Performance of microfinance institutions in Europe - Does social capital matter?¹

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Abstract
This paper investigates performance drivers of microfinance suppliers in Europe. As these, in contrast to advanced microfinance suppliers in developing economies, typically focus on uncollateralized microcredit services to individuals at the margin of society and of labour markets, we draw on the theory of social capital and empirically investigate the role that social capital may play in the overall performance of European microfinance suppliers. We build a unique unbalanced panel data set of 302 microfinance service providers in Europe covering the years 2008 to 2015 and measure their performance in terms of credit risk, financial and social performance as well as efficiency. Pursuing an econometric approach, we test a series of hypotheses using various measures of conditions conducive for building social capital on both institution-specific and country level, such as the client base of a microfinance supplier and the level of cultural fractionalization in a society. Our findings confirm that a higher intensity of social capital is positively associated with all areas of performance of microfinance suppliers in Europe. Our conclusions could help in designing and launching microfinance institutions in those European countries in which microfinance markets are developed not at all or to a very limited extent. Our paper, thus, contributes to the nascent literature on microfinance in developed economies by applying and extending the theoretical framework and empirical models on social capital and microfinance that were originally elaborated for developing countries.

Keywords
Microfinance institutions, social capital, social performance, financial performance, efficiency, regional economics

JEL Classification G21, G23, 015, R23

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1. Introduction

The role of microfinance in European countries differs from its counterparts in the developing world. The main objective of suppliers and promoters of microfinance services in developing countries is to provide access to a broad range of financial services, namely savings and checking accounts as well as credit, to large numbers of poor people who are outside of the target markets of standard commercial banks. Contrarily, the vast majority of the adult population in EU countries does hold some type of account at a formal financial institution: According to the World Bank’s World Development Indicators database (World Bank, 2016), the EU-28 average of adult residents having a bank account is 89%, ranging from Romania with 60% of the population to 100% in Denmark. Thus, the mission of European microfinance suppliers focuses on microenterprise lending to individuals (or their companies) that are excluded from traditional bank credit services for a variety of reasons (Terjesen et al., 2016; Balkenhol, 2015). Such exclusion from bank credit services is considered not a mere financial market phenomenon but also an aspect of social exclusion (Erikkson et al. 2011).

According to the European Anti-Poverty Network (EAPN, 2016), the term “social exclusion” refers to the processes that push people to the edge of society and, in turn, limits their access to resources and opportunities (EAPN, 2016). This includes limited access to credit and also, for instance, to labour markets, vocational training and higher education. Such social exclusion or isolation is considered to be one of the main societal concerns in Europe (EAPN, 2016; Di Cataldo and Rodriguez-Pose, 2016), and poverty is believed to be a direct consequence of it. Socially excluded groups include, for instance, mothers on and after maternity leave, older people seeking new work opportunities, young or low-skilled graduates, and ethnic minorities. At the same time, among this heterogeneous group are individuals who want to start or further develop their own business (through microenterprises or self-employment) instead of searching formal employment (Dvouletý, 2017; Dvouletý and Lukeš, 2016). Due to social exclusion, they may have difficulties to borrow the funds needed to implement their business ideas. Thus, their exclusion from traditional bank credit services constitutes an obstacle to launching new business activities, and European institutions that supply microfinance services (shortly microfinance institutions or MFIs) aim at reaching out to these individuals by providing access to credit and, typically, related counselling services. Nevertheless, the mechanisms that European MFIs use to support their clients overcome not only barriers to credit access but also social exclusion, are not systematically explored in the literature. In particular, the nascent literature on the building and use of social capital in credit markets is not used to explain the phenomenon of European microfinance.

In particular, there is a lack of comparative research that investigates the performance of MFIs in the European (or other high-income) contexts systematically and that include both institution-specific and country-specific factors related to social inclusion. This paper aims to fill this research gap for European MFIs and to lay a solid empirical foundation for policy recommendations with regard to building institutional frameworks for microfinance in European countries. To fill the research gap, we use exclusive institution-specific data from the pan-European survey of individual microfinance providers that is regularly carried out by the EMN and focus on the overarching question of the role of social capital in micro lending, as we hypothesize that microfinance institutions are more successful in terms of their credit risk, double-bottom line performance and efficiency in those cases in which social capital has better conditions to be applied. Using an econometric approach, we test our hypotheses using various measures of good conditions for social capital on both institutional and country levels while drawing from various cross-country level data, and link them to performance measures of European MFIs.

Our findings have a bearing on the understanding of the role of social capital in credit markets and in the way new financial institutions take roots in their markets, and makes a contribution to the theoretical and empirical body of literature on the role of social capital as a factor shaping institutions such as found in Coleman (1988)
and North (1990). In particular, we do not find a trade-off between building a framework for formal financial institutions and the use of social capital. Rather, our findings support the notion that social capital is positively associated with repayment, profitability, depth of social outreach and, albeit less, with the efficiency of European MFIs, and that formal profit-oriented institutions like banks and non-bank financial institutions outperform not-for-profits.

The remainder of our paper proceeds as follows. The first part reviews extant theoretical and empirical studies that focus on the influence of social capital on the performance of microfinance institutions. As research on Europe is in its infancy, it draws heavily from investigations conducted in developing countries. Drawing from this overview, we develop our hypotheses in the second part, and describe the datasets and methods used in the third part. The empirical study in the fourth part applies an econometric approach to identify in how much social capital can boost micro-lending to socially excluded, but economically potentially active people through European microfinance suppliers. We conclude with a discussion of main results, particular limitations, and possible further research.

2. Performance of microfinance institutions and social capital - literature review

In order to contribute to social inclusion by supplying credit to microenterprises and self-employed in European countries, this supply must be reliable in the long term. Although not uncontested (see, for instance, Balkenhol (2015), academic (see for instance Cull and Demirgüç-Kunt, 2009) and practitioner (e.g., Eriksson et al., 2011) literature claim that this implies a need for MFIs to strive for independence from donations or subsidies. Following this logic, EU-based microfinance supply should be designed to be as self-supporting as possible, regardless the fact that EU subsidies for microfinance are currently programmed for the period of 2013 to 2020 (European Commission, 2017). Reliable long-term and sustainable access to inclusive financial services in developing countries is utilizing available social capital smartly through innovative credit contract designs.

The concept of social capital has been widely explored in both, sociological and economic literature. While many definitions lack clarity and consistency (Robison et al., 2000) a commonly accepted economic definition is Putnam’s (1995) that “Social capital means features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit”. According to Postelnicu et al. (2014) economists view it as a source of economic returns, which are driven by the social capital embedded in the ties that are actually mobilized to achieve certain outcomes. According to Freedman and Jin (2008), social capital may convey soft information about borrower risk and therefore has the potential to compensate for the lack of hard information. This consequently decreases the need for collateral or high interest rates, which are believed to be major barriers to reducing social exclusion. Dufhues et al. (2011) develop an operational definition of social capital, which we adopt for our study.

