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Keywords: Microfinance, social capital, trust, norms, values, culture, financial performance, social performance

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# Microfinance Performance and Informal Institutions: A Cross-country Analysis\*

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## **Abstract**

This paper investigates the relationship between the extent to which informal institutions are developed at the country-level and the financial and social performance of MFIs, using data from institutions active in 100 countries. Based on the theoretical literature discussing the economic role of informal institutions such as trust, beliefs, norms and values we hypothesize that microfinance is more successful, both in terms of their financial and social aims, in countries with stronger informal institutions. We test this hypothesis using various direct and indirect measures of informal institutions and link them to measures of financial and social performance of MFIs. Our empirical results are generally supportive to our hypothesis.

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## 1. Introduction

Having access to finance is crucial for the poor as this helps them to smooth their consumption, generate business opportunities and improve their inclusion in the formal economy in the long run (Collins *et al.*, 2009). Microfinance institutions (MFIs) focus on providing financial services to poor households that are excluded from the formal financial system. Many MFIs aim at being financially sustainable, i.e. not being dependent on subsidies in the longer term, while at the same being able to reach out and serve a large number of poor clients (i.e. socially sustainable). One important issue in the discussion on microfinance focuses on what drives the financial and social performance of these institutions. Research shows that performance varies considerably between MFIs, both within and between countries. Several studies focus on institution-specific factors, such as the type of loans issued, governance, and the formal type of the institution (see, e.g., Mersland *et al.*, 2011). Other studies look into the role macroeconomic factors and formal institutions play in determining MFI performance, using cross-county comparisons (Ahlin *et al.*, 2011; Hermes and Meesters, 2011).

A specific strand of literature focuses on investigating informal institutions, such as trust, and shared norms and values as determinants of MFI performance (see, e.g., Karlan, 2007). In most cases, these studies are context-specific, however, i.e. they focus on MFIs in a country-specific setting. They do not allow for analyzing the role of country variations in informal institutions on MFI performance. Only very few studies have investigated the role of informal institutions as determinants of MFI performance using a cross-country framework (see, e.g., Burzynska and Berggren, 2014; Manos and Tsytrinbaum, 2014). This may perhaps be surprising given the fact that much of what MFIs do is based on exchange relations in which informal institutions play an important role. For most of their clients MFIs are confronted with information opacity, i.e. they have to deal with the lack of widely available and transparent information on the characteristics of their clients. Informal institutions may be helpful in making transactions possible in such an environment.

Let us illustrate this point as follows. In 1976, Mohammad Yunus, a Bengal banker and economist, established the Grameen Bank model of group lending. This model was set up to provide loans to poor households and individuals who were in need of finance, but were

unable to get access to the formal banking system. One specific feature of this model is that loans are not provided to individuals, but to groups of borrowers who are all individually liable for the repayment of a loan made to an individual group member. Moreover, in case of non-repayment by one group member the other group members will not be able to have access to any loans from the bank in the future. This so-called joint liability loan contract provides incentives to borrowers to repay their own loan as well as to make sure that other group members do as well, ensuring high repayment rates for the bank. That is, the contract stimulates individual borrowers to screen and monitor fellow group members, and to enforce repayment of these members to reduce the probability that they will have to pay for them.

The Grameen bank model became very successful and was widely copied in other developing countries. Yet, the joint liability loan contract may only work given specific conditions. In particular, the loan contract rests on the assumption that group members know each other well, i.e. that they are able to screen and monitor the other group members and that they are able and willing to enforce a loan contract once fellow group borrowers are not able or willing to repay. The question is whether this assumption generally holds or whether it only holds under specific conditions, some of which may be linked to the institutional setting in which microfinance is provided. It might well be that microfinance, and in particular group lending, works better in countries with stronger informal institutions, such as trust, and shared norms and values as they are supportive to the efficient use of the group lending model.

Anecdotal evidence on the success and failure of the Grameen bank model in Africa and Latin America seems to support our conjecture. Moreover, some academic studies have indeed indicated that copying the Grameen model to other (institutional) contexts may not always be successful. For example, Masanjala (2002), based on a study of the performance of a Grameen-type MFI in Malawi, questions the replicability of Grameen-type banks in Africa. Walker (2012) comes to a similar conclusion based on a study of a Grameen-type bank in the Comoros. These studies show that it may indeed be relevant to investigate whether the informal institutional context matters for the performance of MFIs.

This paper aims at filling the research gap identified above by investigating the relationship between informal institutions and the performance of MFIs, using data from institutions active in 100 countries. The analysis focuses on both the financial and social performance of MFIs. Based on the theoretical literature discussing the economic role of trust, norms and values we

hypothesize that microfinance institutions are more successful, both in terms of their financial and social aims, in countries with stronger informal institutions. We test this hypothesis using various measures of informal institutions and link them to measures of financial and social performance of MFIs.

The remainder of this paper is structured as follows. Section 2 discusses the existing literature on the importance of informal institutions. Section 3 develops hypotheses that link these institutions to the performance of MFIs. The data and empirical methodology used are presented in section 4. The descriptive statistics are discussed in section 5, followed by the presentation of the results of the econometric analysis in section 6. Section 7 concludes.

## **2. Informal institutions and the performance of MFIs: A review**

In the literature, institutions are typically divided into formal and informal institutions. According to the definition of North (1994): “Institutions are the humanly devised constraints that structure human interaction. They are made up of formal constraints (e.g., rules, laws, constitutions), informal constraints (e.g., norms of behavior, conventions, self-imposed codes of conduct), and their enforcement characteristics. Together they define the incentive structure of societies and specifically economies.” Whereas formal institutions are “...established and communicated through channels that are widely accepted as official [...] informal institutions are socially shared rules, usually unwritten, that are created, communicated, and enforced outside of officially sanctioned channels.” (Helmke and Levitsky, 2004) Thus, although informal institutions are widely known by members of a community or society, they are not officially put in writing. Another characteristic of informal institutions is that they tend to be more persistent than formal rules (North, 1997). Examples of informal institutions are trust, social beliefs, shared norms and values. These beliefs, shared norms and values, and shared trust relations may be incorporated in, e.g., religion, social networks and social capital, and cultural dimensions.

MFIs offer a range of financial services to poor households and small businesses (SMEs). The most important of these services is lending. Just like commercial banks, MFIs are confronted with asymmetric information with respect to the repayment capacity and/or repayment willingness of their potential borrowers. These borrowers have better information about the

quality of the projects in which they invest the money they receive from the MFI, allowing them to make a better judgment of the probability of repayment of the loan. Commercial banks as well as MFIs try to reduce the problem of asymmetric information by using various mechanisms. Commercial banks invest in screening and monitoring practices by collecting and evaluating hard information, such as formal records on assets and liabilities, income statements, salary specifications, etc. In addition, they usually demand valuable collateral. Moreover, in countries with a well-developed law and property right system, they may recover the loan by going to court once a loan is not repaid.

MFIs use different methods to reduce problems of asymmetric information as they mostly deal with borrowers who are poor and have small loans. Screening and monitoring of this type of clients is generally costly due to the fixed cost nature of these activities. Moreover, information regarding these borrowers is generally opaque and more difficult to evaluate as formal records on assets and liabilities, salary, etc. usually are non-existent. In addition, poor borrowers and SMEs usually have no valuable collateral. Finally, MFIs are usually active in countries with an under-developed law and property right system, which makes it difficult to recover the loan by going to court.

MFIs solve problems of asymmetric information by using soft information. One strategy to collect soft information is to have loan officers visit potential and existing clients to verify repayment capacity and probability, as well as to collect interest payments and repayment of the loan. The direct contact these loan officers have with their clients reduces asymmetric information problems. They may also develop trust relations with their clients, which may reduce opportunistic behavior and increase the willingness of repayment. The direct contact between loan officers and their clients will arguably be stronger when trust has been developed and when social beliefs, norms and values are shared.

Another strategy MFIs frequently use is providing loans to groups of borrowers instead of individuals. As explained shortly in the introduction, in the context of the so-called group lending model, group members are jointly liable to repay the loans taken up by individual group members. This provides incentives to group members to screen and monitor each other as the group's repayment determines the contributions individuals have to make to repay existing loans and/or have access to future loans. Since borrowing group members usually live close to each other in villages or urban districts, they are closely connected through social

networks. These social networks provide the necessary soft information based on which screening and monitoring can be carried out effectively, thus reducing asymmetric information. Moreover, the networks provide a context allowing group members to enforce loan repayment of fellow group members. Within these networks members may share beliefs, norms and values, and create mutual trust relations. Group lending with joint liability can be seen as a substitute for the need to invest in screening and monitoring by the MFI. This lending model creates so-called social collateral, which helps improving the repayment performance of the borrowers of these institutions.

Thus, the lending techniques used by MFIs are based on exchange relations in which informal institutions play an important role. These techniques are used, because for most of their clients MFIs are confronted with information opacity, i.e. they have to deal with the lack of widely available and transparent information on the characteristics of their clients. Informal institutions may be helpful for making transactions possible in such an environment, especially if these institutions stimulate the development and improve the strength of social networks, cohesion and interaction. In these circumstances, lending models based on close contact and trust building between the lender and borrower, and/or the use of social collateral to substitute for lack of hard information and valuable collateral, may be expected to be more successful. Therefore, based on our discussion of the mechanisms underlying the provision of microfinance to poor households and SMEs, we expect a positive association between the financial and social performance of MFIs and the presence of informal institutions conducive to developing strong social collateral.

Several papers have investigated the importance of informal institutions in explaining the repayment performance of microfinance clients. Most studies focus on some measure of social capital (or social ties) capturing trust, beliefs, norms and values, and relate this to the financial performance of MFIs. The majority of these studies find a positive relationship between social capital/ties and repayment, although there are some notable exceptions.

