu, 2007; Peterson, Arregle, & Martin, 2012). Leveraging its

advantage in modeling theoretical variables across different level, we build a three-level nested data

structure in this study (Holcomb et al., 2010; Klein, Tosi, & Cannella, 1999; Peterson et al., 2012).

Caudill et al. (2009) find that MFIs within a country could share similar regulation, borrowing culture,

and economic environment. The same country could induce similar common practices of MFIs (Ahlin

& Townsend, 2007). The issue of intra-class correlation may arise when the variations of the outcome

variable at the micro level can be partially explained by explanatory variables at the macro level. For

example, in our context, part of the variations in interest rate could be explained by the intra-year or

intra-country differences in female borrower rate or average loan balance per borrower (Bliese and

Ployhart, 2002). To avoid these cross-level biases, we differentiate three levels in our multilevel

analysis: the first is at the time-level, i.e., within-MFI analysis over different time periods; the second

is at the country-level, i.e., within-MFI analysis across different countries (especially for those

multinational MFIs); the third is at the intra-country level, i.e., within-country analysis across different

MFIs.

The dependent variable is the one-year forward average gross interests and fees on the focal MFI's loan portfolio (winsorized at 1%). The focus on MFI's average interest rate of its whole loan portfolio at the aggregated organizational level, rather than at the individual loan level, is because the later says little about MFIs' social responsibility in cutting interest rate for all poor borrowers, but rather about individual borrowers' capability. The key explanatory variables are country-level social globalization and economic globalization indices (KOF Index of Globalization). Another two key explanatory variables are (1) female borrower rate of the focal MFI, defined as the number of active female borrowers as a percentage of the total number of the MFI's all active borrowers, and (2) average loan balance per borrower as a percentage of GNI per capita (lower value indicates more dedicated to poor borrowers, or deeper outreach to the poor borrowers).

We also control for various country-level, market-level, and organizational-level covariates that are believed to affect MFI's interest rates, which include whether the focal MFI is regulated by the government, the country-level "rule of law" which captures state fragility and institutional quality (Ault & Spicer, 2013), the size of the "borrower community" that measures the size of the country's aggregate loan balance, the MFI's years since establishment, the MFI's debt-to-assets ratio, whether the MFI is registered as a non-profit institution, the MFI's operating efficiency, administrative expense ratio, employee productivity of the focal MFI, the current legal status of the MFI, the scale of the MFI's loan portfolio size, its target markets, and country-level GDP per capita. The detailed description of each variable is listed in the Appendix.

The descriptive statistics of all our variables are shown in Table 1. The correlations between independent variables are shown in Table 2.

[Insert Tables 1 & 2 about Here]

RESULTS

In this section we show results from formal regressions. Column 1 of Table 4 presents the baseline

results with only MFI and country characteristics (without globalization variables and their

interactions). It is shown in Column 1 that the coefficient on the average loan balance per borrower is

negative and statistically significant, i.e., the per-borrower loan balance on average is negatively

correlated with average loan portfolio interest rate of the MFI, which implies that the less-poor

borrowers can enjoy lower interest rates from the MFI, and potentially indicates that poorer borrowers

face higher interest rates, or in other words, are more deprived from access to finance. Similarly,

female borrower rate of the MFI is positively correlated with its average loan portfolio interest rate,

supporting the argument that women are deprived from easier access to finance under institutional

voids, thus MFI that are more dedicated to female borrowing on average charges higher interest rates

to borrowers.

In terms of other variables, lower gross nominal interest rates of MFI's loan portfolio is

associated with better regulations and better rule of law, which is consistent with the intuition that

better domestic institutional environment provide better investor protection and helps lower access to

finance (cost of borrowing). This holds not only in the formal economy but also in the informal sector.

High employee productivity is associated with lower interest rate. Operating expenses raise interest

rate, while leverage ratio (debt to assets ratio) reduces interest rate, and interest rates are lower for

MFIs that are registered as "non-profit institutions", which is consistent with the claimed mission of

non-profit organizations.

Column 2 shows the results when globalization variables enter the regression. Given that the variables Social Globalization and Economic Globalization are both scaled from 0 to 100, they can be (roughly) interpreted as the degree of globalization of the country as a percentage. The coefficient on social globalization is negative and statistically significant at 0.1% level, which supports H1a, that social globalization can significantly reduce MFI's interest rate, thus the barrier to the poor's access to finance. The economic significance is nontrivial: a one-standard-deviation increase in the degree (percentage) change of social globalization is associated with 0.1% reduction in MFI's aggregate interest rate, which is remarkable for small-amount loans. In contrast, when Economic Globalization enters into the regression as in Column 3, the coefficient on Economic Globalization is positive and statistically significant at 1% level, with almost the same (slightly bigger) economic significance, which supports the prediction in H1b, that economic globalization can deprive borrowers from access to finance.

Columns 4 and 5 further include the interaction terms between the organization-level female borrower rate and the country-level social globalization, and between female borrower rate and the country-level economic globalization, as well as their main effects. Column 4 shows that while the main effects of female borrower rate and social globalization still remains the same—negative coefficient on Social Globalization and positive coefficient on Female Borrower Rate—the coefficient of the interaction term "Social Globalization×Female Borrower Rate" is positive and statistically significant. This implies that female borrower rate negatively moderates the effect of social globalization on MFI's interest rate. Put differently, the negative association between social globalization and MFI's average loan portfolio interest rate is weaker when the MFI is more dedicated to female lending (the larger proportion of borrowers is women). In addition, Column 5 shows that the

coefficient of the interaction term "Economic Globalization×Female Borrower Rate" is also positive

and statistically significant (while the main effect of Economic Globalization is positive). This should

be interpreted that female borrower rate positively moderates the effect of economic globalization on

MFI's interest rate. In other words, the positive association between economic globalization and MFI's

average loan portfolio interest rate is stronger when the MFI is more dedicated to female lending.