This research therefore examines how variations in the intensity of conditions that are conducive the developing social capital in the European microfinance world affect the level of double bottom-line performance and efficiency of MFIs. Available evidence on the importance of social capital in microfinance is scarce. Moreover, extant empirical studies use data from developing countries. Measuring the intensity of social capital in European microfinance markets has, to the authors’ best knowledge, the potential to better understand the diverse and overall limited performance of this microfinance market.

Several papers have investigated the relationship between the conditions conducive the developing strong social collateral on both firm and country-specific levels. According to Mersland and Strom (2014), several proxies have been used in empirical studies to gauge the intensity of social ties. They include factors such as the duration of the relationship, geographic proximity, character of the relationship, the frequency of contact and sharing between group members. In general, extant literature confirms the theoretical prediction that strong social ties
among stakeholders determine repayment performance and decrease the riskiness of loans. In turn, they also contribute to better social and financial performance of credit suppliers.

Wydick (1999) presents empirical tests on borrower group data from Guatemala. Results from a survey of 41 urban and 96 rural borrower groups indicate that peer monitoring significantly affects borrowing group performance. Hermes et al. (2005) provide an empirical analysis of the impact of monitoring and social ties within group lending programs on moral hazard behaviour of its participants, using survey data survey on 102 groups in Eritrea. They find evidence that peer monitoring reduces moral hazard through the social ties of group leaders to borrowers but no significant association between moral hazard within groups and social ties among group members other than the group leader. Karlan (2007) uses data from the village bank FINCA in Peru to test whether groups that are connected socially perform better. He finds evidence to support the hypothesis that monitoring and enforcement activities do improve group lending outcomes, and that social connections facilitate the enforcement of joint liability. He also observes that both cultural similarity and geographic concentration lead to improved group lending outcomes - to higher repayment rates, saving rates and returns on savings. Finally, Duflués et al. (2013) study social capital effects on access to formal credit in rural Thailand. Their results also confirm the general relevance of social capital and highlight the informational advantage and thus the reduction of ex ante transaction costs derived from personal ties.

More specifically, social ties work different depending on the pre-existing type of relationship between the different stakeholders. Cassar et al. (2007) conduct their research on primary data from field experiments in South Africa and America and find evidence for a positive relationship between the personal trust among group members, social homogeneity, and loan repayment. This is shown to be of greater importance than general social trust or acquaintanceship between members. Wydick et al. (2011) use data from a survey of 465 households conducted in Guatemala in 2004 to confirm that social networks have endogenous effects in credit availability. These endogenous effects appear to some extent among geographical neighbours but most strongly within church networks. Their findings have significant implications for the launch of microfinance operations in new areas. In line with these findings, Mersland et al. (2013) investigates the relationship of religion with development of microfinance, in particular the efficiency, loan repayment, and social outreach of MFIs with a Christian affiliation compared to non-religious institutions. They find that Christian MFIs are as effective in enforcing loan repayments as their secular peers, have lower cost of funding and serve fewer female clients.

To investigate whether social capital can be systematically built and put to use for microcredit performance, Feigenberg et al. (2013) provide experimental evidence from a development program in India encouraging repeat contacts. They and show that this strengthens the social ties and enhance social capital among a treatment group of community members, which consequently reduces default risk and improves their loan repayment rates. Also, Giné and Karlan (2014) carried out two randomized trials to test the influence of joint liability that supports creation of social capital on repayment performance of microfinance clients. They find that individual liability compared to group liability leads to no change in repayment. To sum up, Mersland and Strom (2014) confirm in their review of the empirical literature the unambiguous supreme role that geographic proximity plays compared to other aspects of social capital. If this finding were transmittable to European conditions, it should be recommended to support the creation of local and potentially small microfinance institutions in order to enable the utmost utilization of social capital. However, it remains under question whether its positive effect is strong enough to offset the disadvantages of small entities, in particular the lack of economies of scale. Indeed, the empirical literature investigating this question in cross-sectional institutional comparisons shows ambiguous results, as we discuss below when we derive our own hypotheses.
Not only institutional specifics of MFIs but also the presence of country-specific formal and informal institutions that shape social networks may contribute to solving agency problems in credit markets. However, literature researching these country-specific factors success is scarce, in particular literature that examines the influence of these conditions on the social capital that is relevant to microfinance. The pioneering empirical study on the relationship of macroeconomic and country-specific policy issues with the performance of MFIs is the work of Ahlin et. al. (2011). The broad country-level set of variables includes that are proxy measures for aspects of social capital, such as the level of corruption, political stability, government effectiveness, time plus cost to register a new enterprise, or income inequality in the country. They report significant effects of macro-institutional factors on MFIs’ financial performance and their extensive and intensive growth. For example, inequality (measured through the Gini coefficient) is a negative predictor of financial self-sufficiency and lower corruption is associated with faster extensive growth of MFIs, but greater political stability predicts slower extensive and faster intensive growth of institutions. Interestingly, government effectiveness is a strong predictor of high MFI operating costs, and, naturally, cost and time required to register a new enterprise are significantly and negatively related to financial performance (measured as financial self-sufficiency).

Building on this approach, Sundeen and Johnson (2012) show how social capital, defined in terms of social networks, trust, and social norms, influence the outreach to clients and the financial performance (measured in operational self-sufficiency) of MFIs. Analysing data of 2,000 institutions from 115 countries, they find that social capital significantly influences the performance of MFIs and that there is a trade-off between outreach and sustainability. Manos and Tsytrinbaum (2014) confirm in their analysis of 852 institutions from 30 countries that cultural environment is significant driver of MFIs’ social and financial performance. Similarly, Burzynska and Berggren (2015) use a panel of 331 MFIs from 37 countries to explore the relationship between the financial performance and general trust and cultural norms. Their cross-country analysis shows that MFI performance not only relies on the macroeconomic and formal institutional environment but is also associated with the nature of informal institutions. In particular, the level of trust and collectivist culture in a society is positively associated with a reduction in operating and default costs as well as lower interest rates of MFIs. This indicates that social collateral, supported by trust and collectivist culture, can work as a substitute for physical collateral. Postelnicu and Hermes (2015) discuss the mechanisms at work here: informal institutions may be helpful in dealing with the information opacity that MFIs face towards their clients. Informal institutions stimulate the development and improve the social networks, cohesion and interaction, which eventually results in trust building between lender and borrowers. This, in turn, increases the opportunities to use the social collateral to substitute for lack of real collateral. They support this suggestion through an empirical test on data from 934 MFIs based in 100 countries. In general, their results indicate that strong informal institutions are associated with improved performance reflected in both social and financial indicators. They find strong support for their hypothesis that fractionalization of society and high trust in the society are connected with better financial and social performance and that an individualistic society leads to higher social performance of MFIs.

The majority of studies confirm the theoretical prediction of positive effects of social capital on the performance of MFIs (e.g., Sharma and Zeller (1997), Hermes et al. (2006), Al-Azzam and Mimouni (2012), Cassar et al. (2007), Abbink et al. (2006) and Feigenberg et al. (2010), however, there are some with ambiguous findings (Hermes et. al. (2005), Kritikos and Vigenina (2005) and several confirming the adverse effects (Ahlin and Towsend (2007), Godquin (2004)).