Wydick (1999) uses information from an MFI in Guatemala and focuses on the extent to which group members know each other before they enter a borrowing group, whether they are friends and/or whether they partake in joint social activities as measures of social ties between group members. He does not find evidence that stronger social ties are associated with better repayment performance of borrowers. Hermes et al. (2005) focus on microfinance in Eritrea

and use similar measures of social ties. Their research shows that social ties help group leaders to improve their screening and monitoring efforts, resulting in lower incidences of repayment problems of group members. Karlan's (2007) study is situated in Peru and measures social ties by looking at the extent to which group members share the same culture and/or live more closely to each other. His analysis suggests that social ties measured in this way are associated with better repayment performance. Ahlin and Townsend (2007) use survey data from borrowers of BAAC, an MFI in Thailand. Their measure of social ties (they label this as cooperation) focuses on the extent to which group borrowers are willing to share money and free labor, and to what extent they are willing to coordinate the transportation of crops, the purchase of inputs and sales of crops. They find a negative association between ties and repayment, a result that has not been reported in other studies. According to Ahlin and Townsend (2007), social ties may improve repayment when these ties help strengthening the effective use of penalties against those group members who fail to repay, whereas it reduces repayment in cases ties discourage the use of such penalties. Cassar *et al.* (2007), using survey data from borrowers in South Africa and Armenia, measure social capital within borrowing groups by focusing on group homogeneity and intra-group trust, and show that both these measures are positively associated with repayment performance. In a series of studies Dufhues et al. (2011a, 2011b, 2012, and 2013) measure social capital based on social network analysis, using information from borrowing households in Thailand and Vietnam. The results of these studies suggest that social capital is associated with better repayment performance, depending on the nature of social ties between individuals. Wydick *et al.* (2011) is one of the few studies focusing on how social capital can help increasing the social performance of MFIs. In particular, they show that religious networks are important for rural households in Guatemala to have access to credit.

The above mentioned studies all use data from a single country-context (except Cassar *et al.*, 2007, who use data from two countries). They do not allow for analyzing the role of country variations in informal institutions on performance. Recently, a small number of studies has emerged that focus on investigating the role of informal institutions, such as trust, beliefs, norms and values, as determinants of MFI performance using a cross-country framework. Burzynska and Berggren (2014) focus on the relationship between trust and collectivist cultural norms, and the financial performance (i.e. repayment rates, costs and interest rates) of MFIs. Using information for 331 MFIs in 37 countries for the period 2003-2011, they find that MFIs in countries with higher levels of trust and/or a more collectivist culture on average

have lower costs and lower interest rates. Manos and Tsytrinbaum (2014) focus on different measures of culture as determinants of financial and social performance. They use data for 852 MFIs from 30 countries during the period 2000-2010 and find that culture is a significant determinant of MFI financial and social performance and that the strength of the association between culture and performance depends on the type of cultural values and beliefs. Sundeen and Johnson (2012) investigate to what extent social capital (defined by them as social networks, norms and trustworthiness) affects financial and social performance of MFIs. Their sample covers almost 2,000 MFI in 115 countries between 1995 and 2011. The results suggest that social capital does affect MFI performance and that there is a trade-off between financial and social performance. Aggarwal *et al.* (2015) focus on analyzing whether informal institutions (e.g. trust and culture) influence the extent to which MFIs lend to female borrowers. They find that in low-trust countries MFIs lend more to women as compared to MFIs in high-trust countries. This suggests that MFIs use targeting women as borrowers as a lending strategy to substitute for the low level of trust in a society, as women are generally seen as more trustworthy borrowers. Finally, in a related study Mersland *et al.* (2013) focus on the religious background of MFIs and their performance. Using data from a sample of 405 MFIs operating in 73 countries from 2001 to 2010, they find that MFIs with a Christian background have significantly lower funding costs and consistently underperform in terms of financial profit indicators as compared to secular MFIs. In terms of loan repayment performance and average loan size (a measure of outreach), both types of MFIs perform the same, however.

These recent cross-country studies analyzing the relationship between informal institutions and MFI performance suffer from at least one or more of the following problems. First, some of them focus on a limited set of informal institutions only. Second, and related to the first problem, in some cases they apply relatively small country samples. Third, some studies focus on financial performance only, i.e. they do not investigate the impact of informal institutions on the social performance of MFIs.

In our study, we elaborate on existing cross-country studies investigating the association between informal institutions and MFI performance by using a broader set of measures of informal institutions for a large sample of countries, focusing on their relationship with both financial and social performance.

### 3. Hypotheses

As explained in section 2, we expect a positive association between the financial and social performance of MFIs and the presence of informal institutions conducive to developing strong social capital/ties. As for the outcome variables, we focus on three dimensions of social and financial performance, i.e. the share of female borrowers, the average loan size relative to GNI per capita, and the operational self-sufficiency. The first two measures relate to social performance, the third is a measure of financial performance of MFIs. A higher value for the operational self-sufficiency ratio is associated with better financial performance of MFIs. If MFIs provide more loans to women and/or if they provide smaller loans this is seen as showing better social performance. These financial and social performance measures, although not perfect, are standard in the microfinance literature (see, e.g., Ahlin *et al.*, 2011; Hermes *et al.*, 2011; Manos and Tsytrinbaum, 2014).

We use three different measures of these institutions, i.e. *fractionalization of society*, *generalized trust* and *culture*.

#### *Fractionalization*

Fractionalization of society refers to the probability that two randomly drawn individuals coming from the same country are not from the same ethnic, religious, or linguistic group. The higher this probability, the higher the level of fractionalization. In the economic growth literature fractionalization is associated with political instability, weak institutions and poor macro-economic performance. Fractionalization is expected to reduce the development of social ties. When a society is highly fractionalized, this means that a large number of linguistic, religious and/or ethnic groups live together. The differences between groups in such a society may lead to smaller in-group networks and distrust of one group versus other groups. Moreover, beliefs, norms and values may differ between groups as well. Vaessen and Bastiaensen (1999) build a conceptual framework to argue that when local social structures are sufficiently integrated, norms, perceptions and ideologies can circulate freely among the different social actors and, thus, lead to positive social capital accumulation. Hence, homogeneity of local social structures, or low fractionalization, may contribute to developing strong informal institutions that are conducive to building strong social capital and supporting economic growth. Based on this discussion of the association between fractionalization and

social capital, in combination with our statement that higher levels of social capital are associated with better financial and social performance of MFIs, we derive the following hypotheses:

*H1a: Operational self-sufficiency is negatively associated with fractionalization (i.e. linguistic, ethnic, religious);*

*H1b: Female borrowing is negatively associated with fractionalization (i.e. linguistic, ethnic, religious); and*

*H1c: The loan size is positively associated with fractionalization (i.e. linguistic, ethnic, religious).*

#### *Generalized trust*

Generalized trust is defined as trust towards strangers, which arises when "... a community shares a set of moral values in such a way as to create regular expectations of regular and honest behavior" (Fukuyama, 1995). Generalized trust is different from particularized trust, because it is extended to people "... on whom the trusting part has no direct information" (Bjørnskov, 2006). The extent to which *generalized trust* is prevalent in a society is expected to be positively associated with developing informal institutions and social capital. In particular, we expect that higher levels of generalized trust are conducive to building social capital, as trust is an important determinant of the extent to which individuals are willing to share ties, and whether they have the same norms and values. Realo and Allik (2009; 871) argue that when trust "... is limited to the nuclear family or kinship alone, people have lower levels of social capital. Social capital increases as the radius of trust widens to encompass a larger number of people and social networks, bridging the 'gap' between the family and state." Knack and Keefer (1997) show there is a positive association between trust and social capital. If we combine this finding on the association between generalized trust and social capital with our discussion regarding the relationship between social capital and the financial and social performance of MFIs, we may develop the following hypotheses:

*H2a: Operational self-sufficiency is positively associated with generalized trust;*

*H2b: Female borrowing is positively associated with generalized trust; and*

*H2c: The loan size is negatively associated with generalized trust.*

#### *Culture*

Next, we discuss the role of culture and its relationship to social capital. In order to investigate the role of culture, we use the classification of national culture as developed by Hofstede (2001). According to Hofstede, culture refers to the collective programming of the mind that distinguishes members of one group from another. This definition stresses the importance of shared values, norms, beliefs, and expected behaviors that are deeply embedded, unconscious, and often irrational (Hofstede, 2001). Such shared values define what represents acceptable and/or desirable behavior within the group and accordingly can help group members make decisions and/or judge the decisions of others. With strongly shared values social capital is expected to be developed more easily and it will be more important in determining social and economic exchange between members of a society. Hofstede distinguishes six cultural dimensions, i.e. *individualism*, *uncertainty avoidance*, *masculinity*, *power distance*, *long-term orientation* and *indulgence*.

The literature on the relationship between culture and social capital is not extensive. In our analysis we focus only on cultural dimensions identified by Hofstede and their association with social capital as described by the literature. In this context, we specifically discuss the *individualism* dimension. According to Inkeles (2000) Hofstede's cultural dimensions are related to social capital and this is particularly true for individualism. Individualism indicates a preference for a loosely knit social framework in a society in which individuals focus on themselves rather than on the group to which they belong. In contrast, *collectivism* indicates a preference for a tightly knit social framework in a society in which individuals focus on the group rather than on themselves.<sup>1</sup>

Although research provides arguments supporting both a negative as well as a positive association, overall the literature suggests that a positive association prevails (Allik and Realo, 2004; Realo and Allik, 2009). According to proponents of the positive relationship, the possibility to act individualistically – i.e. being independent when making choices and focus on personal achievement – are important conditions for developing social capital. This suggests the following hypotheses, noting that social capital and MFI performance are assumed to be associated positively:

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<sup>1</sup> Definitions of cultural dimensions are taken from the website developed by Geert Hofstede; see <http://geert-hofstede.com/national-culture.html>

*H3a: Operational self-sufficiency is positively associated with the extent to which a society can be characterized as individualistic;*

*H3b: Female borrowing is positively associated with the extent to which a society can be characterized as individualistic; and*

*H3c: The loan size is negatively associated with the extent to which a society can be characterized as individualistic.*

#### 4. Methodology and data

The empirical methodology we follow is inspired by the work of Ahlin *et al.* (2011), who investigate the determinants of the MFI financial performance by looking at three categories of independent variables, i.e. macroeconomic variables, formal institutional variables, and MFI-specific variables. In our analysis for this paper, we add a fourth category, i.e. informal institutional variables.