These results are consistent with the notion that less educated and less productive entrepreneurs

benefit less from the "bright side" of globalization (social globalization reducing barrier of access to

finance) and are deprived more by the "dark side" of globalization (economic globalization raising the

barrier of access to finance). Therefore, our H2a and H2b are supported.

Moving to Columns 6 and 7, we examine the moderating effects of MFI's outreach to poorer

borrowers. Now the interactions are between Social Globalization and Average Loan Balance per

Borrower (Column 6), and between Economic Globalization and Average Loan Balance per Borrower

(Column 7). The coefficient on "Social Globalization×Average Loan Balance per Borrower" in

Column 6 is negative and statistically significant at the 5% level, which implies that lower average

loan balance per borrower (deeper outreach to poor borrowers) makes the negative relation between

social globalization and MFI's interest rate weaker. Meanwhile, the coefficient on "Economic

Globalization×Average Loan Balance per Borrower" in Column 7 is also negative and statistically

significant at the 1% level, indicating that deeper outreach to the poor borrowers further strengthens

the positive relationship between economic globalization and MFI's interest rate. Again, both

moderating effects imply that poorer borrowers benefit less and are deprived more by globalization,

which supports our H3a and H3b.

[Insert Table 4 about Here]

Figure 1 graphically illustrates the moderating effects of female borrower rate and average loan balance per borrower on the effects of social and economic globalization on MFI's average loan interest rate. The graphs confirm our empirical findings. In general, the slopes for social globalization are negative (Figures 1A and 1C), indicating that social globalization is negatively related to MFIs' average interest rate, while the slopes for economic globalization are positive (Figures 1B and 1D), indicating that the association between economic globalization and MFIs' interest rate is negative. Female borrower rates and poor borrowers (measured by average loan balance per borrower) also have strong moderating effects, as the slopes for higher female borrower rates and lower female borrower rates differ substantially in Figures 1A and 1B, and that for higher and lower average loan balance per borrower are also significantly different in Figures 1C and 1D. Overall, the heterogeneous effects of globalization and the moderating effects of disadvantageous borrower population are conspicuous on graphs.

[Insert Figure 1 about Here]

To check the robustness of the previous results, we have conducted several additional tests by including additional controls and using different estimation methods. One concern may be that the interest rate setting also depends on the width and depth of the borrower base, which may not be captured by our control variables. Therefore, we further include in our regressions two additional controls: MFI's outreach (winsorized) and the country's total population. In addition, given that our key variables of interest—social and economic globalizations—are at the country-level, one may worry about other alternative country-level channels that are related to globalization but also simultaneously affecting interest rate setting, such as culture and legal systems. We therefore also control for country fixed effects, and report the new results in Table 5. To preserve space we only

report the coefficients on the key explanatory variables, but the same control variables are included. As shown in Table 5, the previous results still survive: higher degree of social globalization is associated with lower loan portfolio interest rate, while female borrower rate and lower average loan balance per borrower negatively moderate such relationship. In contrast, higher degree of economic globalization is associated with higher interest rate, while female borrower rate and lower average loan balance per borrower positively moderate such relationship.

[Insert Table 5 about Here]

To explore the source of the heterogeneous effects of globalization, we go step further and investigate the effect of different components of social globalization and of economic globalization. This allows us to better understand which aspects of globalization contribute more to MFI's interest rate setting. We therefore replace Social Globalization with its three main components (sub-indices) as mentioned in the Data and Methodology section: Personal Contact, Information Flows, and Cultural Proximity, and replace Economic Globalization with its two main components (sub-indices): Actual Flows and Restrictions (by construction, higher value of "Restrictions" indicates fewer trade restrictions; see variable description in Appendix). Several interesting observations emerge from Table 6. First, the statistical significance of each individual component of Social Globalization and of Economic Globalization is smaller (sometimes even insignificant) than the aggregate social and economic globalization scores, indicating that the effects of globalization are complementary to each other, rather than substitutive. Second, the moderating effect of female borrower rate is stronger for the individual components of Economic Globalization (Actual Flows and Restrictions), but not for that of Social Globalization, as the coefficients on the interaction terms between Social Globalization and Personal Contact, Information Flows, and Cultural Proximity are not statistically significant. Third, the

moderating effect of poorer borrowers (smaller average loan balance) is significant for Information

Flows, Cultural Proximity, and Actual Flows, but not for Personal Contact and Restrictions, indicating

there are differential interaction effects of different aspects of social and economic globalization with

poor borrowers' existing financial conditions on their future costs of borrowing (access to finance).

