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

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This paper investigates performance drivers of microfinance suppliers in Europe. As such suppliers, in contrast to advanced microfinance suppliers in developing economies, typically focus on uncollateralized microcredit services to individuals at the margins of society and of labor 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, and efficiency. Pursuing an econometric approach, we test a series of hypotheses using various measures of conditions conducive to building social

capital on both the institutional and the 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 the performance of microfinance suppliers in Europe. Our conclusions could help in the design and launch of microfinance institutions in those European countries in which microfinance markets are developed not at all or only 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 economies.

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



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1. Introduction

The role of microfinance in European countries differs from its counterpart 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 populations of EU countries do hold some type of account at a formal financial institution: according to the World Development Indicators database (World Bank, 2016), the EU-28 average of adult residents having a bank account is 89 percent, ranging from Romania with 60 percent of the population to 100 percent 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 to be not a mere financial market phenomenon, but also an aspect of social exclusion (Eriksson 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, limit their access to resources and opportunities (EAPN, 2016). These processes result in limited access to credit, and also—for instance—to labor markets, vocational training, and higher education. Social exclusion or isolation is considered to be a main societal concern in Europe (EAPN, 2016; Di Cataldo and Rodríguez-Pose, 2016), and poverty is believed to be a direct consequence of it. Socially excluded groups include mothers on and after maternity leave, older people seeking new work opportunities, young or low-skilled graduates, ethnic minorities, and migrants. 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 for formal employment (Dvouletý, 2017; Dvouletý and Lukeš, 2016). Their exclusion from traditional bank credit services constitutes an obstacle to launching new business activities, and European institutions that supply microfinance services (hereafter referred to as microfinance institutions, or MFIs) aim at reaching out to these individuals by providing access to credit and, typically, related counselling services (e.g., Kraemer and Conforti, 2009; Urban Agenda, 2017). Nevertheless, the mechanisms that European MFIs use to support their clients in overcoming not only barriers to credit access but also social exclusion are not systematically explored in the literature. In particular, the literature on the building and use of social capital in credit markets does not seek to explain the phenomenon of European microfinance. In particular, there is a lack of comparative research that investigates the performance of MFIs in European (or other high-income) contexts systematically and that includes both institutional and country-specific factors related to social inclusion.

This paper aims to fill this research gap for European MFIs and to lay an 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 a pan-European survey of individual microfinance providers and focus on the overarching question of the role of social capital in microlending, as we hypothesize that microfinance institutions are more successful in terms of their credit risk, double-bottom line (i.e., financial and social) performance, and efficiency in those contexts in which the resources of social capital can be put to better use. 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 measurement of European MFIs.

Our findings have a bearing on the understanding of the role of social capital in credit markets and on the way new financial institutions take roots in their markets. Building on the theoretical and empirical body of literature on the role of social capital as a factor shaping institutions, including Coleman (1988) and North (1990), our findings contribute to the body of literature that applies the concept of social capital to credit markets, in particular microfinance markets (e.g., Haldar and Stiglitz, 2016). 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 next 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, this review draws heavily on investigations conducted in developing countries. Based on this overview, we develop our hypotheses in the third part, and describe the data and descriptive statistics in the fourth part. The empirical study presented in the fifth part applies an econometric approach to identify the extent to which social capital can boost microlending 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, the supply of credit to microenterprises and the self-employed in European countries must be reliable in the long term. Although not uncontested and to date not yet achieved for the majority of MFIs in Europe, which are subsidy-dependent (e.g., Balkenhol, 2015), the academic (e.g., Cullet et al., 2009) and practitioner (e.g., Eriksson et al., 2011) literature claims that long-term reliability implies a need for MFIs to strive for independence from donations or subsidies. One driver of the reliable long-term and sustainable provision of inclusive financial services is considered to be the smart use of available social capital through innovative credit contract designs. According to Freedman and Jin (2008), social capital may convey soft information about borrower risk and therefore has the potential to compensate for a lack of hard information. This consequently decreases the need for collateral or high interest rates, which are considered to be major barriers to reducing social and financial exclusion.

This paper uses the concept of social capital as it has been widely explored in both the sociological and economic literature. While many definitions lack clarity and consistency (Haldar and Stiglitz, 2016; 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". Dufhues et al. (2011) develop an operational definition of social capital, which we adopt for our study. 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—in the context of this paper, microfinance market outcomes.