The baseline model can be written as follows:

$$Y_{ijt} = \alpha + \beta_M M_{it} + \beta_0 X_{0jt} + \beta_1 X_{1jt} + \beta_2 X_{2jt} + \beta_{\text{income}} \text{Income}_{jt-1} + \beta_{\text{income}^2} \text{Income}_{jt-1}^2 + \beta_{\text{age}} \text{Age}_{jt} + \beta_{\text{age}^2} \text{Age}_{jt}^2 + \varepsilon_{ijt}$$

where  $Y_{ijt}$  is a vector of performance outcome measures of MFI  $i$  in year  $t$ , located in country  $j$ . As was already mentioned in section 3 with respect to the outcome variables, we focus on the share of female borrowers, the average loan size relative to GNI per capita, and the operational self-sufficiency. The first two measures relate to social performance, the third is a measure of financial performance of MFIs. A higher value for the operational self-sufficiency ratio is associated with better financial performance of MFIs. If MFIs provide more loans to women and/or if they provide smaller loans this is seen as showing better social performance.

$M_{it}$  is a vector of MFI-specific control variables at time  $t$ ;  $X_{0jt}$  is a vector of macroeconomic variables describing country  $j$  at time  $t$ ;  $X_{1jt}$  is a vector of variables describing the formal

institutional environment from country  $j$  at time  $t$ ; and  $X_{2j}$  is the vector of informal institutional variables describing country  $j$ .<sup>2</sup>

The *MFI-specific variables* included in the analysis are the MFI age, the number of borrowers and the ratio of assets to loan portfolio (reflecting the degree to which non-loan assets are supporting the MFI's lending operation). The data related to MFIs comes from Mix Market, a publicly available web-based data source, which provides detailed information with respect to the financial and social performance of MFIs around the world. Currently, this database contains information for over 2,000 MFIs with information going back as far as the mid-1990s. Following Ahlin et al. (2011) and others in field of microfinance research, we only use data for MFIs that have been rated with four and five diamonds in the Mix Market data set. These diamonds indicate the quality of the financial statements of MFIs as published by the Mix Market, five diamonds being the highest level of quality (i.e. the financial statements are audited by a recognized auditing company).

The *macroeconomic variables* include the annual growth of the real GDP per capita, the lagged quadratic term of the real GDP per capita, the share of manufacturing in total GDP, measured in terms of the value added of this sector, the total labor force as a percentage of the total population over 15 years, the share of the industrial sector in total GDP (in terms of value added), the share of services in total GDP (in terms of value added), the annual inflation rate and net foreign direct investment inflows as a percentage of total GDP. Information for the macroeconomic variables is collected from the World Development Indicators (WDI).

With respect to the *formal institutional variables* we use a measure of the political stability and absence of violence, a measure for the control of corruption, as well as a measure of the rule of law, all measured at the country level. Data for the formal institutional variables indicators come from the Kaufmann World Governance Indicators database. The Kaufmann indicators are available since 1996. Between 1996 and 2002, the data are only available bi-

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<sup>2</sup> We do realize that our estimations may be biased due to potential endogeneity problems. Solving these problems is difficult because we lack good instruments for informal institutions. However, since institutions, and especially informal ones, only change very slowly over time and given the fact that our panel data is relatively short, we assume that in our case the endogeneity problem may be less severe.

annually. We therefore use interpolation to create observations for the years data is not available.<sup>3</sup>

With respect to the *informal institutional variables*, we use a wide range of sources and variables. To begin with, we take three different measures country-level fractionalization from Alesina *et al.* (2003). These authors developed a data set measuring ethnic, linguistic, and religious fractionalization within in a country.

With respect to generalized trust, we follow most of the literature and use a measure of so-called generalized trust, which is available in the World Value Survey (WVS). Generalized trust is measured in the WVS by asking the following question: “In general, do you think that most people can be trusted, or can’t you be too careful in dealing with people?”

As was discussed above, we use Geert Hofstede’s definition of cultural dimensions. The data for the individualism dimension is taken from Hofstede’s Cultural Dimensions Data Matrix.<sup>4</sup>

Finally, following Ahlin *et al.* (2011) we start by using a small set of specifications as a source of discipline<sup>5</sup>. We then perform the tests by including the larger sets of controls. Moreover, again following Ahlin *et al.* (2011), we adopt the pooled OLS estimation, as it gives consistent estimates even in the case of true random effects model. However, Ahlin *et al.* (2001) run additional series of tests accounting for the MFI-level heterogeneity. We are not able to do this, as our variables of interest are time invariant. The characteristics of our data direct our estimation strategy. Random effects are not suitable either as it assumes that the individual-specific effects are distributed independently of the regressors. It is reasonable to assume that we have dependencies in our data as we have nested data (MFIs nested within countries). The Hausman-Taylor estimator for error-components model is not suitable either, as we do not have instruments for our potentially endogenous variables and our variables of interest are time invariant. We thus rely on pooled OLS estimations, and we perform a wide

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<sup>3</sup> So, for example for the year 1997, we create observations for the formal institutional variables, by calculating the average value of a variable based on the observations for 1996 and 1998.

<sup>4</sup> The data were retrieved from the following website: <http://www.geerthofstede.nl/dimension-data-matrix>. We do not use the data on culture from the GLOBE project. As is shown in the study by Manos and Tsytrinum (2014) using this data dramatically reduces the number of countries for which the analysis can be carried out.

<sup>5</sup> Appendix A summarizes the definitions of all variables used in our analysis.

range of additional robustness checks, acknowledging that we are unable to fully deal with the endogeneity concerns.

In additional tests, we use White's heteroscedastic-consistent standard errors. Furthermore, to address the outlier issues we re-run our estimates on a trimmed sample and use conditional median estimations (i.e. we also report our estimates using conditional median regression, which minimizes the sum of absolute residuals rather than the squared residuals and tends to be less susceptible to outlier problems than least squares; see also Ahlin *et al.*, 2011, pp. 109). Due to the fact that our data for the period 1996-2005 is highly unbalanced, we perform the estimations also on the subset of data between 2005-2012.

## **5. Descriptive statistics**

We collect data for MFI-specific characteristics for the period 1996- 2012. The final data set consists of 6,934 observations covering 934 MFIs based in 100 countries. Table 1 shows the number of MFIs for which we have data in a particular year. As is clear from this table, the bulk of the information on MFIs is available for the years 2004-2011. For the first four years, the number of observations is equal to or less than 100 per year. These numbers indicate that the data set we have is unbalanced. This is the case for many papers using the Mix Market data set.

Table 2 provides an overview of the descriptive statistics of the variables we use in the empirical analysis. The table shows that the number of observations significantly varies between the different variables. In particular, data for Hofstede's individualism dimension are not available for all countries in our data set. In total, Hofstede's matrix contains data on individualism for 78 countries. When we further combine the Hofstede data on individualism with the data on MFIs from Mix Market, we are left with 23 countries.

With respect to our dependent variables, the descriptive statistics show that the MFIs in our sample mainly lend to women: two thirds of the loans is provided to female borrowers. This supports the idea that the general approach taken by MFIs is to focus their lending on women as they are considered to perform better in terms of repayment, while at the same time making a greater social impact (Aggarwal *et al.*, 2015). The size of the average loan provided by an

MFI in a particular country is two thirds the size of the average GNI per capita of that country. Finally, the average MFI in our sample appears to be financially sustainable as the mean of the operational self-sustainability variables is above 1.

Table 3 shows the correlation matrix. The table suggests that our financial and social performance variables do correlate with several of the informal institutional variables. Moreover, several of the correlation coefficients do seem to have the expected positive sign. This is the first indication that there may be a positive association between the financial and social performance of MFIs and the presence of informal institutions conducive to developing strong social capital/ties. The next step is to find out whether this association holds in the setting of a multivariate analysis.

The correlation matrix also shows that some of the independent variables in our data set are strongly correlated (i.e. above 0.5). This particularly holds for some of the informal institutions variables. They show high correlations among themselves, as well as with the income variables. We should therefore be careful in selecting the specifications of our regression models and make sure we do not create potential multicollinearity problems, which is why we do not include highly correlated independent variables into the same econometric specification.

## **6. Econometric results**

We first focus on measures of societal fractionalization and trustworthiness and their association with financial and social performance of MFIs. The analysis of individualism as a cultural dimension and its association with financial and social performance of MFIs will be discussed separately, as the data set we are able to apply for this measure is much smaller due to lack of data on cultural measures for a considerable number of countries in our data set. We do not estimate a full model incorporating all measures of informal institutions, because by doing this we would lose too many observations. Moreover, as discussed above, this may create potential problems of multicollinearity.

The results of our empirical analysis using measures of societal fractionalization and trustworthiness are presented in tables 4-15. Tables 4-6 show the results for the conditional

*mean* regressions for the three dependent variables, i.e. Share of Female Borrowers (table 4), Average Loan per GNI per Capita (table 5), and Operational Self Sufficiency (OSS; table 6). The results in table 4 generally support our hypotheses. Societal fractionalization is associated with lower shares of female borrowers, i.e. MFIs active in fractionalized societies on average borrow less to women. Moreover, borrowing to women is higher in high-trust countries. The results for the average loan size (table 5) and the OSS (table 6) show similar patterns. Loan size is higher in countries with high societal fractionalization and in low-trust countries, indicating lower social performance when MFI are active in such informal institutional contexts; OSS is also lower in countries with high societal fractionalization, suggesting better financial performance in these contexts

Next, to address outlier issues, we follow Ahlin *et al.* (2011) and estimate conditional *median* regression models. The results of these estimations are presented in Tables 7-9. As is clear from these tables, the outcomes for the informal institutional variables are quantitatively similar to those presented in tables 4-6. This supports our main hypothesis that MFIs active in informal institutional contexts conducive to developing social capital, show higher financial and social performance.