[Insert Table 6 about Here]

DISCUSSION

Researchers and policymakers are increasingly paying attention to "inclusive growth": advancing

equitable opportunities for economic participants during the process of economic growth with benefits

incurred by every section of society (Ianchovichina & Lundstrom, 2009). Inclusive growth not only

advocates the growth of the formal economy which consists of large firms financed by capital markets,

but also focuses on the development of informal economy which consists of informal firms, small

entrepreneurs, and micro-credit granted to them so as to provide livelihood of billions of very poor at

bottom of the pyramid, especially in developing countries (Prahalad, 2005). However, the informal

economy, which hosts the world's billions of low-income population, suffers most from institutional

voids characterized by the lack of formal rules governing economic activities and market institutions

facilitating transactions. Yet, how different players in this segment of the economy interact with

institutions and institutional voids remain largely unexplored. In this paper, we examined a particular

mechanism that emerges to overcome institutional voids in the informal economy: the microfinance

institutions which provide access to finance to help the poor and small entrepreneurs. We examine

how MFIs' functioning ("social responsibility") is influenced by globalization that embraces different

types of institutions. We focus on the interest rate setting of MFIs as it is their main function and

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social responsibility in helping the poor, as lower interest rates provide the poor and informal entrepreneurs with easier access to credit, and we focus on the economic and social aspects of globalization as they embrace confounding institutions.

Using an extensive sample of organizational level data on MFIs from 119 developing and emerging countries, we find that globalization has heterogeneous effects on MFI's interest rate setting (i.e. their social responsibility). In particular, social globalization that embraces egalitarian institutions—facilitating information flows, personal contact and cultural proximity—helps reduce MFI's average portfolio loan interest rate, while economic globalization that embraces neoliberal institutions—facilitating competition in international trade, investment, and other capital flows as well as reduction of capital flow barriers—increases MFI's average loan portfolio interest rate. In addition, MFI's outreach to female borrowers and poorer borrowers—two most prominent missions of MFI's social responsibility—negatively moderates the relation between social globalization and interest rate, and positively moderates the relation between economic globalization and interest rate. These indicate that the less educated and less productive population in informal economy benefit less from and are deprived more by new neoliberal-oriented institutions.

Contributions to Understanding Multifaceted Effects of Globalization.

In recent years, economists have realized the multifaceted effects of globalization around the world, though mostly at the country-level (Stiglitz, 2003; Rodrik, 2006). Relatively little is known about such heterogeneous effects of globalization at the organizational level, especially in the informal economy. Institutional voids of credit in developing and emerging economies provide us an opportunity to investigate such micro-level impact. As shown by our results, different facets of globalization do influence MFIs' lending decision and poor borrowers' access to finance differently.

Our findings therefore shed light on both the bright side and the dark side of globalization from the

perspectives of how social organizations (MFIs) can serve the global poor. These organization-level

findings, together with Mair, Marti, & Ventresca (2012) and Johnson & Kidder (1999), complement

the country-level evidences to provide a more complete picture of globalization's effects.

The findings on the multifaceted effects of globalization also extend the scope of the study of

business and poverty in general (e.g., Ault & Spicer, 2013), and have strong policy implication on the

role of the informal economy in society. Our findings are consistent with the dual perspective of the

informal economy (La Porta & Shleifer, 2014), and contradict ideas that suggest the benefits of

neoliberal-based economic globalization that advances the formal sector will "trickle-down" to the

informal sector to make the poor relieved from financial constraints. In fact, the spread of neoliberal

policies may lead to greater competition and market ideology which result in higher cost of borrowing

for the deprived poor population. In other words, stronger economic globalization seems to make it

harder for MFIs to overcome institutional voids, as small entrepreneurs have less access to credit.

Contributions to Understanding MFIs and Social Enterprises.

The traditional views on how social enterprises such as MFIs balance their social missions with

financial concerns are usually related to the costs associated with serving small loans, the potentially

high delinquency rate, and the moral hazard caused by information asymmetry between lenders and

borrowers without credit history or collateral (Cull et al., 2007; Hermes, Lensink, & Meesters, 2011;

Sun & Im, 2015). However, this is far from a complete picture of social enterprises as a special

organization type. Organization theories have long embraced the notion that organizations interact

with their external environment and institutions that influence their behaviors. An organization's

environment also shapes how organizational members make sense of themselves and their

organization. Globalization as both social and economic forces that bring different types of institutions

provides us an ideal ground to study how social enterprises interact with their dynamic environment.

By empirically showing that MFIs' interest rates are associated differently with different types of

globalization, and that such effects are amplified by the presence of more disadvantaged borrowers,

we provide strong evidence on the existence of such organization-environment interaction in the

context of social enterprises, and further give insights to how such interaction functions under

heterogeneous environment.

Moreover, social enterprises that combine the organizational forms of both business and charity

at their cores make them an attractive setting to study hybrid organizing, an important subject that

remains largely unexplored in the literature (Battilana & Lee, 2014). Therefore, our empirical findings

also contribute to the broader literature on hybrid organizing and organization by highlighting the

importance of institutional contexts in shaping hybrid organizations strategies. Our conjecture that

different institutions enacted by globalization galvanize different forms of hybrid

organizations—social globalization strengthens the social (charity) function while economic

globalization amplifies the business (profit) function—provides new insights on such institutional

contexts of hybrid organizing. By understanding the social and economic forces that drive the

behavior of MFIs as an important form of hybrid organization, we are thus better able understand the

challenges contemporary MFIs (and hybrid organizations in general) face, and therefore offer better

policy and management guidance.