The nature and shape of informal institutions in society are arguably different in high- and medium-to-high income economies in the European area. Our paper contributes and critically tests this body of empirical literature by focusing exclusively on European microfinance suppliers. Moreover, by combining several data sources with a uniquely generated dataset on European MFIs, we are able to use a broader set of explanatory variables describing both firm and country-specific factors. We develop and test a model in which we specify the
possibilities of an MFI to support the existence of social capital among lenders and borrowers as well as measures for formal and informal institutions conducive to social capital through the particular societies.

3. Operationalization and research hypotheses on the role of social capital

3.1 Operationalization of social capital

Based on the above discussion, we empirically investigate our overarching research question as to what extent the conditions conducive to developing social capital in a society, arguably crudely defined by country borders, are linked to different levels of financial, social and repayment performance as well as efficiency of MFIs in Europe. Our hypotheses build on the extant literature concerning the interaction between the presence and strength of social capital resources and the efficiency-related outcome of MFIs. We investigate efficiency indicators as a separate performance dimension as this separation is more suitable for subsidized institutions according to Balkenhol (2015).

To avoid the ambiguities in the definitions and operationalization of social capital used in the extant literature, we employ the definition of Dufhues et al. (2011), who perceive and measure social capital as the availability and intensity of two elements, namely interpersonal network ties and resources. They claim that social structures are not independent of their context, and not every social structure will result in the building of social capital. It is the nature of the resource that turns social structure into social capital. Economic returns are then driven by social capital that is embedded in these resources which, in turn, are mobilized to achieve a certain outcome. The nature of these resources—conditions that are conducive to developing social capital—constitute the main explaining variables for MFIs’ performance in our models, while we control for a variety of other institutional and country-level factors.

To operationalize the concept of social capital, we draw from the discussed empirical literature on the association of social capital and MFIs. Although the studies differ in the way in which they define and measure social capital, their results are of great interest to us, as they identify the resources of social capital.

We operationalize our hypotheses based on these resources of social capital. We argue that certain features of the institutional and national environment in which MFIs operate support the genesis and the development of social network ties that lead to the production of social capital as an effective instrument to circumvent information asymmetries. Given the ambiguous results of the previous studies on the role of social capital in microfinance, we include a rather broad set of variables in our operationalization and empirical investigation. We use the previously identified resources as proxies for social capital and deploy them in our models within the set of explanatory variables for the performance of European MFIs. We control for firm-specific factors and additional country level factors that we retrieve from a mix of secondary macro data sources. Figure 1 lists the deployed resources measures of social capital, showing institutional measures on the left hand and country-level measures on the right hand side of the fan.
The size (SIZE) of MFIs is measured in terms of number of staff as opposed to the more frequently used asset or loan portfolio volumes, as the use of local staff can be considered a measure for the intensity of social ties among stakeholders. Social ties affect their screening, monitoring, and enforcement efforts, which in turn determine repayment performance and the quality of the loan portfolio. The smaller the MFI, the better are conditions to develop social ties and use the advantage of social capital. This prediction is supported by the findings of Al-Azzam and Mimouni (2012) who find that geographic proximity improves the repayment performance of borrowers. However, it remains under question whether the effect is strong enough to offset the disadvantages of small entities—such as low economies of scale. For instance, Wale (2009) reports a positive impact of size on the profitability and sustainability of MFIs in Ethiopia, and so do studies conducted by Ruben and Schers (2007) and Adugna (2014). A possible mechanism with which profitability plays positively on the size of an MFI is given by Kyereboah-Coleman (2007) who shows that firm size has a positive impact on the yield on the gross loan portfolio of MFIs.

The age (AGE) of MFIs tells about the experiences acquired by the institution with operations, clients’ behaviour, market experience, as well as with using the social ties with and among borrowers. The longer is the history of the institution, the deeper is the knowledge of its market and clients and the higher is the value of relevant social capital. Kyereboah-Coleman (2007), however, finds evidence for a negative impact on an MFI’s performance in terms of social performance (outreach) and loan portfolio quality as age increases and the institutions expands and reaches more poor clients. Wale (2009), nevertheless, measures a positive impact of MFI age on efficiency.
The **individual approach** of an MFI is proxied through its productivity in lending operations with borrowers, measured as the number of loan officers per loans \((LOANS\_per\_STAFF)\). This proxy is neutral with regard to the role of joint liability while emphasizing lender-borrower relationships. For instance, Johnson and Rogaly (1997) show that in the case of Bank Rakyat Indonesia, BRI managed to lower its screening cost by using insider information about the creditworthiness of borrowers when they launched an individual lending approach. The lower the ratio loans per employee, the more time a loan officer can devote to a borrower and the stronger social ties can be developed.

The **share of clients from rural areas** \((RUR)\) is a strong predictor of the creation of social information channels. Such information channels mitigate the information asymmetry, and increase the amount of social collateral involved and the threat of social sanctions in case of default. Postelnicu et. al. (2014) provide a theoretical framework that includes both internal and external ties of group borrowers. They claim that information channels are especially dense in rural areas where tightly-knit networks improve the capacity to collect and transmit information. This theoretical model is supported by empirical findings that microfinance lending work better in rural areas than in urban ones (Wydick 1999, Ahlin and Townsend, 2007).

The **share of female clients** \((WOM)\) is a significant resource of social capital. Several authors argue that contracts with women are easier to monitor and enforce. For example, Rahman (2008) and Goetz and Gupta (1996) find that women are more sensitive to peer pressure and more responsive to the interventions of loan officers. Ameen (2004) states that women have a lower opportunity cost of time than men and are therefore more inclined to have contact with the MFI, with a positive impact on repayment. However, not all arguments favour women as good borrowers. Phillips and Bhatia-Panthaki (2007) claim that women entrepreneurs tend to be overrepresented in traditional sectors with lower profits, which could make them less able to repay their loans. In a European environment, we use this share as a proxy for conditions conducive to develop social capital of the MFI than a social performance indicator per se. Our reasoning is that in high- and middle-income income countries in Europe, gender is not an equally strong predictor for poverty as it is in developing countries but rather for the conditions conducive to develop social capital. Many studies in developing world use share of women among clients as an indicator of the depth of outreach.

**Cultural fractionalization of society** \((ETHNIC\_FRAC, LANGUAGE\_FRAC, RELIGION\_FRAC)\) refers to the probability that two randomly chosen people coming from the same country are not from the same ethnic, religious, or linguistic group, according to Postelnicu and Hermes (2015). Fractionalization is expected to reduce the development of social ties. Postelnicu and Hermes (2015) find a negative correlation between societal fractionalization and both social and financial performance of MFIs.

It seems intuitive to assume a strong negative link between the national **level of corruption** \((CORRUPTION)\) and social capital. According to Paldam and Svendsen (2002) and Uslaner (2001), countries in which people appear to be more honest and are able to build social networks ought to experience less corruption and reversely. Ahlin, Lin, and Maio (2011) find, indeed, that lower corruption levels are related to faster extensive MFI growth but have no significant association with intensive growth. Postelnicu and Hermes (2015) confirm a significant negative relationship between the control of corruption and the social performance of MFIs. The relationship to financial performance is found to be insignificant.