In the regression models reported in tables 4-9 we use a smaller set of control variables, because for some of the control variables we have left out, we have a significant number of missing values. Adding all controls leads to a drop in the number of observations for each regression model.<sup>6</sup>

Still, as a robustness test, in tables 10-15 we run the same regressions as in tables 4-9, but this time we use a larger set of control variables. We should note here that in the regression models presented in tables 10-15, we do not add controls that are correlated with any of our informal institutional variables, except for the current and lagged real GDP per capita, which are correlated with language fractionalization. We keep GDP per capita in our models, because this is an important macroeconomic variable. Moreover, this allows for a better comparison between models using different measures of informal institutions. The results for the variables measuring informal institutions remain largely unchanged as compared to the

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<sup>6</sup> The number of observations used in the regression models presented in tables 4-9 varies between 3,176 and 5,805; for tables 10-15 these numbers are between 2,788 and 4,883.

results reported in tables 4-9.<sup>7</sup> Once again, therefore, these results support our main hypothesis that MFIs active in informal institutional contexts conducive to developing social capital, show higher financial and social performance. We re-do the estimations by using White's heteroscedastic-consistent standard errors. The results are in line with the above-mentioned conclusions.<sup>8</sup>

We then perform analyses similar to the one presented in tables 4-15, but now we use a trimmed data set. In particular, we drop the one per cent top and bottom of the data to further control for the potential impact of outliers on the results. The results (not reported) of these analyses are qualitatively similar to the ones presented in tables 4-15.<sup>9</sup>

We continue discussing the analysis using Hofstede's cultural dimensions, focusing on the individualism dimension as a measure of informal institutions. As was mentioned above, the data set we are able to apply for these variables is much smaller due to lack of data for a considerable number of countries in our data set.<sup>10</sup> Table 16 presents the results for the conditional *mean* regressions for the three dependent variables, i.e. Share of Female Borrowers (column 1), Average Loan per GNI per Capita (column 2), and Operational Self Sufficiency (column 3). Table 17 shows the results of our estimations based on conditional *median* regression models. The results emerging from these two sets of regressions are very similar. They clearly are supportive to the hypothesis that in individualistic societies the social performance of MFIs is generally better. Our measure of the individualism dimension is positively associated with the share of female borrowers and negative with the average loan size. With respect to financial performance we do not find supportive evidence, however. Individualism is actually negatively associated with our measure of operational self-sufficiency, at least when we use the results for the conditional mean regression model. When we use the conditional median regression model, the coefficient for individualism remains negative, but it is no longer significant. In additional robustness tests (not reported), in which we run the same regressions as in tables 16-17, but with a larger set of control variables, we find very similar results.

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<sup>7</sup> Due to the pairwise correlations between some of the control variables in our models, their signs and significance may change as compared to the first six tables.

<sup>8</sup> The results are available from the authors.

<sup>9</sup> The results of these analyses are available from the authors.

<sup>10</sup> The number of observations used in the regression models presented in tables 16 and 17 varies between 2,737 and 3,207.

As a final robustness test we redo all regressions presented in tables 4-17 (including the robustness tests for which we use a trimmed data set), this time only using a sub-sample of the data set. As was clear from the data description in table 1, most information on MFIs is available for recent years, indicating that the data set we have is unbalanced, especially for the earlier years. For this robustness test we therefore only use data from 2006 to 2012 to see whether our results still hold when we have a less unbalanced data set. The data for this seven-year period covers 70 per cent of the observations of the full data set. The results (not reported) of these analyses are qualitatively similar to the ones presented in tables 4-17.<sup>11</sup>

Table 18 summarizes the results of the association between informal institutions and financial and social performance of MFIs as shown in tables 4-17. In particular, the table shows the expected sign (discussed in section 3 of this paper) as well as the actual sign we find after estimating the models. A + (-) indicates we find a positive (negative) and significant coefficient for a certain informal institutions variable. The general picture that emerges from this table is that we find support for most of our hypotheses regarding the association between informal institutions and the social and financial performance of MFIs, the only exception being the association between individualism and MFIs' financial performance.<sup>12</sup>

Regarding endogeneity, we have taken the precautions that our particular dataset allowed us to take, as described in the previous section. While we cannot completely dismiss the possibility of unexplained individual-specific effects, we argue that reverse causality may not be a major issue. In particular, we believe it is far-fetched to assume that MFIs' social and financial performance would affect the informal institutions of their countries. While informal institutions may change over time, they change very slowly. Microfinance has developed starting with late 1970s and it has considerably scaled up relatively recently. It is therefore not very likely that microfinance has changed the informal institutions of the countries they come from.

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<sup>11</sup> We chose not to report the results of this robustness test as this would add another 48 tables to the already substantial number of tables we have. However, again, the results of these robustness analyses are available from the authors.

<sup>12</sup> When we use data for the period 2006-2012 only, however, we do find weak evidence for a positive association between individualism and MFIs' financial performance.

## **7. Summary and concluding remarks**

Although previous studies have focused on the importance of informal institutions in explaining MFI performance, in most cases they focus on a country-specific setting. This means they do not allow for analyzing the role of country variations in informal institutions on MFI performance. Only recently a few studies have investigated the role of informal institutions as determinants of MFI performance using a cross-country framework. Our research builds on these recent studies by using a larger set of measures of informal institutions for a larger number of countries, focusing on both financial and social performance.

Our results do seem to indicate that informal institutions are associated with better financial and social performance of MFIs. In particular, we find that informal institutions enabling the development of social ties and social capital are positively associated with MFI financial and social performance. We use various ways of measuring informal institutions, focusing on measures of fractionalization, trust and culture. Most importantly, we find that MFIs active in societies characterized by higher (linguistic, ethnic and religious) fractionalization and high trust societies show better financial and social performance. These results are very stable over a large number of model specifications, data sub-samples and estimation methods. Moreover, we find that in individualistic societies social performance of MFIs is higher, which is in line with our hypothesis. We do not find strong support for our hypothesis that financial performance of MFIs is higher in individualistic societies.

The results of this study have clear policy relevance. They suggest that the success of microfinance models depend on the informal institutional context. In practical terms this means that simply copying models such as group lending from one context to the other may lead to failure. As discussed in the introduction, in the past MFIs have followed this strategy. The success of the Grameen Bank led to setting up similar microfinance initiatives around the world. Yet, the mechanism of the Grameen Bank model is rather specific. It may work well in the informal institutional context of Bangladesh and other South Asian countries. This does not mean, however, that the model can be equally successful in the context of, for example, African countries. Future research may look into questions that focus on better understanding

why established microfinance models may work in one context, while they are failing in other contexts, by explicitly taking into account the difference in informal institutional contexts.

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**Table 1: Number of observations in the data set**

<b>Year</b>	<b>Number of observations</b>
1996	21
1997	44
1998	69
1999	100
2000	138
2001	168
2002	249
2003	355
2004	455
2005	543
2006	634
2007	676
2008	762
2009	837
2010	916
2011	846
2012	121
<b>Total</b>	<b>6,934</b>

Source: Mix Market

**Table 2: Descriptive statistics**

Variable	Description	n	Mean	S.D.	Min	Max
<b>Dependent Variables</b>						
ShareFemBorr	Share of female borrowers: Number of active female borrowers/Number of Active Borrowers	5,805	0.67	0,29	0	6.69
AvgLoanToGNicapita	Average loan per GNI per capita: Average loan balance per borrower/GNI per capita	6,619	0.65	2.08	0	94.71
OSS	Operational Self Sufficiency: Financial Revenue/(Financial Expense + Loan Loss Provision Expense + Operating Expense)	6,734	1.17	0.71	-0.29	36.63
<b>MFI Controls</b>						
MFI_AGE	Age of the MFI(years): calculated as the year of the observation – the year when the MFI was funded	6,680	12.23	9.3	1	62
NoBorrLag_LN	Ln of Number of borrowers (lagged)	5,682	9.3	1.8	0.69	15.92
AssetsPerGLP_LagLN	Ln of Assets per GLP (lagged)	5,848	0.33	0.36	-3.22	4.91
Geographic	1 if country is from Latin America or the Caribbean, 0 otherwise	6,934	0.34	0.47	0	1
<b>Macroeconomic Indicators</b>						
GrowthGDPcapitaPPP	Annual growth in real GDP per capita	6,645	9.12	10.73	-47.85	138.19
GDPperCapitaPPP_Lag	Real GDP per capita (lagged)	5,751	4,550.15	3,294.32	255.75	18,087.44
Manufacturing	Manufacturing, value added (%GDP)	6,425	15.69	6.24	0	96.58
Workforce	Labor force/Population aged 15+	5,816	67.86	9.5	39.6	90.8
Industry	Industry, value added (% of GDP)	6,465	30.35	9.24	4.84	100
Inflation	Inflation, consumer prices (annual %)	6,574	7.48	6.85	-13.23	96.09

FDI	Foreign Direct Investment, net inflows (% of GDP)	6,700	3.89	4.83	-5.69	84.94
<b>Formal Institutions Variables</b>						
PS	Political Stability and Absence of Violence	6,761	-0.84	0.7	-3.18	1.27
RL	Rule of Law	6,797	-0.60	0.46	-1.96	1.37
CC	Control of Corruption	6,797	-0.61	0.41	-1.82	1.57
<b>Informal Institutions Variables</b>						
Ethnic	Ethnic fractionalisation	6,694	0.48	0.22	0.04	0.93
Language	Linguistic fractionalisation	6,539	0.42	0.31	0.01	0.92
Religion	Religious fractionalisation	6,697	0.35	0.2	0	0.86
Trust	Generalized Trust (WVS)	4,317	0.2	0.1	0.05	0.53
IDV	Individualism Index	3,502	25.3	13.8	6	60

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Notes: Based on calculations of the authors