Finally our paper also has broader implications for corporations engaging in CSR by studying

how organizations can be "doing good" while "doing well" in the formal sector. As globalization has

heterogeneous effects on the provision of access to finance in informal economy, its effect on access to

finance in the formal sector is an interesting but largely unanswered question. We believe our findings

open a ground for more theoretical and empirical research to investigate the effects of globalization on

multinational corporacies—as on contrary to MFIs—in fulfilling their social responsibilities.

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Table 1. Country Distribution of Microfinance Institutions

Country	MFI-year observations	Number of MFIs	Country	MFI-year observations	Number of MFIs
Afghanistan	117	18	Malawi	59	9
Albania	62	6	Malaysia	5	1
Angola	11	2	Mali	131	21
Argentina	112	18	Mexico	434	76
Armenia	110	15	Moldova	33	5
Azerbaijan	203	27	Mongolia	58	9
Bangladesh	462	79	Montenegro	18	4
Belarus	4	1	Morocco	112	11
Belize	4	1	Mozambique	85	11
Benin	138	22	Myanmar	3	1
Bhutan	4	1	Namibia	11	2
Bolivia	279	28	Nepal	289	46
Bosnia and Herzegovina	179	17	Nicaragua	278	34
Brazil	186	40	Niger	46	8
Bulgaria	169	25	Nigeria	230	71
Burkina Faso	64	15	Pakistan	232	33
Burundi	28	6	Palestine	69	8
Cambodia	184	18	Panama	29	5
Cameroon	128	27	Papua New Guinea	16	2
Central African Republ	7	1	Paraguay	66	7
Chad	16	3	Peru	616	70
Chile	40	7	Philippines	677	108
China	215	67	Poland	21	4
Colombia	267	39	Republic of the Congo	30	5
Comoros	3	3	Romania	64	8
Costa Rica	114	17	Russia	416	103
Croatia	17	2	Rwanda	63	11
Democratic Republic of	82	22	Saint Lucia	2	1
Dominican Republic	86	13	Samoa	13	1
Ecuador	483	58	Senegal	144	26
Egypt	124	16	Serbia	46	4
El Salvador	135	18	Sierra Leone	49	13

Ethiopia	177	23	Slovakia	3	1
Fiji	4	1	South Africa	70	17
Gabon	3	1	South Sudan	14	4
Gambia	11	2	Sri Lanka	156	27
Georgia	109	16	Sudan	11	2
Ghana	284	77	Suriname	5	3
Grenada	4	2	Swaziland	9	1
Guatemala	167	23	Syria	19	3
Guinea	43	8	Tajikistan	229	44
Guinea-Bissau	12	4	Tanzania	115	16
Haiti	67	9	Thailand	14	3
Honduras	179	23	Timor-Leste	20	3
Hungary	4	1	Togo	98	16
India	952	188	Tonga	3	1
Indonesia	335	74	Trinidad and Tobago	11	2
Iraq	61	12	Tunisia	13	1
Ivory Coast	79	23	Turkey	13	2
Jamaica	11	3	Uganda	166	29
Jordan	84	8	Ukraine	25	3
Kazakhstan	200	43	Uruguay	7	2
Kenya	208	33	Uzbekistan	134	34
Kosovo	99	12	Vanuatu	2	1
Kyrgyzstan	220	46	Venezuela	16	2
Laos	33	20	Vietnam	153	35
Lebanon	41	5	Yemen	48	9
Liberia	11	3	Zambia	48	9
Macedonia	40	4	Zimbabwe	27	7
Madagascar	110	15	Total		

Table 2. Descriptive Statistics

Variable	Obs	Mean	Median	Std. Dev.	Min	Max
Interest rate of MFI loan portfolio (winsor.)	7217	0.334	0.290	0.181	0.059	1.003
Social globalization	12519	37.330	37.790	11.636	15.190	82.060
Economic globalization	11833	53.400	53.320	12.310	25.690	89.620
Regulated MFI	12942	0.598	1	0.490	0	1
Rule of Law	13333	-0.628	-0.600	0.447	-2.230	1.370
Borrower Community	11556	0.024	0.014	0.031	0	0.162
MFI age	13355	9.013	9	3.830	0	17
Average loan balance/ GNI per capita (%)	10553	0.869	0.305	5.031	0	419.623
Female borrower rate	9850	0.650	0.650	0.284	0	6.689
Debt-to-asset ratio	12540	0.639	0.735	1.454	-155.066	19.353
Non-profit MFI	12783	0.604	1	0.489	0	1
Operational Efficiency	9563	0.311	0.196	0.584	-0.060	22.180
Administrative Expenses	7197	0.086	0.064	0.088	-0.066	1.927
Employee Productivity	11605	131.220	100	208.050	0	13709
Ln(GDP per capita)	12796	7.287	7.185	1.059	4.522	9.955