**Generosity** \((GENEROSITY)\) is defined by those acts that benefit another person and cost the giver time, money, or energy. Generous behaviours, like volunteering, are essential to well-functioning societies and uses social networks to increase information about volunteering opportunities and the likelihood of being asked to volunteer (Glanville et al., 2015). To measure generosity, we use the residual of regression of the national average of Gallup World Poll responses to the question, “Have you donated money to a charity in the past month”, this being the best available measure despite some crudeness to it. The higher is the average generosity level within a society, the better are conditions to develop social capital. To support this hypothesis, for instance, one of the
most pervasive observations in research on the predictors of formal volunteering is that persons with larger social networks volunteer more (Musick and Wilson, 2003). Brook (2005) finds strong links between changes in social capital and charitable behaviour of individuals. Thus, we hypothesize that it is possible to expect better financial performance of MFIs with increasing levels of generosity.

**Social trust (TRUST)** is defined as a shared set of moral values that helps to create expectations of regular and honest behaviour (Fukuyama, 1995). The extent to which trust is prevalent in a society is expected to be positively associated with developing social capital. Postelnicu and Hermes (2015) indicates that high trust societies show better financial and social performance. So do Knack and Keefer (1995). We measure TRUST through a World Values survey question on whether “most people can be trusted”. The indicator of trust is the percentage of individuals who respond positively to the question.

Knack and Keefer (1997) demonstrate that the Gini coefficient for income inequality (GINI) is strongly associated with lower civic cooperation. Larraín and Vergara (1997) confirm this conclusion based on empirical findings that income inequalities give rise to social pressure and conflicts, which in turn decrease opportunities for the creation of social networks or ties. According to Ahlin, Lin, and Maio (2011), income inequality measured by the Gini coefficient is a negative predictor of self-sufficiency MFIs.

### 3.2 Research hypotheses

Despite the empirical findings regarding the effect of social capital on the performance of MFIs in the developing world being ambiguous, our starting point is that good conditions favouring developing social capital have positive effect on all performance areas of MFIs. To research these conjectures, we develop four hypotheses with respect to four particular areas of interest – loan repayment, social performance, financial performance, and, as a separate category, efficiency of MFIs. Based on our review of the literature summarized above, we state the following hypotheses:

**Loan repayment**

The most widely used measure of loan repayment is the portfolio quality, expressed in the microfinance industry as portfolio at risk, which measures the portion of the loan portfolio outstanding affected by delinquency as a percentage of the total outstanding loan portfolio. Our hypothesis is that the loan portfolio quality is positively associated with social capital, namely,

\[ H_1: \text{The quality of an MFI's loan portfolio, expressed as portfolio at risk, is positively associated with the conditions conducive to developing social capital.} \]

**Financial performance**

With the increasing degree of harmonization of microfinance performance indicators with those used in standard banking, the most commonly used variable for overall financial performance is the return of assets (ROA), which is calculated by dividing net operating income after taxes by total assets. Return on assets is an overall measure of profitability on an accounting basis and thus, we state our second hypothesis as follows:

\[ H_2: \text{The financial performance of an MFI in terms of return on assets is positively associated with the conditions conducive to developing social capital.} \]

**Social performance**

Extant literature, e.g., Mersland and Storm (2010), claim that size of the loans in relation to GNI per capita is commonly used as a proxy for an MFI’s outreach to poor clients. The higher the value of this indicator, the lower is MFI’s depth of outreach to poor clients, which is considered a key element---although not the only one---of the social performance of MFIs (SPTF, 2014). Given the close link between our definition of social capital
conditions and the social mission of European MFIs to target populations that are overall excluded from society, we derive the following hypothesis with respect to the social performance:

\[ H_3: \text{The social performance of an MFI in terms of reaching out to poor clients is positively associated with the conditions conducive to developing social capital.} \]

**Efficiency**

Efficiency when measured through accounting variables relates an MFI’s outputs to its inputs and typically focuses on operating expenses needed to operate the loan portfolio. The operating expense ratio, which is considered to be a key indicator of the overall efficiency of a microlending institution (Microrate, 2003), is calculated by dividing all expenses related to the operation of the institution by the average gross loan portfolio. The lower this ratio, the more efficient are the processes in the institution. Our review of the literature allows us to hypothesize that the conditions conducive to social capital, in particular institution-level conditions, are positively associated with the efficiency of MFIs:

\[ H_4: \text{The efficiency of an MFI is positively associated with the conditions conducive to developing social capital.} \]

Table 1 Summary of hypotheses
[to be inserted here]

4. Data sample

4.1 MFI data

Microfinance institution data come from a comprehensive, up-to-date overview of microcredit suppliers in the European Union. This pan-European survey of microfinance providers has been carried out by Fondazione Giordano Dell’Amore on behalf of the European Microfinance Network (EMN) and the Microfinance Centre (MFC) since 2004. According to Botti et al. (2016), the survey has increased its coverage from 32 micro-lenders in 10 European countries participating in 2004 to 149 institutions from 22 countries participating in the last edition. The EMN survey data include the standard MFI institution yearly indicators although the scope of variables broadened over the years. We employ data on microfinance institutions from this survey from the year 2008 to its last edition in 2015, with several exceptions. We have excluded the MFIs from Bosnia and Herzegovina as the country suffered from problems of indebtedness caused by specific conditions after the war and empowered by the financial crises in 2008, which according to EMN resulted in high default rates, a decline in portfolio size and negative returns. Furthermore, microfinance institutions reporting a share of turnover from microlending activities lower than 50 percent are excluded. 90 percent of the remaining institutions in the research sample report that the percentage of their turnover comprised by microlending is higher than 75 percent.

The number of institutions in our dataset was changing during the observing period which led to the creation of unbalanced panel data. In all, we have 302 MFIs\(^7\), from 31 countries, each with two to eight years of data over 2008 - 2015. Although the survey covers all European countries that launched some microfinance activities, we cannot claim it to be a representative sample of all European MFIs, as the average response rate for the observing period was only 47 % (it should be noted, that the last edition has experienced a significant increase of

\(^7\) Although the highest number of MFIs participating in the EMN survey is 149 institutions, our sample consists of 302 different organisations. The high count of examining institutions is caused mainly by high fluctuation in the survey sample during the years 2008 - 2015 and also by changing the legal status of existing MFIs (which caused assigning of new identification number to the institution).
response rate to 69%). Nevertheless, this dataset is unique, as it allows identifying the performance drivers of MFIs with respect to the specific conditions in Europe which, to the best of our knowledge, has not been explored previously.

4.2 Country-level data

Country-level data come from several sources. Data on informal institutions as societal fractionalization come from the National Bureau of Economic Research (Alesina et. al 2003), data on trust, social support, generosity and GINI are taken from the World Happiness Report. Data on formal institutional variables like level of corruption or politic stability come from a World Bank database, the Worldwide Governance Indicators. The World Bank is also the source for macroeconomic variables like GDP growth, GNI, or shares of economic sectors on national economies. These variables were taken from the database World Development Indicators.