**Table 3: Pairwise Correlation Matrix**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	
<b>(1) ShareFemBorr</b>	1																						
<b>(2) AvgLoanToGNICapita</b>	-0.1989	1																					
<b>(3) OSS</b>	-0.0467	0.0126	1																				
<b>(4) MFI_AGE</b>	0.013	-0.0523	0.033	1																			
<b>(5) NoBorrLag_LN</b>	0.2695	-0.1428	0.0061	0.2711	1																		
<b>(6) AssetsPerGLP_LagLN</b>	0.0239	0.1219	-0.1089	-0.0604	-0.1436	1																	
<b>(7) Geographic</b>	-0.1242	-0.0607	0.0079	0.1564	-0.0391	-0.1176	1																
<b>(8) GrowthGDPcapitaPPP</b>	0.0169	0.0726	0.0445	-0.1206	-0.0137	-0.0351	-0.2704	1															
<b>(9) GDPperCapitaPPP_Lag</b>	-0.2301	-0.0798	0.0018	0.027	-0.1365	-0.1242	0.5078	-0.1796	1														
<b>(10) Manufacturing</b>	0.0449	-0.0365	0.0074	0.1103	0.0411	-0.0389	0.0818	-0.0467	0.1025	1													
<b>(11) Workforce</b>	0.0905	0.049	0.0043	0.0544	-0.0105	-0.0418	0.116	0.0273	-0.1624	-0.225	1												
<b>(12) Industry</b>	-0.1397	-0.0334	0.0688	0.0491	-0.0462	-0.0944	0.1636	0.1899	0.3512	0.3769	-0.0868	1											
<b>(13) Inflation</b>	-0.0177	0.0353	-0.0152	-0.0821	-0.014	0.0814	-0.0708	0.0597	-0.1634	-0.044	-0.0313	-0.0454	1										
<b>(14) FDI</b>	-0.2004	0.0971	0.0482	-0.1513	-0.1601	-0.0461	-0.0887	0.2815	0.1085	-0.1204	-0.0531	0.1931	0.0297	1									
<b>(15) PS</b>	-0.1507	0.0243	0.011	-0.1013	-0.2302	-0.1089	0.2299	-0.0187	0.3702	0.0317	0.1098	0.1441	-0.0538	0.2872	1								
<b>(16) RL</b>	0.1344	-0.1169	-0.032	0.0088	0.0403	-0.0169	-0.1398	0.0194	0.2247	0.1036	-0.2869	-0.0134	-0.0659	0.0686	0.3222	1							
<b>(17) CC</b>	-0.0064	-0.0984	-0.0132	-0.0005	-0.0607	-0.0853	0.247	-0.1196	0.4638	0.1033	-0.1407	-0.0106	-0.1573	0.0759	0.4265	0.7606	1						
<b>(18) Ethnic</b>	-0.0992	0.0815	-0.0441	-0.1562	-0.0939	0.0799	0.1156	-0.1775	-0.0399	-0.2704	0.1211	-0.1557	0.0489	-0.085	-0.1267	-0.1484	0.0919	1					
<b>(19) Language</b>	0.2029	0.0444	-0.0706	-0.0539	0.0608	0.1355	-0.571	0.0432	-0.4801	-0.0744	-0.0311	-0.2753	0.0438	-0.1755	-0.346	0.0979	-0.1049	0.3522	1				
<b>(20) Religion</b>	-0.1091	0.0745	-0.0649	-0.182	-0.1239	0.0944	-0.3578	0.0332	-0.1164	-0.145	-0.1162	-0.1384	0.1009	0.1706	0.1771	0.077	0.0322	0.1941	0.393	1			
<b>(21) Trust</b>	0.1544	-0.0981	0.0203	-0.1793	0.0437	-0.0463	-0.3724	0.2288	-0.1486	0.1003	-0.3105	0.1139	0.1576	-0.0008	0.0143	0.1908	-0.1613	-0.1694	0.0126	-0.0603	1		
<b>(22) IDV</b>	0.3496	-0.1387	-0.0852	-0.1455	0.1507	0.0287	-0.4938	0.3492	-0.1029	0.026	-0.4591	-0.3272	-0.0036	-0.0618	-0.027	0.6362	0.1833	-0.3388	0.5018	0.346	0.2783	1	

**Table 4: Fractionalization, generalized trust and MFI social performance**

**(conditional mean regressions)**

**Dependent variable: Share of female borrowers**

VARIABLES	(1) ShareFemBorr	(2) ShareFemBorr	(3) ShareFemBorr	(4) ShareFemBorr
MFI_AGE	0.00272** (0.00110)	0.00301*** (0.00112)	0.00296*** (0.00109)	0.00275** (0.00139)
MFI_AGEsq	-8.90e-05*** (2.55e-05)	-8.30e-05*** (2.59e-05)	-9.07e-05*** (2.55e-05)	-6.73e-05** (3.22e-05)
GrowthGDPcapitaPPP	-0.000292 (0.000397)	0.000415 (0.000394)	0.000253 (0.000389)	0.000616 (0.000577)
GDPperCapitaPPP	-6.82e-05*** (4.51e-06)	-7.86e-05*** (4.83e-06)	-7.81e-05*** (4.59e-06)	-8.35e-05*** (5.75e-06)
GDPperCapitaPPPsq	3.99e-09*** (3.17e-10)	4.61e-09*** (3.31e-10)	4.52e-09*** (3.20e-10)	5.07e-09*** (3.92e-10)
Manufacturing	0.000435 (0.000685)	0.00171** (0.000688)	0.00186*** (0.000670)	0.00269*** (0.000883)
Industry	0.000977* (0.000532)	0.00155*** (0.000563)	0.00117** (0.000551)	-0.00105 (0.000660)
Inflation	-0.000857 (0.000728)	-0.000768 (0.000810)	0.000533 (0.000811)	-0.000244 (0.000949)
FDI	-0.00884*** (0.000841)	-0.00879*** (0.000856)	-0.00783*** (0.000843)	-0.0112*** (0.00121)
PS	-0.0550*** (0.00638)	-0.0513*** (0.00675)	-0.0328*** (0.00645)	-0.0371*** (0.00849)
RL	0.122*** (0.00871)	0.140*** (0.00931)	0.140*** (0.00871)	0.115*** (0.0135)
ethnic	-0.157*** (0.0182)			

language		-0.0250 (0.0152)		
religion			-0.213*** (0.0210)	
trust				0.207*** (0.0545)
Constant	0.967*** (0.0227)	0.893*** (0.0240)	0.971*** (0.0232)	0.929*** (0.0289)
Observations	5,012	4,894	4,987	3,176
R-squared	0.177	0.170	0.181	0.212

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Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 5: Fractionalization, generalized trust and MFI social performance**

**(conditional mean regressions)**

**Dependent variable: Average loan per GNI per capita**

VARIABLES	(1) AvgLoanToGNicapita	(2) AvgLoanToGNicapita	(3) AvgLoanToGNicapita	(4) AvgLoanToGNicapita
MFI_AGE	-0.0244*** (0.00805)	-0.0261*** (0.00824)	-0.0282*** (0.00811)	-0.0160*** (0.00305)
MFI_AGEsq	0.000643*** (0.000183)	0.000592*** (0.000187)	0.000649*** (0.000184)	0.000323*** (6.84e-05)
GrowthGDPcapitaPPP	0.0170*** (0.00296)	0.0129*** (0.00296)	0.0129*** (0.00293)	0.00394*** (0.00127)
GDPperCapitaPPP	-0.000134*** (3.35e-05)	-5.39e-05 (3.61e-05)	-9.05e-05*** (3.44e-05)	-7.54e-06 (1.29e-05)
GDPperCapitaPPPsq	7.18e-09*** (2.39e-09)	3.03e-09 (2.50e-09)	4.75e-09* (2.43e-09)	-1.31e-09 (8.89e-10)
Manufacturing	0.0196*** (0.00497)	0.0123** (0.00500)	0.0110** (0.00490)	0.00282 (0.00192)
Industry	-0.00959** (0.00394)	-0.0116*** (0.00418)	-0.0102** (0.00410)	-0.00490*** (0.00149)
Inflation	0.00720 (0.00544)	0.00980 (0.00601)	0.00783 (0.00602)	0.00234 (0.00214)
FDI	0.0352*** (0.00638)	0.0346*** (0.00652)	0.0307*** (0.00646)	0.0320*** (0.00275)
PS	0.300*** (0.0472)	0.326*** (0.0506)	0.216*** (0.0481)	0.180*** (0.0189)
RL	-0.605*** (0.0668)	-0.776*** (0.0719)	-0.684*** (0.0674)	-0.251*** (0.0307)
ethnic	1.017***			

	(0.135)			
language		0.515*** (0.114)		
religion			0.530*** (0.158)	
trust				-0.779*** (0.119)
Constant	0.210 (0.168)	0.399** (0.179)	0.526*** (0.174)	0.735*** (0.0643)
Observations	5,715	5,575	5,682	3,728
R-squared	0.051	0.045	0.044	0.133

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Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 6: Fractionalization, generalized trust and MFI financial performance**

**(conditional mean regressions)**

**Dependent variable: Operational Self Sufficiency (OSS)**

VARIABLES	(1) OSS	(2) OSS	(3) OSS	(4) OSS
MFI_AGE	0.0101*** (0.00281)	0.00965*** (0.00286)	0.00962*** (0.00282)	0.00847** (0.00381)
MFI_AGEsq	-0.000192*** (6.37e-05)	-0.000178*** (6.49e-05)	-0.000182*** (6.39e-05)	-0.000138 (8.49e-05)
GrowthGDPcapitaPPP	0.00193* (0.00104)	0.00223** (0.00103)	0.00221** (0.00102)	7.66e-05 (0.00162)
GDPperCapitaPPP	2.92e-05** (1.18e-05)	1.53e-05 (1.26e-05)	2.03e-05* (1.20e-05)	2.31e-05 (1.62e-05)
GDPperCapitaPPPsq	-2.46e-09*** (8.42e-10)	-1.89e-09** (8.78e-10)	-2.01e-09** (8.51e-10)	-2.31e-09** (1.12e-09)
Manufacturing	-0.00230 (0.00175)	-0.00110 (0.00175)	-0.00148 (0.00172)	-0.00252 (0.00241)
Industry	0.00375*** (0.00139)	0.00392*** (0.00146)	0.00378*** (0.00144)	0.00424** (0.00186)
Inflation	-0.000992 (0.00197)	-0.000320 (0.00207)	0.00121 (0.00207)	-0.00410 (0.00283)
FDI	0.00596*** (0.00225)	0.00519** (0.00229)	0.00700*** (0.00226)	0.00995*** (0.00346)
PS	-0.00315 (0.0165)	-0.0149 (0.0176)	0.0192 (0.0167)	0.00968 (0.0235)
RL	-0.0296 (0.0235)	0.00582 (0.0251)	-0.0130 (0.0235)	-0.0284 (0.0383)
ethnic	-0.108** (0.0472)			

language		-0.162*** (0.0397)		
religion			-0.267*** (0.0546)	
trust				0.150 (0.148)
Constant	0.962*** (0.0590)	1.012*** (0.0621)	1.024*** (0.0604)	0.945*** (0.0807)
Observations	5,805	5,669	5,773	3,773
R-squared	0.013	0.015	0.017	0.012