Table 3. Correlation Matrix of Key Independent Variables

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) Social Globalization	1.0000													
(2) Economic Globalization	0.5977	1.0000												
(3) Regulated MFI	-0.2147	-0.0698	1.0000											
(4) Rule of Law	0.3199	0.2051	-0.0705	1.0000										
(5) Borrower Community	-0.1230	0.1315	-0.0159	-0.2236	1.0000									
(6) MFI Age	-0.1031	-0.1104	-0.0746	-0.0199	0.3523	1.0000								
(7) Average Loan Balance	-0.0613	0.0330	0.1883	-0.1281	-0.0035	-0.0758	1.0000							
(8) Female Borrower Rate	-0.2287	-0.2367	-0.1909	0.0516	0.0753	0.1646	-0.3256	1.0000						
(9) Debt-to-asset Ratio	-0.1997	-0.2128	0.1791	-0.0518	0.1042	0.2141	0.0473	-0.0001	1.0000					
(10) Non-profit MFI	0.1101	-0.0213	-0.4709	0.0248	0.0659	-0.0001	-0.1038	0.1260	-0.1443	1.0000				
(11) Operational Efficiency	-0.0113	0.0060	-0.1005	0.0204	-0.1274	-0.1121	-0.1101	0.1109	-0.1224	-0.0084	1.0000			
(12) Administrative Expenses	0.0058	0.0511	-0.1223	0.0101	-0.1671	-0.1666	-0.1315	0.1231	-0.1034	-0.0240	0.6402	1.0000		
(13) Employee Productivity	-0.1108	-0.1539	0.0169	0.1100	-0.0270	0.0341	-0.1731	0.1856	0.0418	-0.0001	-0.0275	-0.0254	1.0000	
(14) Ln(GDP per capita)	0.7724	0.5694	-0.2702	0.2946	0.0270	0.1085	-0.1722	-0.1750	-0.1357	0.0546	0.0401	0.0528	-0.0697	1.0000

DV = MFI's portfolio interest rate (winsor.)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Regulated MFI	-0.0237***	-0.0242***	-0.0250***	-0.0248***	-0.0234***	-0.0253***	-0.0248***	-0.0236***
	(0.0051)	(0.0053)	(0.0053)	(0.0053)	(0.0053)	(0.0053)	(0.0053)	(0.0053)
Rule of Law	-0.0286*	-0.0218	-0.0368*	-0.0361*	-0.0361*	-0.0376*	-0.0387*	-0.0372*
	(0.0140)	(0.0150)	(0.0155)	(0.0155)	(0.0155)	(0.0155)	(0.0155)	(0.0155)
Borrower Community	-0.266	-0.362*	-0.417*	-0.419*	-0.424*	-0.429*	-0.422*	-0.432*
	(0.168)	(0.172)	(0.168)	(0.168)	(0.168)	(0.168)	(0.168)	(0.168)
MFI Age	0.00248	0.00300	0.00394	0.0042	0.00434	0.00415	0.0043	0.0045
	(0.00383)	(0.00395)	(0.00397)	(0.0040)	(0.00398)	(0.00396)	(0.0040)	(0.0040)
Average Loan Balance	-0.00625**	-0.00552**	-0.0144***	-0.0141***	-0.0142***	-0.000195	0.0156	0.0014
(scaled by GNI per capita)	(0.00204)	(0.00204)	(0.00307)	(0.0031)	(0.00307)	(0.00689)	(0.0115)	(0.0120)
Female Borrower Rate	0.0926***	0.0886***	0.0798***	0.0009	-0.0933*	0.0785***	0.0793***	-0.0781+
	(0.00883)	(0.00894)	(0.00902)	(0.0298)	(0.0375)	(0.00903)	(0.00901)	(0.0403)
Debt-to-asset Ratio	-0.0203**	-0.0290***	-0.0292***	-0.0290***	-0.0271***	-0.0303***	-0.0299***	-0.0280***
	(0.00744)	(0.00759)	(0.00773)	(0.00772)	(0.00772)	(0.00774)	(0.00773)	(0.0077)
Non-profit MFI	-0.0326***	-0.0240***	-0.0203**	-0.0213**	-0.0194**	-0.0209**	-0.0201**	-0.0197**
	(0.00657)	(0.00678)	(0.00701)	(0.0070)	(0.00699)	(0.00701)	(0.00700)	(0.0070)
Operational Efficiency	0.0871***	0.0822***	0.0817***	0.0821***	0.0813***	0.0822***	0.0821***	0.0816***
	(0.00933)	(0.00940)	(0.00944)	(0.00943)	(0.00941)	(0.00944)	(0.00943)	(0.0094)
Administrative Expense	0.327***	0.341***	0.378***	0.373***	0.372***	0.376***	0.375***	0.371***
	(0.0366)	(0.0371)	(0.0379)	(0.0379)	(0.0378)	(0.0379)	(0.0379)	(0.0379)
Employee Productivity	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***	-0.0001***
	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)	(0.00001)
Ln(GDP per capita)	-0.0051	0.0175	0.0113	0.0114	0.0128	0.0110	0.0111	0.0125
	(0.0084)	(0.0116)	(0.0118)	(0.0118)	(0.0118)	(0.0118)	(0.0118)	(0.0118)