The overall indicator of the efficiency of government regulation of business, namely the Business Freedom indicator, is annually published by the Heritage Foundation. The business freedom score for each country is a number between 0 and 100, with 100 equalling the freest business environment (Heritage Foundation). We do not use regulatory frameworks for microfinance as an independent or control variable because there is no specific regulation in many European countries (in contrast to developing countries).

5. Empirical analysis

5.1 Descriptive statistics

The comparative framework used to analyze the influence of social capital on the performance of MFIs follows that of Ahlin, Lin, and Maio (2011) and Postelnicu and Hermes (2015).

There are four areas of primary interest - social and financial performance, efficiency, and quality of the loan portfolio - that constitute our dependent variables. There are various measures that can be used to operationalise these areas. All variables, including a description of the measures used and their descriptive statistics, are summarized in Table 2.

Table 2: Variable description and summary statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Abb.</th>
<th>Description</th>
<th>Mean</th>
<th>SD</th>
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<td>Portfolio quality</td>
<td>PAR30</td>
<td>Outstanding Balance on Arrears over 30 days/Gross Loan Portfolio</td>
<td>10.131866</td>
<td>14.757565</td>
<td>0</td>
<td>96</td>
<td>483</td>
</tr>
<tr>
<td>Financial performance</td>
<td>ROA</td>
<td>[(Net Operating Income - Taxes) /Total Assets] * 100</td>
<td>7.3573959</td>
<td>18.890576</td>
<td>-15</td>
<td>166</td>
<td>394</td>
</tr>
<tr>
<td>Social performance</td>
<td>LOAN_SIZE_T</td>
<td>Average Loan Size in Current Year/GNI per Capita</td>
<td>.47583393</td>
<td>.8753807</td>
<td>.00112394</td>
<td>14.09926</td>
<td>565</td>
</tr>
<tr>
<td>Efficiency</td>
<td>OER</td>
<td>[Operating Expense/Average Gross Loan Portfolio] * 100</td>
<td>16.965981</td>
<td>21.123647</td>
<td>0</td>
<td>156</td>
<td>413</td>
</tr>
</tbody>
</table>
INDEPENDENT VARIABLES - EXPLANATORY

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>Number of Employees (E)</td>
<td>Ordinal variable with categories: Very small (0-5 E), Small (5-50 E), Middle (50-500 E) and Big (500 E and more)</td>
</tr>
<tr>
<td>Age</td>
<td>Number of Years since Birth</td>
<td>11.94289, 11.941524, 0, 133, 858</td>
</tr>
<tr>
<td>Individual approach</td>
<td>Gross Loan Portfolio / Number of Employees (in constant prices 2010)</td>
<td>875595.5, 3847493.5, 11.42427, 5417501, 541</td>
</tr>
<tr>
<td>Share of female clients</td>
<td>Women in % of Total Borrowers</td>
<td>31.561501, 28.407684, 0, 100, 613</td>
</tr>
<tr>
<td>Share of clients from rural areas</td>
<td>Rural Population in % of Total Borrowers</td>
<td>44.140242, 22.230194, .5, 100, 464</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnic fractionalization</td>
<td>Probability that two randomly chosen individuals in one country are not from the same ethnic group.</td>
<td>.23433305, .15969154, .04143221, .80916, 848</td>
</tr>
<tr>
<td>Language fractionalization</td>
<td>Probability that two randomly chosen individuals in one country are not from the same language group.</td>
<td>.17695363, .14597892, .0197805, .5795139, 848</td>
</tr>
<tr>
<td>Religion fractionalization</td>
<td>Probability that two randomly chosen individuals in one country are not from the same religion group.</td>
<td>.45875032, .18687296, .1223239, .7221826, 848</td>
</tr>
<tr>
<td>Lack of Corruption</td>
<td>Index: Control of corruption (-2.5 to 2.5 - Worldwide Governance Indicators)</td>
<td>.68157014, .84902927, .88472044, 2.412423, 861</td>
</tr>
<tr>
<td>Generosity</td>
<td>Residual of regression of the national average of Gallup World Poll responses to the question: Have you donated money to a charity in the past month?</td>
<td>.00220203, .1798063, .2814077, .4018173, 800</td>
</tr>
<tr>
<td>Income inequality</td>
<td>GINI coefficient (World Bank)</td>
<td>.32417649, .02311809, .26892222, .3946571, 806</td>
</tr>
</tbody>
</table>

5.2 Model estimation

Our empirical strategy to evaluate our hypotheses is based on an estimation of multivariate regression models. An econometric approach is used to quantify the impact of independent variables on the analysed outcome/dependent variables under the assumption that other variables are kept constant (ceteris paribus). We evaluate our hypotheses based on the value of the estimated parameters and their statistical significance (Verbeek, 2012). For the estimation of econometric models we use the software STATA 14.
We estimate our models with a year-fixed effects approach and control for cross-country heterogeneity/variance through a set of institutional and economic controls. Variables from the pooled data set used in the regressions were tested to be stationary. All presented econometric models are estimated with robust standard errors in order to overcome potential threats of heteroscedasticity and autocorrelation. To inspect collinearity among the independent variables, we check the values of the Variance Inflation Factors test (VIF) and additionally correlations between independent variables and we conclude that all values are below the generally accepted threshold of ten (Verbeek, 2012).

We also use the alternative estimation strategy of clustered standard errors with respect to countries as a robustness check (Angrist and Pischke, 2008), and we conclude that our results are stable. Therefore, we are allowed to interpret our estimated econometric models.

**Quality of the loan portfolio (H1)**

To test the first hypothesis, we take the standard measure of portfolio quality PAR30 \((\text{PAR30})\), which represents the balance of the loans with arrears over 30 days and which is appropriate for microloans with frequent, at least monthly instalments. Our independent variables are represented by the set of social capital resources specified in the previous section, accompanied by a set of control variables from both institutional and country-specific areas. Baseline MFI control variables include institutional type \((\text{INST\_TYPE})\), financial leverage \((\text{DtoE})\) and cost of capital \((\text{FER})\). Country-level controls include the economic growth measure \((\text{GDP\_Growth})\) and an indicator describing the quality of entrepreneurial environment \((\text{BUS\_FREE})\).

The specification of the regression model is inspired by Ahlin et al. (2011) and Postelnicu and Hermes (2016). We use additional categories for our variables and include variables of our primary interest, which are believed to be the resources of social capital on both country- and institution-specific levels, whereas the two other groups of variables include controls on country- and institution-specific levels. To test the influence of conditions conducive to developing social capital on the loan portfolio quality of European MFIs, the following regression model is estimated:

**Model 1:**

\[
\text{PAR30}_{ijt} = \alpha + \beta_0 X_{0ijt} + \beta_1 Y_{1jt} + \beta_2 X_{2ijt} + \beta_3 Y_{3jt} + \epsilon_{ijt}
\]

where \(\text{PAR30}_{ijt}\) is a year-\(t\) quality portfolio indicator of MFI \(i\) located in country \(j\). \(X_{0ijt}\) is a set of MFI-specific variables that are believed to be resources of social capital for MFI \(i\) located in country \(j\) in a year \(t\). \(Y_{1jt}\) is a set of country-specific resources of social capital describing country \(j\) in a year \(t\). \(X_{2ijt}\) is a set of MFI-specific control variables for MFI \(i\) located in country \(j\) in a year \(t\). \(Y_{3jt}\) is a set of country-specific control variables describing country \(j\) in a year \(t\).