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Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 7: Fractionalization, generalized trust and MFI social performance**

**(conditional median regressions)**

**Dependent variable: Share of female borrowers**

VARIABLES	(1) ShareFemBorr	(2) ShareFemBorr	(3) ShareFemBorr	(4) ShareFemBorr
MFI_AGE	0.00106 (0.00126)	0.00159 (0.00129)	0.00150 (0.00136)	0.00199 (0.00131)
MFI_AGEsq	-5.93e-05** (2.93e-05)	-5.59e-05* (2.99e-05)	-5.75e-05* (3.17e-05)	-5.97e-05** (3.03e-05)
GrowthGDPcapitaPPP	-0.000337 (0.000455)	0.000235 (0.000454)	0.000350 (0.000483)	-0.000273 (0.000542)
GDPperCapitaPPP	-8.80e-05*** (5.18e-06)	-0.000113*** (5.56e-06)	-0.000112*** (5.70e-06)	-9.52e-05*** (5.40e-06)
GDPperCapitaPPPsq	4.95e-09*** (3.64e-10)	6.51e-09*** (3.81e-10)	6.39e-09*** (3.98e-10)	5.47e-09*** (3.68e-10)
Manufacturing	0.00111 (0.000787)	0.00487*** (0.000793)	0.00528*** (0.000833)	0.00676*** (0.000829)
Industry	0.000640 (0.000611)	0.00293*** (0.000648)	0.00194*** (0.000685)	-0.000794 (0.000620)
Inflation	0.000736 (0.000836)	0.00196** (0.000933)	0.00434*** (0.00101)	0.00372*** (0.000892)
FDI	-0.0136*** (0.000966)	-0.0133*** (0.000986)	-0.0108*** (0.00105)	-0.0134*** (0.00114)
PS	-0.0905*** (0.00732)	-0.0919*** (0.00778)	-0.0532*** (0.00802)	-0.0564*** (0.00797)
RL	0.180*** (0.0100)	0.179*** (0.0107)	0.208*** (0.0108)	0.119*** (0.0127)
ethnic	-0.180*** (0.0209)			

language		-0.0106 (0.0176)		
religion			-0.318*** (0.0261)	
trust				0.475*** (0.0512)
Constant	1.094*** (0.0261)	0.931*** (0.0277)	1.073*** (0.0288)	0.876*** (0.0271)
Observations	5,012	4,894	4,987	3,176
Pseudo R2	0.201	0.199	0.206	0.264

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Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 8: Fractionalization, generalized trust and MFI social performance**

**(conditional median regressions)**

**Dependent variable: Average loan per GNI per capita**

VARIABLES	(1) AvgLoanToGNicapita	(2) AvgLoanToGNicapita	(3) AvgLoanToGNicapita	(4) AvgLoanToGNicapita
MFI_AGE	0.000813 (0.00161)	-0.000428 (0.00177)	-0.00198 (0.00182)	0.000231 (0.00128)
MFI_AGEsq	6.46e-05* (3.65e-05)	4.38e-05 (4.02e-05)	8.97e-05** (4.14e-05)	3.16e-05 (2.88e-05)
GrowthGDPcapitaPPP	0.00166*** (0.000591)	0.000698 (0.000636)	0.000630 (0.000659)	0.00350*** (0.000535)
GDPperCapitaPPP	-1.11e-05* (6.69e-06)	2.21e-05*** (7.75e-06)	1.10e-05 (7.73e-06)	3.39e-05*** (5.43e-06)
GDPperCapitaPPPsq	-9.74e-10** (4.76e-10)	-2.61e-09*** (5.37e-10)	-1.96e-09*** (5.46e-10)	-2.91e-09*** (3.74e-10)
Manufacturing	-0.00278*** (0.000991)	-0.00817*** (0.00107)	-0.00910*** (0.00110)	-0.000689 (0.000809)
Industry	-0.00516*** (0.000786)	-0.00673*** (0.000897)	-0.00623*** (0.000922)	-0.00459*** (0.000628)
Inflation	-0.00472*** (0.00109)	-0.00603*** (0.00129)	-0.00606*** (0.00135)	-0.00376*** (0.000899)
FDI	0.0226*** (0.00127)	0.0226*** (0.00140)	0.0229*** (0.00145)	0.0249*** (0.00116)
PS	0.141*** (0.00943)	0.116*** (0.0109)	0.0980*** (0.0108)	0.0435*** (0.00796)
RL	-0.227*** (0.0133)	-0.260*** (0.0154)	-0.234*** (0.0151)	-0.119*** (0.0129)
ethnic	0.354***			

	(0.0270)			
language		0.0702*** (0.0245)		
religion			0.0660* (0.0356)	
trust				-0.268*** (0.0500)
Constant	0.338*** (0.0335)	0.490*** (0.0384)	0.531*** (0.0390)	0.245*** (0.0271)
Observations	5,715	5,575	5,682	3,728
Pseudo R2	0.096	0.083	0.082	0.083

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Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 9: Fractionalization, generalized trust and MFI financial performance**

**(conditional median regressions)**

**Dependent variable: Operational Self Sufficiency (OSS)**

VARIABLES	(1) OSS	(2) OSS	(3) OSS	(4) OSS
MFI_AGE	0.00901*** (0.00109)	0.00859*** (0.00109)	0.00865*** (0.00108)	0.00841*** (0.00134)
MFI_AGEsq	-0.000155*** (2.47e-05)	-0.000144*** (2.48e-05)	-0.000147*** (2.44e-05)	-0.000120*** (2.99e-05)
GrowthGDPcapitaPPP	0.00280*** (0.000403)	0.00288*** (0.000395)	0.00254*** (0.000391)	0.00187*** (0.000569)
GDPperCapitaPPP	2.36e-05*** (4.57e-06)	2.18e-05*** (4.83e-06)	2.13e-05*** (4.59e-06)	4.03e-05*** (5.70e-06)
GDPperCapitaPPPsq	-1.84e-09*** (3.26e-10)	-1.84e-09*** (3.36e-10)	-1.74e-09*** (3.25e-10)	-3.22e-09*** (3.93e-10)
Manufacturing	-0.000743 (0.000677)	-0.000428 (0.000670)	-0.000662 (0.000656)	-0.00384*** (0.000848)
Industry	0.00163*** (0.000536)	0.00163*** (0.000560)	0.00153*** (0.000549)	0.00443*** (0.000655)
Inflation	-5.03e-05 (0.000764)	2.44e-05 (0.000791)	0.000992 (0.000791)	-0.00221** (0.000994)
FDI	0.00307*** (0.000871)	0.00238*** (0.000874)	0.00401*** (0.000864)	0.000724 (0.00122)
PS	0.0201*** (0.00639)	0.0187*** (0.00672)	0.0240*** (0.00639)	0.0392*** (0.00827)
RL	-0.0180** (0.00908)	-0.00670 (0.00960)	-0.0117 (0.00898)	-0.0367*** (0.0135)
ethnic	-0.00977 (0.0183)			

language		-0.0507*** (0.0152)		
religion			-0.123*** (0.0209)	
trust				0.164*** (0.0520)
Constant	0.937*** (0.0228)	0.969*** (0.0238)	0.982*** (0.0231)	0.877*** (0.0284)
Observations	5,805	5,669	5,773	3,773
Pseudo R2	0.025	0.027	0.028	0.037

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Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 10: Fractionalization, generalized trust and MFI social performance, extended model**

**(conditional mean regressions)**

**Dependent variable: Share of female borrowers**

VARIABLES	(1) ShareFemBorr	(2) ShareFemBorr	(3) ShareFemBorr	(4) ShareFemBorr
MFI_AGE	-0.00209* (0.00122)	-0.00184 (0.00124)	-0.00167 (0.00122)	-0.00375** (0.00158)
MFI_AGEsq	-9.20e-07 (2.75e-05)	5.31e-06 (2.79e-05)	-6.53e-06 (2.75e-05)	4.57e-05 (3.49e-05)
NoBorrLag_LN	0.0274*** (0.00237)	0.0276*** (0.00241)	0.0271*** (0.00238)	0.0261*** (0.00313)
AssetsPerGLP_LagLN	-0.0379*** (0.0121)	-0.0495*** (0.0122)	-0.0401*** (0.0120)	-0.0509*** (0.0162)
GrowthGDPcapitaPPP	-0.000349 (0.000421)	0.000184 (0.000421)	7.63e-06 (0.000417)	0.000530 (0.000616)
GDPperCapitaPPP_Lag	-9.01e-05*** (6.65e-06)	-9.33e-05*** (6.89e-06)	-8.92e-05*** (6.74e-06)	-0.000122*** (8.08e-06)
GDPperCapitaPPP_LagSq	5.21e-09*** (4.16e-10)	5.52e-09*** (4.28e-10)	5.22e-09*** (4.20e-10)	6.89e-09*** (4.93e-10)
Manufacturing	0.000695 (0.000727)	0.00186*** (0.000714)	0.00209*** (0.000698)	0.00380*** (0.000932)
Industry	0.00406*** (0.000884)	0.00393*** (0.000903)	0.00306*** (0.000894)	0.00616*** (0.00119)
Services	0.00353*** (0.000728)	0.00329*** (0.000764)	0.00282*** (0.000755)	0.00727*** (0.000944)
Inflation	-0.000393 (0.000789)	-0.000597 (0.000854)	0.000337 (0.000855)	0.000985 (0.00106)
FDI	-0.00857*** (0.000910)	-0.00836*** (0.000927)	-0.00759*** (0.000914)	-0.0113*** (0.00133)