Social Globalization (H1a)		-0.0027**	-0.0037***	-0.0049***	-0.0037***	-0.0034**	-0.0036***	-0.0034**
		(0.0010)	(0.0011)	(0.0012)	(0.0011)	(0.0011)	(0.0011)	(0.0012)
Economic globalization (H1b)			0.0030**	0.0030**	0.0010	0.0031**	0.0034**	0.0012
			(0.0010)	(0.0010)	(0.0011)	(0.0010)	(0.0010)	(0.0012)
Social Globalization				0.0020**				-0.0002
× Female Borrower Rate (H2a)				(0.0007)				(0.0009)
Economic Globalization					0.0032***			0.0030***
× Female Borrower Rate (H2b)					(0.0007)			(0.0008)
Social Globalization (H3a)						-0.0004*		-0.0002
× Average Loan Balance (H3a)						(0.0002)		(0.0002)
Economic Globalization							-0.0005**	-0.0001
× Average Loan Balance (H3b)							(0.0002)	(0.0003)
MFIs Legal Status	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
MFIs Size	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
MFIs Age	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
MFIs Target Market	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Financial Intermediation Types	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Year Effects	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled	Controlled
Constant	0.259**	0.204*	0.120	0.166+	0.215*	0.108	0.0936	0.193*
	(0.0817)	(0.0874)	(0.0917)	(0.0935)	(0.0940)	(0.0918)	(0.0922)	(0.0955)
N	4357	4152	3950	3950	3950	3950	3950	3950
Country N	101	92	83	83	83	83	83	83
Log likelihood	3697.1336	3549.3572	3476.0614	3479.9057	3487.3539	3478.731	3479.7437	3488.8176
Wald chi2	1985.41	1961.92	2000.42	2011.10	2033.45	2008.69	2011.50	2038.12

Standard errors in parentheses; $^{+}$ $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5. Robustness Checks: Country Fixed Effects

DV = MFI's portfolio interest rate (winsor.)	(1)	(2)	(3)	(4)
Social Globalization	-0.0213***		-0.0202***	
	(0.0033)		(0.0032)	
Economic Globalization		0.0336**		0.0362**
		(0.0123)		(0.0124)
Female Borrower Rate	0.0284	-0.0945*	0.0860***	0.0782***
	(0.0296)	(0.0396)	(0.0095)	(0.0095)
Average Loan Balance	-0.0056*	-0.0189***	0.0057	0.0066
(scaled by GNI per capita)	(0.0022)	(0.0037)	(0.0046)	(0.0117)
Social Globalization	0.0015*			
× Female Borrower Rate	(0.0007)			
Economic Globalization		0.0032***		
× Female Borrower Rate		(0.0007)		
Social Globalization			-0.0004**	
× Average Loan Balance			(0.0046)	
Economic Globalization				-0.0005*
× Average Loan Balance				(0.0002)
Other Control Variables	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes
Country Effects	Yes	Yes	Yes	Yes
Log Likelihood	3244.824	3183.1431	3246.5601	3175.7841
N	3499	3330	3499	3330

Standard errors in parentheses; $^+ p < 0.1$, $^* p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

## Table 6. Robustness Checks: Sub-indices of Globalization

DV = MFI's portfolio interest rate (winsor.)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Personal Contact *(Social Globalization)*	-0.00201* (0.000947)					-0.00166+ (0.000886)				
Information Flows *(Social Globalization)*		-0.00191* (0.0009)					-0.00127 (0.000867)			
Cultural Proximity *(Social Globalization)*			-0.0013* (0.0007)					-0.000905 (0.000626)		
Actual Flows *(Economic Globalization)*				-0.0005 (0.0009)					0.00168* (0.000807)	
Restrictions *(Economic Globalization)*					0.0005 (0.0011)					0.00201+ (0.00103)
Female Borrower Rate	0.0701** (0.0238)	0.0424 (0.0325)	0.0779*** (0.0147)	-0.0573+ (0.0332)	-0.0330 (0.0356)	0.0923*** (0.00951)	0.0838*** (0.00961)	0.0865*** (0.00958)	0.0842*** (0.00943)	0.0769*** (0.00973)
Average Loan Balance (scaled by GNI per capita)	-0.0060** (0.0022)	-0.0057* (0.00221)	-0.0057* (0.0022)	-0.0064** (0.0022)	-0.0187*** (0.0038)	-0.00649 (0.00643)	0.00694 (0.00654)	-0.00396+ (0.00228)	0.0129+ (0.00675)	-0.00127 (0.0118)
Social Globalization × Female Borrower Rate	0.0006 (0.0006)	0.0008 (0.0006)	0.0004 (0.0004)							
Economic Globalization × Female Borrower Rate				0.0027*** (0.0006)	0.0020** (0.0006)					
Social Globalization × Average Loan Balance						0.0000124 (0.000166)	-0.000261* (0.000127)	-0.0004*** (0.000106)		
Economic Globalization × Average Loan Balance									-0.0004** (0.000133)	-0.000334 (0.000209)
Other Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Log likelihood	3056.749	3046.398	3048.4438	3092.0297	2959.402	3056.2362	3047.566	3053.7391	3086.7659	2955.4524
N	3475	3426	3499	3467	3292	3475	3426	3499	3467	3292