**Financial performance**

We analyse the financial performance using the return on assets \((\text{ROA})\) as our dependent variable to test the second hypothesis. Our independent variables and control variables are the same as for Model 1. To test the second hypothesis, the following regression model is estimated:

**Model 2:**

\[
\text{ROA}_{ijt} = \alpha + \beta_0 X_{0ijt} + \beta_1 Y_{1jt} + \beta_2 X_{2ijt} + \beta_3 Y_{3jt} + \epsilon_{ijt}
\]

where \(\text{ROA}_{ijt}\) is a year-\(t\) financial performance indicator of MFI \(i\) located in country \(j\); the remaining symbols have the same content as in model 1.
Social performance

The third hypothesis is focused on the social performance of institutions. We analyse social return using depth of outreach, which is measured as the average loan size in relation to GNI per capita ($LOAN\_SIZE\_TO\_GNIpc$). Again, our independent variables are represented by the set of social capital resources specified in the previous section and are accompanied by the same set of control variables as for the previous models and summarized in Table 1. To test the third hypothesis, the following regression model is estimated:

Model 3:

$$LOAN\_SIZE\_TO\_GNIpc_{ijt} = \alpha + \beta_0X_{0ijt} + \beta_1Y_{1ijt} + \beta_2X_{2ijt} + \beta_3Y_{3ijt} + \epsilon_{ijt}$$

where $LOAN\_SIZE\_TO\_GNIpc_{ijt}$ is a year-$t$ social performance indicator of MFI $i$ located in country $j$; the remaining symbols have the same meaning as in model 1.

Efficiency

The last hypothesis is focused on the control of the efficiency of institutions. As dependent variable we choose the operating expense ratio $OER$ ($OER$), To test the last hypothesis we estimate the following regression model:

Model 4:

$$OER_{ijt} = \alpha + \beta_0X_{0ijt} + \beta_1Y_{1ijt} + \beta_2X_{2ijt} + \beta_3Y_{3ijt} + \epsilon_{ijt}$$

where $OER_{ijt}$ is a year-$t$ efficiency indicator of MFI $i$ located in country $j$; the remaining symbols have the same content as in model 1.

5.2. Results and discussion

The results are presented in columns (1) to (4) reflecting our four models, in Table 3.

Table 3: Regression results

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$PAR30$</td>
<td>$ROA$</td>
<td>$LOAN_SIZE_TO_GNIpc$</td>
<td>$OER$</td>
</tr>
<tr>
<td>$AGE$</td>
<td>0.0000380</td>
<td>0.00376</td>
<td>-0.00332</td>
<td>-0.283**</td>
</tr>
<tr>
<td></td>
<td>(0.0355)</td>
<td>(0.0638)</td>
<td>(0.00126)</td>
<td>(0.0884)</td>
</tr>
<tr>
<td>$SIZE_CAT==\text{Big}$</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>(.)</td>
<td>(.)</td>
<td>(.)</td>
<td>(.)</td>
</tr>
<tr>
<td>$SIZE_CAT==\text{Middle}$</td>
<td>1.584</td>
<td>1.653</td>
<td>-0.0429</td>
<td>-3.382</td>
</tr>
<tr>
<td></td>
<td>(1.597)</td>
<td>(1.438)</td>
<td>(0.0687)</td>
<td>(3.341)</td>
</tr>
<tr>
<td>$SIZE_CAT==\text{Small}$</td>
<td>0.172</td>
<td>8.726**</td>
<td>-0.0677</td>
<td>-4.873</td>
</tr>
<tr>
<td></td>
<td>(1.620)</td>
<td>(2.641)</td>
<td>(0.0800)</td>
<td>(3.481)</td>
</tr>
<tr>
<td>$SIZE_CAT==\text{Very small}$</td>
<td>-6.831†</td>
<td>-33.38†</td>
<td>0.342**</td>
<td>10.34</td>
</tr>
<tr>
<td></td>
<td>(3.829)</td>
<td>(17.87)</td>
<td>(0.109)</td>
<td>(5.683)</td>
</tr>
<tr>
<td>$INSTIT_TYPE==\text{Bank}$</td>
<td>-11.56***</td>
<td>-38.42*</td>
<td>0.451***</td>
<td>26.09**</td>
</tr>
<tr>
<td></td>
<td>(3.000)</td>
<td>(17.56)</td>
<td>(0.0964)</td>
<td>(8.492)</td>
</tr>
<tr>
<td>$INSTIT_TYPE==\text{Community}$</td>
<td>0</td>
<td>-46.25*</td>
<td>0.607***</td>
<td>1.742</td>
</tr>
<tr>
<td></td>
<td>(18.36)</td>
<td>(18.36)</td>
<td>(0.127)</td>
<td>(8.195)</td>
</tr>
<tr>
<td>$INSTIT_TYPE==\text{Development Financial Institution (CDFI)}$</td>
<td>0</td>
<td>0</td>
<td>0.949***</td>
<td>33.55***</td>
</tr>
<tr>
<td></td>
<td>(.)</td>
<td>(.)</td>
<td>(0.0792)</td>
<td>(3.415)</td>
</tr>
<tr>
<td>$INSTIT_TYPE==\text{Cooperative/Credit Union}$</td>
<td>-5.286†</td>
<td>-32.28†</td>
<td>0.377***</td>
<td>20.54***</td>
</tr>
<tr>
<td></td>
<td>(3.088)</td>
<td>(18.15)</td>
<td>(0.0846)</td>
<td>(5.040)</td>
</tr>
<tr>
<td>$INSTIT_TYPE==\text{Government body}$</td>
<td>-7.498**</td>
<td>-40.94†</td>
<td>0.656***</td>
<td>17.11***</td>
</tr>
<tr>
<td></td>
<td>(2.720)</td>
<td>(17.45)</td>
<td>(0.111)</td>
<td>(5.105)</td>
</tr>
<tr>
<td>$INSTIT_TYPE==\text{Other}$</td>
<td>-12.09***</td>
<td>0</td>
<td>0.516†</td>
<td>15.96</td>
</tr>
</tbody>
</table>
Table 3 shows results from estimating the impact of social capital on the financial and social performance, efficiency, and portfolio quality as well as the influence of control variables. In a nutshell, the results show the direction and strength of the relationship between the measurable influences of social capital resources on the repayment, financial performance, efficiency, and social performance in the descending order, controlling for a number of factors.

The role of social capital and portfolio quality (H1)

Our estimation of coefficients supports our hypothesis 1 (H1) $H_{01}$ that more intense conditions conducive to developing social capital are connected with better portfolio quality and thus, better repayment behaviour of MFI clients. A negative sign of the estimated coefficients indicates that we find a positive relationship between the particular independent variables and the loan portfolio quality (Model (1)). Specifically, among the institutional variables, we find significant positive evidence for the share of clients from rural areas ($RUR$) and the share of female clients ($WOM$). Among the country-specific variables, we find a significant influence of generosity, low levels of ethnic fractionalization of the society, and a lack of corruption. In total, we find significant association between PAR30 and five of nine examined recourses of social capital.