PS	-0.0321*** (0.00708)	-0.0248*** (0.00737)	-0.0121* (0.00704)	-0.00620 (0.00965)
RL	0.0788*** (0.0150)	0.116*** (0.0147)	0.129*** (0.0140)	0.0531** (0.0212)
CC	0.0356* (0.0192)	-0.00549 (0.0182)	-0.0207 (0.0175)	0.0507** (0.0250)
ethnic	-0.139*** (0.0209)			
language		-0.000750 (0.0160)		
religion			-0.169*** (0.0222)	
trust				0.174*** (0.0608)
Constant	0.538*** (0.0574)	0.470*** (0.0596)	0.570*** (0.0580)	0.258*** (0.0758)
Observations	4,392	4,286	4,368	2,788
R-squared	0.212	0.206	0.212	0.256

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 11: Fractionalization, generalized trust and MFI social performance, extended model**

**(conditional mean regressions)**

**Dependent variable: Average loan per GNI per capita**

VARIABLES	(1) AvgLoanToGNicapita	(2) AvgLoanToGNicapita	(3) AvgLoanToGNicapita	(4) AvgLoanToGNicapita
MFI_AGE	0.00119 (0.00739)	-0.000156 (0.00756)	-0.00194 (0.00744)	-0.00392 (0.00322)
MFI_AGEsq	0.000167 (0.000163)	0.000128 (0.000167)	0.000177 (0.000165)	0.000109 (6.97e-05)
NoBorrLag_LN	-0.102*** (0.0142)	-0.103*** (0.0146)	-0.107*** (0.0144)	-0.0363*** (0.00633)
AssetsPerGLP_LagLN	0.234*** (0.0716)	0.266*** (0.0731)	0.250*** (0.0723)	0.0325 (0.0325)
GrowthGDPcapitaPPP	0.00804*** (0.00256)	0.00531** (0.00258)	0.00503** (0.00256)	0.00331*** (0.00125)
GDPperCapitaPPP_Lag	-1.27e-05 (3.98e-05)	1.28e-05 (4.16e-05)	-1.52e-05 (4.07e-05)	0.000117*** (1.65e-05)
GDPperCapitaPPP_LagSq	8.04e-10 (2.52e-09)	-8.41e-10 (2.61e-09)	5.63e-10 (2.56e-09)	-6.59e-09*** (1.02e-09)
Manufacturing	0.0106** (0.00428)	0.00295 (0.00423)	0.00142 (0.00414)	0.00260 (0.00186)
Industry	-0.0241*** (0.00531)	-0.0219*** (0.00545)	-0.0215*** (0.00541)	-0.0316*** (0.00241)
Services	-0.0136*** (0.00422)	-0.0129*** (0.00440)	-0.0138*** (0.00437)	-0.0225*** (0.00185)
Inflation	-0.00347 (0.00482)	-0.00230 (0.00521)	-0.00334 (0.00522)	-0.00403* (0.00221)
FDI	0.0424*** (0.00562)	0.0416*** (0.00575)	0.0387*** (0.00569)	0.0348*** (0.00277)

PS	0.241*** (0.0429)	0.239*** (0.0451)	0.150*** (0.0428)	0.131*** (0.0198)
RL	-0.232** (0.0918)	-0.587*** (0.0914)	-0.498*** (0.0866)	0.0234 (0.0432)
CC	-0.363*** (0.116)	0.00405 (0.111)	-0.00852 (0.107)	-0.328*** (0.0507)
ethnic	0.908*** (0.126)			
language		0.409*** (0.0974)		
religion			0.343** (0.136)	
trust				-0.857*** (0.122)
Constant	1.951*** (0.345)	2.231*** (0.356)	2.460*** (0.348)	2.562*** (0.153)
Observations	4,883	4,757	4,851	3,178
R-squared	0.082	0.076	0.074	0.200

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 12: Fractionalization, generalized trust and MFI financial performance, extended model**

**(conditional mean regressions)**

**Dependent variable: Operational Self Sufficiency (OSS)**

VARIABLES	(1) OSS	(2) OSS	(3) OSS	(4) OSS
MFI_AGE	0.00887*** (0.00323)	0.00848*** (0.00329)	0.00868*** (0.00324)	0.00685 (0.00448)
MFI_AGEsq	-0.000158** (7.13e-05)	-0.000148** (7.26e-05)	-0.000158** (7.15e-05)	-0.000110 (9.65e-05)
NoBorrLag_LN	-0.00535 (0.00624)	-0.00653 (0.00636)	-0.00615 (0.00627)	0.000345 (0.00881)
AssetsPerGLP_LagLN	-0.171*** (0.0322)	-0.168*** (0.0328)	-0.163*** (0.0324)	-0.169*** (0.0466)
GrowthGDPcapitaPPP	0.00151 (0.00112)	0.00156 (0.00112)	0.00154 (0.00111)	-0.000698 (0.00176)
GDPperCapitaPPP_Lag	-5.74e-06 (1.75e-05)	-1.24e-05 (1.81e-05)	-6.00e-06 (1.77e-05)	-9.32e-06 (2.31e-05)
GDPperCapitaPPP_LagSq	-6.93e-10 (1.11e-09)	-4.85e-10 (1.14e-09)	-6.63e-10 (1.12e-09)	-9.40e-10 (1.43e-09)
Manufacturing	-0.00124 (0.00188)	-0.000474 (0.00185)	-0.000838 (0.00181)	-0.000301 (0.00260)
Industry	0.00633*** (0.00233)	0.00553** (0.00238)	0.00523** (0.00236)	0.00960*** (0.00336)
Services	0.00299 (0.00184)	0.00229 (0.00191)	0.00208 (0.00189)	0.00595** (0.00256)
Inflation	0.000523 (0.00221)	0.000385 (0.00225)	0.00182 (0.00225)	-0.000420 (0.00334)
FDI	0.00573** (0.00246)	0.00489* (0.00250)	0.00686*** (0.00247)	0.00940** (0.00385)

PS	-0.0130 (0.0187)	-0.0232 (0.0196)	0.00621 (0.0186)	0.00595 (0.0275)
RL	-0.0553 (0.0403)	-0.0125 (0.0398)	-0.0173 (0.0378)	-0.0277 (0.0601)
CC	0.0784 (0.0515)	0.0610 (0.0486)	0.0454 (0.0469)	0.0474 (0.0712)
ethnic	-0.0713 (0.0554)			
language		-0.146*** (0.0424)		
religion			-0.251*** (0.0592)	
trust				0.109 (0.170)
Constant	0.927*** (0.151)	1.053*** (0.155)	1.066*** (0.152)	0.610*** (0.214)
Observations	4,874	4,752	4,843	3,171
R-squared	0.018	0.020	0.021	0.017

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 13: Fractionalization, generalized trust and MFI social performance, extended model  
(conditional median regressions)**

**Dependent variable: Share of female borrowers**

VARIABLES	(1) ShareFemBorr	(2) ShareFemBorr	(3) ShareFemBorr	(4) ShareFemBorr
MFI_AGE	-0.00319** (0.00150)	-0.00220 (0.00163)	-0.00264 (0.00161)	-0.00113 (0.00147)
MFI_AGEsq	1.72e-05 (3.37e-05)	1.18e-05 (3.67e-05)	5.37e-06 (3.64e-05)	-6.57e-06 (3.25e-05)
NoBorrLag_LN	0.0208*** (0.00290)	0.0206*** (0.00317)	0.0186*** (0.00313)	0.0110*** (0.00291)
AssetsPerGLP_LagLN	-0.0113 (0.0148)	-0.0355** (0.0161)	-0.0165 (0.0159)	-0.0155 (0.0150)
GrowthGDPcapitaPPP	-0.000338 (0.000515)	-0.000708 (0.000554)	-9.16e-05 (0.000550)	-0.000633 (0.000574)
GDPperCapitaPPP_Lag	-9.49e-05*** (8.14e-06)	-0.000111*** (9.07e-06)	-0.000116*** (8.89e-06)	-0.000135*** (7.52e-06)
GDPperCapitaPPP_LagSq	5.41e-09*** (5.09e-10)	6.59e-09*** (5.63e-10)	6.81e-09*** (5.54e-10)	7.43e-09*** (4.59e-10)
Manufacturing	0.000388 (0.000889)	0.00281*** (0.000940)	0.00321*** (0.000921)	0.00569*** (0.000867)
Industry	0.00106 (0.00108)	0.00267** (0.00119)	0.00246** (0.00118)	0.00797*** (0.00111)
Services	0.00118 (0.000890)	0.00153 (0.00100)	0.00232** (0.000996)	0.00918*** (0.000879)
Inflation	0.00117 (0.000964)	0.00142 (0.00112)	0.00328*** (0.00113)	0.00446*** (0.000991)

FDI	-0.0141*** (0.00111)	-0.0123*** (0.00122)	-0.0102*** (0.00121)	-0.0140*** (0.00124)
PS	-0.0676*** (0.00866)	-0.0717*** (0.00970)	-0.0407*** (0.00929)	-0.0370*** (0.00898)
RL	0.124*** (0.0183)	0.180*** (0.0194)	0.201*** (0.0185)	0.0752*** (0.0197)
CC	0.0454* (0.0235)	-0.0446* (0.0239)	-0.0331 (0.0231)	0.0586** (0.0233)
ethnic	-0.185*** (0.0256)			
language		0.0151 (0.0210)		
religion			-0.304*** (0.0293)	
trust				0.539*** (0.0566)
Constant	0.893*** (0.0702)	0.700*** (0.0784)	0.815*** (0.0766)	0.176** (0.0706)
Observations	4,392	4,286	4,368	2,788
Pseudo R2	0.212	0.211	0.215	0.290

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 14: Fractionalization, generalized trust and MFI social performance, extended model**