Standard errors in parentheses; $^{+}p < 0.1$, $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$
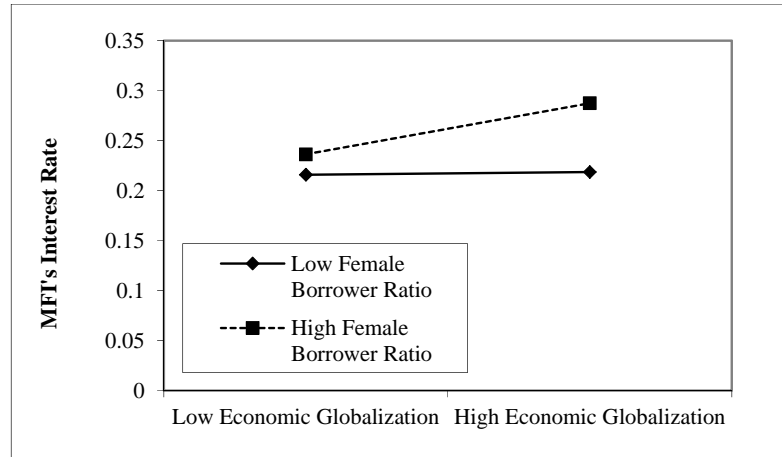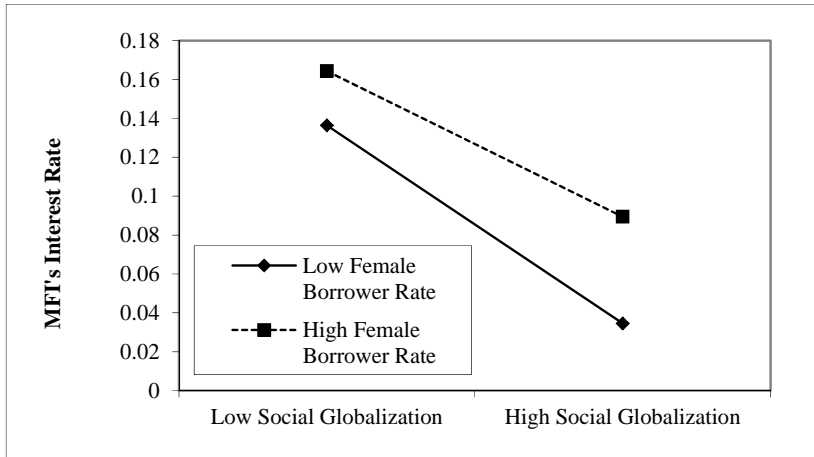
A. Moderating Effects of Female Borrower Rate on Social Globalization

B. Moderating Effects of Female Borrower Rate on Economic Globalization
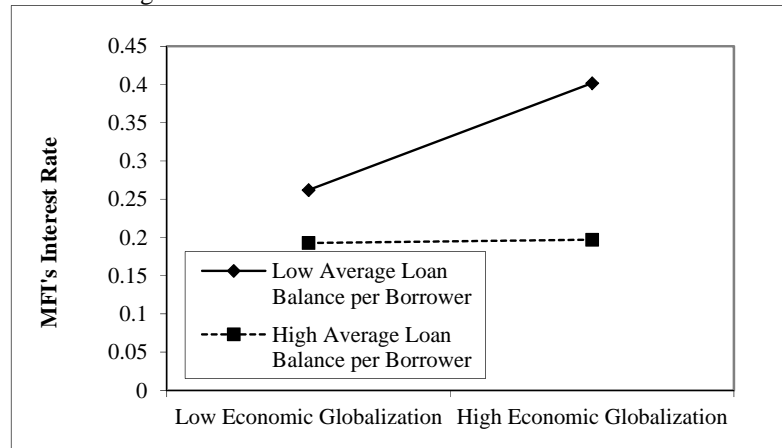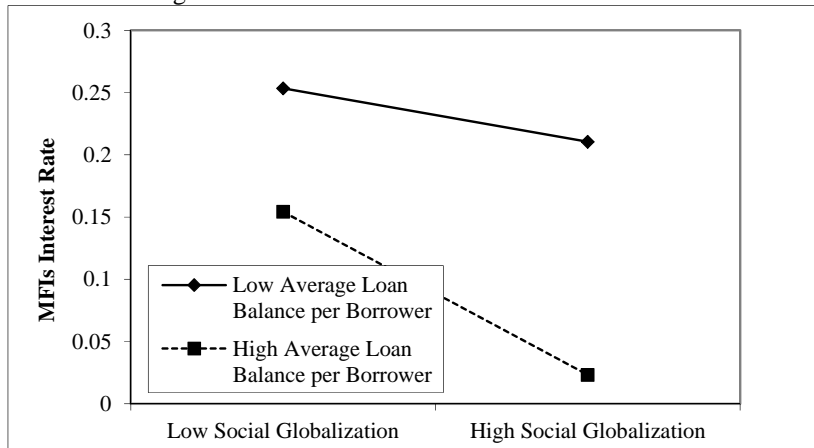
C. Moderating Effects of Poor Borrowers on Social Globalization

D. Moderating Effects of Poor Borrowers on Economic Globalization

Figure 1. The Moderating Effects of Female Borrower Rate and Poor Borrowers on Globalization and MFI's Interest Rate