The share of rural clients ($RUR$) is negatively and significantly associated with $PAR30$. This result supports the idea that microfinance lending works better in rural areas than in urban ones. Postelniciu et.al (2014) provide a theoretical framework in order to measure the social collateral pledged by microfinance borrowers and to show how information channels increase the amount of social collateral involved and the threat of social sanctions.
when payments are delayed. They claim that information channels are especially dense in rural areas where tight networks improve the capacity to collect and transmit information. This theoretical model is consistent with our findings as well as with the findings for developing economies by Wydick (1999) and Ahlin and Townsend (2007).

Higher social pressure is also a potential factor contributing to the result that the share of female clients (WOM) is negatively and statistically significantly associated with lower rate of late repayments. This finding is in accordance with results of Rahman (2008) or Goetz and Gupta (1996) who indicate that women are more sensitive to peer pressure, a sensitivity that, in turn, makes the social collateral more valuable. This indicates that the greater the share of female clients in microfinance institutions, the easier it is to collect loans and the better are the indicators of repayment.

Next, a set of structural characteristics of societies that are believed to matter for microfinance institutions are examined. The level of generosity (GENEROSITY) in the society is negatively and significantly associated with bad repayment behaviour; in other words, the more generous people live in a country, the better is the repayment behaviour observed among the clients of MFIs located in this country. This finding is consistent with those of Cowell et al. (2017) who assess the development of generosity and moral cognition across five cultures on children populations and find that social cognitive development including generosity, combined with basic demographics, seems to be the best predictor of moral behaviour.

Our results on cultural fractionalization of society are not uniform. On one hand, language (LANGUAGE_FRAC) and religion (RELIGION_FRAC) fractionalization are not statistically significant. On the other hand, ethnic fractionalization appears to be a significant predictor of portfolio quality. This could be explained by the fact that higher ethnic fractionalization may cause more trust among individuals belong to the same ethnic group and support the genesis of social capital within such groups in a more intensive way than in a non-fractionalized society.

Last, a set of control variables, including both country- and institution-specific indicators, was tested. Among the institutional variables we find statistically significant evidence for the institutional type (INST_TYPE). Some institutional forms predominate in the portfolio quality over the others. We group the MFIs based on ownership structure into shareholder firms (banks (Bank) and non-bank financial institutions (NBFI)), and non-profit organisations (cooperatives (Cooperative/Credit Union) and non-governmental organizations (NGO)). The second group outperforms the shareholder firms statistically significantly in terms of borrowers’ repayment behaviour. This is in contrast to the empirical findings of Morgan (2015) who supports the theoretical prediction that regulatory oversights causes that those more commercially orientated are constrained and monitored by external parties and take fewer risks than the other legal forms.

Among the country-specific variables we find a significant association of repayment quality with the Business Freedom Index (BUS_FREE). The higher this country-level score, the better portfolio quality of MFIs in the country. Surprisingly, we found a negative and statistically significant association of repayment with the level of corruption control (CORRUPTION). The more developed are mechanisms to control corruption in the country, the worse is the portfolio quality of MFIs. This could be explained by the fact that the countries with lowest level of corruption---the seven European countries with the best anti-corruption mechanisms according to actual ranking of Worldwide Governance Indicators (2016), namely Finland, Denmark, Sweden, Norway, Luxembourg, Liechtenstein, Switzerland --- are also those with the lowest social marginalization. In these countries, financial exclusion is concentrated among people suffering from poverty and living on the absolute edge of society. According to Eriksson et. al (2011) the role of microfinance in particular in these countries shifted from the traditional objective of financing income-generating activities to social help.
Social capital and financial performance (H2)

Looking at the financial performance as measured through the return on assets in Model (2), we find some similar results but also differences to Model (1).

Not surprisingly, economies of scale matter as evidenced in the strongly significant relationship between the size variable \((SIZE\_\text{CAT}==\text{very small})\) and the ROA. Further, we find strong evidence for the second hypothesis that more intense conditions conducive to developing social capital are connected with better financial performance of MFIs (Model (2). We can support this hypothesis as five of nine examined resources of social capital appeared to be statistically significant. Among the institutional variables, we find significant positive evidence for the size, the share of clients from rural areas and the share of female clients. Among the country-specific variables, we find a significant influence of lack of corruption and ethnic and language fractionalization.

Economies of scale matter, but not in the expected direction. Indeed, the best profitability is statistically significantly achieved by the smallest institutions. The size \((SIZE)\) is thus significant predictor of financial performance of MFIs in Europe. While this finding stands in contrast to the general concept of economies of scale, it is in line with empirical findings from the developing world (e.g., Ruben and Schers, 2007) and Adugna 2014) that show that MFIs size and expense ratios are inversely related to their financial performance.

The effects of the share of rural clients \((RUR)\) is positively and significantly associated with \(ROA\), which is in line with the above discussed effects on portfolio quality. A possible explanation is that social networks are more tightly-knit in rural areas and thus help to build social collateral and collect the loans. This finding is consistent with Mersland and Strom (2007).

A higher share of female clients \((WOM)\) is statistically significantly related to better financial performance in European microfinance institutions. This is in contrast to the majority of findings from empirical studies in developing countries, which argue that women entrepreneurs tend to be involved in traditional sectors with lower profits, harder competition which should make them less profitable clients (e.g., Phillips and Bhatia-Panthaki, 2007). Meyer (2015) finds for MFIs in developing countries that the effects of more female borrowers on ROA and ROE are very small and not significantly different from zero, as negative effects of smaller loans and higher operating costs seem to offset positive effects of portfolio quality—the latter effect also found by d’Espallier (2009).

Two of three fractionalization variables \((ETHNI\_\text{FRAC} \text{ and } LANGUAGE\_\text{FRAC})\) are significant with respect to financial performance. The significantly positive coefficient for \(ETHNI\_\text{FRAC}\) and the significantly negative coefficient for \(LANGUAGE\_\text{FRAC}\) indicate the opposite influence of these two fractionalisation measures on profitability. Compared to in Model (1), the effect of ethical fractionalization changes direction, as such fractionalization affects efficiency due to the need to cater to smaller separate groups through different distribution channels.

As expected, a high level of corruption control \((CORRUPTION)\) is statistically significantly associated with improved financial performance. This result is also in accordance with the findings of Ahlin, Lin, and Maio (2011) for MFIs in developing countries. The contradictory outcomes for profitability and portfolio quality can be found in assumption that countries with low corruption (those with the best living standards in Europe) may give higher subsidies to their MFIs letting them to be profitable while having high share of nonperforming loans.