**(conditional median regressions)**

**Dependent variable: Average loan per GNI per capita**

VARIABLES	(1) AvgLoanToGNicapita	(2) AvgLoanToGNicapita	(3) AvgLoanToGNicapita	(4) AvgLoanToGNicapita
MFI_AGE	0.00238 (0.00191)	0.000798 (0.00199)	0.000721 (0.00199)	0.00187 (0.00149)
MFI_AGEsq	5.10e-05 (4.24e-05)	5.85e-05 (4.39e-05)	6.22e-05 (4.41e-05)	1.92e-05 (3.22e-05)
NoBorrLag_LN	-0.0147*** (0.00369)	-0.0158*** (0.00383)	-0.0173*** (0.00386)	-0.00942*** (0.00292)
AssetsPerGLP_LagLN	-0.0317* (0.0186)	-0.0218 (0.0192)	-0.0230 (0.0194)	-0.0106 (0.0150)
GrowthGDPcapitaPPP	0.000812 (0.000664)	-0.000137 (0.000679)	-0.000162 (0.000685)	0.00249*** (0.000579)
GDPperCapitaPPP_Lag	1.77e-05* (1.03e-05)	3.27e-05*** (1.09e-05)	2.28e-05** (1.09e-05)	5.97e-05*** (7.63e-06)
GDPperCapitaPPP_LagSq	-2.04e-09*** (6.54e-10)	-2.89e-09*** (6.87e-10)	-2.27e-09*** (6.86e-10)	-3.68e-09*** (4.72e-10)
Manufacturing	-0.00245** (0.00111)	-0.00499*** (0.00111)	-0.00626*** (0.00111)	0.000549 (0.000858)
Industry	-0.0130*** (0.00138)	-0.0149*** (0.00143)	-0.0134*** (0.00145)	-0.0159*** (0.00111)
Services	-0.00990*** (0.00109)	-0.0117*** (0.00116)	-0.0112*** (0.00117)	-0.0109*** (0.000855)
Inflation	-0.00534*** (0.00125)	-0.00570*** (0.00137)	-0.00529*** (0.00140)	-0.00596*** (0.00102)

FDI	0.0210*** (0.00146)	0.0217*** (0.00151)	0.0215*** (0.00152)	0.0258*** (0.00128)
PS	0.120*** (0.0111)	0.0987*** (0.0118)	0.0811*** (0.0115)	0.0346*** (0.00916)
RL	-0.188*** (0.0238)	-0.284*** (0.0240)	-0.265*** (0.0232)	-0.0917*** (0.0199)
CC	-0.00698 (0.0302)	0.123*** (0.0292)	0.125*** (0.0286)	-0.00721 (0.0234)
ethnic	0.305*** (0.0328)			
language		0.0385 (0.0256)		
religion			0.0634* (0.0365)	
trust				-0.247*** (0.0565)
Constant	1.182*** (0.0894)	1.497*** (0.0934)	1.470*** (0.0933)	1.173*** (0.0707)
Observations	4,883	4,757	4,851	3,178
Pseudo R2	0.115	0.106	0.106	0.103

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 15: Fractionalization, generalized trust and MFI financial performance, extended model**

**(conditional median regressions)**

**Dependent variable: Operational Self Sufficiency (OSS)**

VARIABLES	(1) OSS	(2) OSS	(3) OSS	(4) OSS
MFI_AGE	0.00655*** (0.00127)	0.00609*** (0.00132)	0.00555*** (0.00124)	0.00499*** (0.00149)
MFI_AGEsq	-9.79e-05*** (2.80e-05)	-8.72e-05*** (2.92e-05)	-8.24e-05*** (2.73e-05)	-6.04e-05* (3.21e-05)
NoBorrLag_LN	0.00760*** (0.00245)	0.00790*** (0.00256)	0.00663*** (0.00240)	0.0108*** (0.00293)
AssetsPerGLP_LagLN	-0.178*** (0.0127)	-0.177*** (0.0132)	-0.167*** (0.0124)	-0.182*** (0.0155)
GrowthGDPcapitaPPP	0.00280*** (0.000441)	0.00279*** (0.000453)	0.00271*** (0.000425)	0.00132** (0.000585)
GDPperCapitaPPP_Lag	1.06e-05 (6.88e-06)	1.06e-05 (7.30e-06)	1.27e-05* (6.77e-06)	2.06e-05*** (7.68e-06)
GDPperCapitaPPP_LagSq	-1.11e-09** (4.35e-10)	-1.15e-09** (4.58e-10)	-1.16e-09*** (4.27e-10)	-2.43e-09*** (4.75e-10)
Manufacturing	-0.000789 (0.000740)	-0.000271 (0.000745)	-0.000911 (0.000692)	-0.00300*** (0.000864)
Industry	0.00136 (0.000914)	0.000652 (0.000956)	0.000449 (0.000901)	0.00678*** (0.00111)
Services	5.09e-05 (0.000723)	-0.000783 (0.000770)	-0.00118 (0.000725)	0.00272*** (0.000850)
Inflation	0.000942 (0.000870)	0.000512 (0.000908)	0.000914 (0.000861)	-0.000625 (0.00111)
FDI	0.00439*** (0.000966)	0.00417*** (0.00101)	0.00505*** (0.000946)	0.00305** (0.00128)

PS	0.00966 (0.00736)	0.00700 (0.00790)	0.0129* (0.00711)	0.0325*** (0.00912)
RL	-0.0323** (0.0158)	-0.0273* (0.0160)	-0.0162 (0.0145)	-0.0756*** (0.0200)
CC	0.0349* (0.0202)	0.0382* (0.0196)	0.0266 (0.0180)	0.0413* (0.0237)
ethnic	-0.00431 (0.0218)			
language		-0.0404** (0.0171)		
religion			-0.106*** (0.0226)	
trust				0.157*** (0.0566)
Constant	0.973*** (0.0594)	1.056*** (0.0624)	1.114*** (0.0580)	0.678*** (0.0709)
Observations	4,874	4,752	4,843	3,171
Pseudo R2	0.041	0.042	0.044	0.060

Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 16: Individualism trust and MFI social and financial performance**  
**(conditional mean regressions)**

VARIABLES	(1) ShareFemBorr	(2) AvgLoanToGNIcapita	(3) Operational Self-Sufficiency
MFI_AGE	0.00181 (0.00133)	-0.00162 (0.00231)	0.0103*** (0.00314)
MFI_AGEsq	-8.04e-05*** (3.01e-05)	0.000175*** (5.05e-05)	-0.000213*** (6.83e-05)
GrowthGDPcapitaPPP	-0.000774 (0.000764)	0.00619*** (0.00135)	0.000220 (0.00185)
GDPperCapitaPPP	-9.92e-05*** (6.05e-06)	0.000106*** (1.08e-05)	-1.90e-05 (1.49e-05)
GDPperCapitaPPPsq	5.22e-09*** (3.87e-10)	-6.79e-09*** (6.98e-10)	3.68e-10 (9.62e-10)
Manufacturing	-0.00450*** (0.000993)	0.00710*** (0.00180)	-0.00580** (0.00246)
Industry	0.00487*** (0.000887)	-0.00909*** (0.00160)	0.00622*** (0.00216)
Inflation	-0.00261*** (0.000994)	0.00493*** (0.00178)	-0.00760*** (0.00267)
FDI	-0.00710*** (0.00184)	0.0130*** (0.00326)	0.00445 (0.00447)
PS	-0.00417 (0.00822)	0.128*** (0.0145)	0.0346* (0.0196)
idv	0.00468*** (0.000392)	-0.00458*** (0.000708)	-0.00176* (0.000964)

Constant	0.892*** (0.0386)	0.253*** (0.0688)	1.201*** (0.0940)
Observations	2,737	3,183	3,207
R-squared	0.293	0.139	0.018

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Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 17: Individualism trust and MFI social and financial performance  
(conditional median regression)**

VARIABLES	(1) ShareFemBorr	(2) AvgLoanToGNIcapita	(3) Operational Self- Sufficiency
MFI_AGE	0.00160 (0.00118)	-0.00111 (0.00143)	0.00874*** (0.00135)
MFI_AGEsq	-7.09e-05*** (2.67e-05)	9.79e-05*** (3.14e-05)	-0.000144*** (2.95e-05)
GrowthGDPcapitaPPP	-0.00203*** (0.000676)	0.00374*** (0.000840)	0.00167** (0.000796)
GDPperCapitaPPP	-0.000104*** (5.35e-06)	4.05e-05*** (6.71e-06)	1.59e-05** (6.42e-06)
GDPperCapitaPPPsq	5.15e-09*** (3.43e-10)	-3.18e-09*** (4.34e-10)	-1.57e-09*** (4.15e-10)
Manufacturing	-0.00189** (0.000879)	-0.00440*** (0.00112)	-0.00177* (0.00106)
Industry	0.00267*** (0.000784)	0.000726 (0.000995)	0.00543*** (0.000932)
Inflation	0.00196** (0.000879)	-0.000301 (0.00111)	-0.00204* (0.00115)
FDI	-0.00737*** (0.00163)	0.0115*** (0.00203)	0.00812*** (0.00193)
PS	-0.0481*** (0.00727)	0.0454*** (0.00902)	0.0346*** (0.00847)
idv	0.00544*** (0.000347)	-0.00414*** (0.000441)	-4.18e-05 (0.000416)
Constant	0.893***	0.245***	0.895***

	(0.0341)	(0.0428)	(0.0405)
Observations	2,737	3,183	3,207
Pseudo R2	0.322	0.100	0.031

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Standard errors in parentheses; \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

**Table 18: Summary of the results using different measures of informal institutions**

Measures of informal institutions	Female borrowing		Operational self sufficiency		Loan size	
	Expected	Actual	Expected	Actual	Expected	Actual
<i>Fractionalization</i>	-	-	-	-	+	+
<i>Trust</i>	+	+	+	+	-	-
<i>Individualism</i>	+	+	+	0/-	-	-

Source: This table shows the results from estimating the baseline model to which one of the informal institutions variables has been added (one by one). The table shows the expected sign (discussed in section 4 of this paper) as well as the actual sign we find after estimating the models. A + (-) indicates we find a positive (negative) and significant coefficient for a certain variable.