Appendix. Variable Definitions

Variable Name	Description	Data Source
MFI Interest Rate	Interest and Fees on Loan Portfolio/ Loan Portfolio, gross, winsorized at 1%.	MIX
Social Globalization	Expressed as the spread of ideas, information, images and people. The KOF index classifies social globalization in three categories. The first covers personal contacts, the second includes data on information flows and the third measures cultural proximity. Scale: 1-100.	ETH KOF Index of Globalization
Personal Contact (Social Globalization)	This index is meant to capture direct interaction among people living in different countries. It includes international telecom traffic (traffic in minutes per person) and the degree of tourism (incoming and outgoing) a country's population is exposed to. Government and workers' transfers received and paid (in percent of GDP) measure whether and to what extent countries interact, while the stock of foreign population is included to capture existing interactions with people from other countries. The number of international letters sent and received also measure direct interaction among people living in different countries. Telecom traffic is provided by the International Telecommunication Union (2013), while the number of letters is taken from the Universal Postal Union's Postal Statistics Database. The remaining three variables are from the World Bank (2014). Scale: 1-100.	ETH KOF Index of Globalization
Information flows (Social Globalization)	The sub-index on information flows is meant to measure the potential flow of ideas and images. It includes the number of internet users (per 100 people), the share of households with a television set, and international newspapers traded (in percent of GDP). All these variables to some extent proxy people's potential for receiving news from other countries – they thus contribute to the global spread of ideas. The variables in this sub-index derive from the World Bank (2014), International Telecommunication Union (2013), the UNESCO (various years), and the United Nations Commodity Trade Statistics Database (2013). Scale: 1-100.	ETH KOF Index of Globalization
Cultural proximity (Social Globalization)	Cultural proximity is arguably the dimension of globalization most difficult to grasp. Dreher (2006) suggests the number of English songs in national hit lists or movies shown in national cinemas that originated in Hollywood. However, these data lack for the majority of countries in our sample. Instead, we thus use imported and exported books (relative to GDP), as suggested in Kluver and Fu (2004). Traded books proxy the extent to which beliefs and values move across national borders, taken from the UNESCO (various years), and the United Nations Commodity Trade Statistics Database (2013). According to Saich (2000, p.209) moreover, cultural globalization mostly refers to the domination of U.S. cultural products. Arguably, the United States is the trend-setter in much of the global socio-cultural realm (see Rosendorf, 2000, p.111). As an additional proxy for cultural proximity we thus include the number of McDonald's restaurants located in a country. For many people, the global spread of McDonald's became a synonym for globalization itself. In a similar vein, we also use the number of Ikea per country. Scale: 1-100.	ETH KOF Index of Globalization
Economic Globalization	Characterized as long distance flows of goods, capital and services as well as information and perceptions that accompany market exchanges. Broadly speaking, economic globalization has two dimensions. First, actual economic flows are usually taken to be measures of globalization. Consequently, two indices on restrictions to trade and capital are constructed that include individual components suggested as proxies for globalization in the previous literature. Scale: 1-100.	ETH KOF Index of Globalization
Actual Flows (Economic Globalization)	The sub-index on actual economic flows includes data on trade, FDI and portfolio investment. Data on trade are provided by the World Bank (2014), stocks of FDI (normalized by GDP) are provided by UNCTAD STAT (2013). Portfolio investment is derived from the IMF's International	ETH KOF Index of Globalization

Restrictions (Economic Globalization)	Financial Statistics (January 2014). More specifically, trade is the sum of a country's exports and imports and portfolio investment is the sum of a country's stock of assets and liabilities (all normalized by GDP). While these variables are straightforward, income payments to foreign nationals and capital are included to proxy for the extent that a country employs foreign people and capital in its production processes. Scale: 1-100. The Restrictions index refers to restrictions on trade and capital using hidden import barriers, mean tariff rates, taxes on international trade (as a share of current revenue) and an index of capital controls. Given a certain level of trade, a country with higher revenues from tariffs is less globalized. To proxy restrictions of the capital account, an index based on data by Gwartney et al. (2013) is employed. This index is based on the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions and includes 13 different types of capital controls. The index is constructed by subtracting the number of restrictions from 13 and multiplying the result by 10. The indices on mean tariff rates and hidden import barriers are also derived from Gwartney et al. (2013). Mean tariff rates originate from various sources. Gwartney et al. allocated a rating of 10 to countries that do not impose any tariffs. As the mean tariff rate increases, countries are assigned lower ratings. The rating will decline toward zero as the mean tariff rate approaches 50 percent (which is usually not exceeded by most countries among their sample). The original source for hidden import barriers, finally, is the World Economic Forum's Global Competitiveness Report (various issues). Scale: 1-100.	ETH KOF Index of Globalization
Regulated MFI	A dummy variable measured whether MFIs are regulated by a government or not.	MIX
Borrower Community	The accumulated number of individuals or entities who currently have an outstanding loan balance with the MFIs in the focal country, adjusted by country population, log- transformed.	MIX
Average Loan Balance	Average Loan Balance per Borrower/ GNI per capita.	MIX
Female Borrowers	The ratio of the number of active female borrowers to the total number of active borrowers (%).	MIX
Debt-to-asset Ratio	The ratio of the focal MFI's total debts to total assets.	MIX
Non-Profit MFI	Focal MFI registered as a non-profit organization.	MIX
Operational Efficiency	Operating Expense / Loan Portfolio.	MIX
Administrative Expense	(Administrative Expense + Depreciation)/ Assets, average.	MIX
Employee Productivity	Borrowers per staff, measured as the ratio of the number of active borrowers to the number of focal MFI's staff members.	MIX
MFIs Legal Status	Categorical variable: registered as bank; Credit Union, NBFI, Rural bank, and Others.	MIX
MFI Size	Categorical variable for loan portfolio: Large, Medium, and Small scale of gross loan portfolio.	MIX
MFI Target Market	Categorical variable: Target market: low end; Broad; High end, and Small business.	MIX
MFI Age	Categorical variable: New (1-4 years); Young (5-8 years), ad Mature (more than 8 years).	MIX
Financial Intermediation Types	Categorical variable: Non FI (No voluntary savings); Low FI (Voluntary savings < 20% of total assets); High FI (Voluntary savings ≥= 20% of total assets).	MIX
GDP Per Capita	Total GDP is divided by the resident population on a country, log-transformed.	World Bank
Rule of Law	perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.	World Bank