Among the institutional controls, we find again statistically significant but less strong evidence for the importance of the institutional type \((INST\_\text{TYPE})\). Our empirical results show that profit oriented organisations achieved higher profits in the comparison to the non-profit ones. Still, the difference between shareholder-type organizations and our broadly defined group of non-profit organizations is small.
Social performance and social capital (H3)

Our third hypothesis, that MFIs’ social performance is positively associated with conditions conducive to developing social capital, is supported as we find a significant positive relationship of five of all nine measures of social capital resources and the average loan size in relation to GNI per Capita ($\text{LOAN\_SIZE\_TO\_GNIpc}$). The results confirm that the longer is the history of the institution ($\text{AGE}$), the greater is the outreach. This relationship is statistically significant in the observed sample of European microfinance institutions.

As expected, a higher share of female borrowers ($\text{WOM}$) improves the social performance of MFIs in Europe. We find a strong positive influence of share of women on the average loan size, which is consistent with findings in the empirical literature, (e.g., Bassem,(2012)).

Among the structural characteristics of the society conducive to building social capital, we find strong evidence that the levels of generosity ($\text{GENEROSITY}$), ethnic fractionalization ($\text{ETHNI\_FRAC}$), and corruption ($\text{CORRUPTION}$) in the directions we hypothesized. The more generous people live in the particular country, the easier is for an MFI to achieve a double bottom line through social performance measured in poverty outreach. Our strong evidence for a positive relationship between social performance and the ethnic fractionalization stands in contrast to results of Postelnicu and Hermes (2015) and could be explained by a higher level of trust and social responsibility among borrowers and lenders within the same ethnic group.

Interestingly, of all institution-level controls, we find again statistically significant evidence for the relevance of the institutional type ($\text{INST\_TYPE}$), as profit oriented organisations are found to be more successful in meeting their social mission than not-for-profits.

Social capital and efficiency (H4)

Our last hypothesis about the influence of social capital on the efficiency of the microfinance institutions is supported less strongly than our other hypotheses. We find significant evidence for four of nine resources of social capital, namely a MFIs’ age, its share of rural clients, the percentage of female borrowers, and societal fractionalization in the country. Our results indicate growing efficiency of MFIs when getting older ($\text{AGE}$), which is in line with our findings regarding financial and social performance. However, our results differ from the previous hypothesis with regard to the share of women among clients ($\text{WOM}$), as the OER ratio grows with a growing share of female clients. This consistent with the empirical evidence from developing countries (e.g., Hermes et.al, 2011), in contrast to this evidence, however, it does not affect the profitability of European MFIs. Possibly due to the above-mentioned extensive subsidy system. In contrast, serving rural clients ($\text{RUR}$) means higher levels of efficiency, which is consistence with theoretical framework of Postelnicu (2104). The fractionalization indicators show, again, opposite results. On the one hand, the ethnic fractionalization in the country leads to worsened efficiency of MFIs, on the other hand, the more languages are spoken in the country, the better seems the efficiency of MFIs, although we do not find support for this result in the literature.

Limitations of the analysis

A limitation of our analysis lies in some characteristics of the underlying data set and the variables constructed to operationalize some measures. Indeed, the EMN data of MFIs in Europe shows the same gaps as to data regarding the prices of services (mainly, interest and fee charged on microloans) and on the subsidies received as the larger publicly available data sets for MFIs in developing economies. We, thus, construct and measure our dependent variables using the same empirical logic as the abundant literature on performance of MFIs in developing economies.

6. Conclusions

A main challenge for European policy makers with regard to microfinance is to support institutional frameworks that enables to unlock the potential of microcredit suppliers in Europe towards sustainable business models that
can help to include socially marginalized people, increase the job creation, and, thus, make a contribution to economic growth. Economic and societal conditions and institutional frameworks are not homogeneous across Europe; for instance, Eriksson, et al. (2011) identify a dichotomy between Western European and Central Eastern European microfinance markets and business model to be found. Still, the interest in defining sustainable business models for microfinance is overarching, and divergences with regards to socially and financially excluded populations between both geographies tend to become smaller (Di Cataldo and Rodriguez-Pose, 2016).

In our study, we, therefore, investigate the performance drivers of MFIs based on a cross-country dataset collected from European countries and derive conclusions for the European microfinance industry in general. Generally, our empirical results support our hypotheses that a higher intensity of social capital has positive influence on repayment, profitability, as well as depth of social outreach and, to a minor extent, on the efficiency of European MFIs.

Our main focus is on the role of social capital in enabling strong results of microlending, in particular microenterprise lending, in high- and middle-income economies in Europe. We contribute to theoretical and empirical research on social capital in credit markets by emphasizing that not only institutional variables and those influencing contractual security, for instance levels of corruption or trust in the honesty of contract partners, matter in microcredit markets. In addition, we include the degree of fractionalization of societies and we find that fractionalization makes the business of lending to socially excluded individuals more challenging than, for instance, income inequalities in a society. Indeed, among the country-specific predictors included in our models, the ethnic fractionalization of a society is statistically significant in all models. Surprisingly, this measure is associated with better performance of MFIs in all areas, which we explain by fact that higher ethnic fractionalization may cause more intensive trust among members of the same ethnical group, supporting the genesis of social capital in such groups in more intensive way than in non-fractionalized societies.

In particular, we find that a higher share of clients from rural areas improve most MFI performance indicators. This finding indicates that it would be useful to promote microfinance supply within rural areas where people create seem to social networks in a more natural way than in cities.

Another interesting implication from our analysis is that smaller entities perform better than their bigger counterparts, in particular they are more profitable---quite in contrast to the general principle of economies of scale but, on the contrary, attributable to the effects of social capital. Smaller entities have better conditions to develop social ties, which make the standard screening, monitoring and enforcement techniques of micro lenders more effective. Better use of resources of social capital also comes to mind in understanding the result that the share of female clients contributes statistically significant to all tested areas of MFI performance. Drawing on the literature that claims women to be more sensitive to peer pressure (Goetz and Gupta, 1986), we can explain this result with the notion that their social collateral has higher value, which leads to better repayment performance and then overall performance of MFIs.

Our empirical results indicate that profit oriented institutions, like banks and non-bank financial institutions outperform the not-for-profits in all areas of performance that we measured. This is a strong indication that despite the unresolved question of subsidy-dependency of European MFIs, a for-profit institutional framework seems more appropriate when aiming to promote the development of microfinance markets in Europe.

Finally, our empirical results develop the theory of social collateral in microfinance. We build our hypothesis on the conceptual framework of Postelnicu et. al (2014), who argue that the credibility of the threat of social sanctions depends on the size and importance both of internal and of external ties and that the extent to which external ties are pledged as collateral depends on the network configuration. The network configuration is according to Postelnicu et. al (2014) influenced by information channels that are especially dense in rural areas. We find significant confirmation that clients from rural areas repay their loans with better compared to their
urban counterparts. Microfinance in European economies emerged despite the existence of a dense and competent banking network in these countries and is perceived especially as a tool for economic growth and social cohesion.

Our main recommendations for an institutional framework to promote the further development of the industry are, thus, to support the genesis of smaller but profit-oriented microfinance institutions and that are located especially in rural areas. These should design their products in consistency and based on market research assessing the demand of specific ethnic groups in contexts of high ethnic and other cultural fractionalization, and of female clients, as our paper once more finds that a large share of female clients is associated with better performance of MFIs.

References


European Commission. 2013. European code of good conduct on microfinance provision.