The role of social capital for microfinance markets in developed economies such as European countries has not been addressed in the literature. Extant conceptual and empirical studies focus on developing economies. We contribute to closing this gap in the literature because measuring the intensity of social capital in European microfinance markets has the potential to help us better understand the diverse and overall limited performance of this microfinance market.

To do so, we build on the growing literature that investigates the relationship between the conditions conducive to the development of strong social capital and credit market outcomes on both firm- and country-specific levels in developing economies. According to Mersland and Strøm (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, the character of the relationship, the frequency of

contact and of sharing between group members. In general, the 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 carried out on borrower group data from Guatemala. Results from a survey of 41 urban and 96 rural borrower groups indicate that peer monitoring significantly effects borrowing group performance. Hermes et al. (2005) provide an empirical analysis of the impact of monitoring and social ties within group lending programs on the moral hazard behavior of their participants, using survey data on 102 groups in Eritrea. They find evidence that peer monitoring reduces moral hazard through the social ties linking group leaders and 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, Dufhues et al. (2013) study social capital's 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 differently depending on the type of pre-existing relationship that connects the different stakeholders. Cassar et al. (2007) conduct their research on primary data from field experiments in South Africa and America, and find evidence of 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 regarding credit availability. These endogenous effects appear to some extent among geographical neighbors, 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) investigate the relationship between religion and the development of microfinance, in particular the efficiency, loan repayments,

and social outreach of MFIs with a Christian affiliation compared to those of 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 that encouraged repeat contacts. They show that this strengthens social ties and enhances social capital among a treatment group of community members, which consequently reduces default risk and improves members' loan repayment rates. Also, Giné and Karlan (2014) carried out two randomized trials to test the influence of joint liability, which supports the creation of social capital, on the repayment performance of microfinance clients. They find that individual and group liability lead to the same repayment performance¹.

Postelnicu et al. (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 would 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 is questionable whether geographical proximity's 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 reveals ambiguous results. The majority of studies confirm the theoretical prediction of the positive effects of social capital on the performance of MFIs (e.g., Abbink et al., 2006; Al-Azzam and Mimouni, 2012; Cassar et al., 2007; Feigenberg et al., 2013; Hermes et al., 2005; Sharma and Zeller, 1997); however, some studies' findings are rather more ambiguous (Hermes et al., 2005; Kritikos and Vigenina, 2005) and several confirm adverse effects (Ahlin and Townsend, 2007; Godquin, 2004).

Not only the 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, the literature researching these country-specific factors' success is scarce, in particular literature that examines the influence of these conditions on the social capital. The pioneering empirical study on the relationship between macroeconomic and country-specific policy issues and the performance of MFIs is the work of Ahlin et al. (2011). The work's broad, country-level set of variables include those 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, influences outreach to clients and the financial performance (measured in operational self-sufficiency) of MFIs. Analyzing data from 2,000 institutions from across 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 across 30 countries, that cultural environment is a significant driver of MFIs' social and financial performance. Similarly, Burzynska and Berggren (2015) use a panel of 331 MFIs from across 37 countries to explore the relationship between 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 with lower interest rates for MFIs. This indicates that social collateral, supported by trust and a 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 exists between MFIs and their clients. Informal institutions stimulate the development of and improve social networks, cohesion, and interaction, which eventually results in trust building between lenders and borrowers. This, in turn, increases opportunities to use social collateral as a substitute for the lack of hard information and real collateral. The authors support this suggestion through an empirical test carried out on data from 934 MFIs based across 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

1 Motivated by the empirical results of Giné and Karlan (2014) and Feigenberg et al. (2013), de Quidt et al. (2016) develop a model that predicts that joint liability is used in settings with intermediate levels of social capital and that the use of groups, even without joint liability, is more beneficial in settings with low than in those with high social capital.

that the fractionalization of society and a high level of trust existing in a society are each connected with better financial and social performance, and that an individualistic society leads to the higher social performance of MFIs.

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 data set 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 opportunities for an MFI to make use of the social capital existing among lenders and borrowers, as well as different measures—for formal and informal institutions—conducive to social capital formation found in different societies.

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

3.1 Definition of social capital

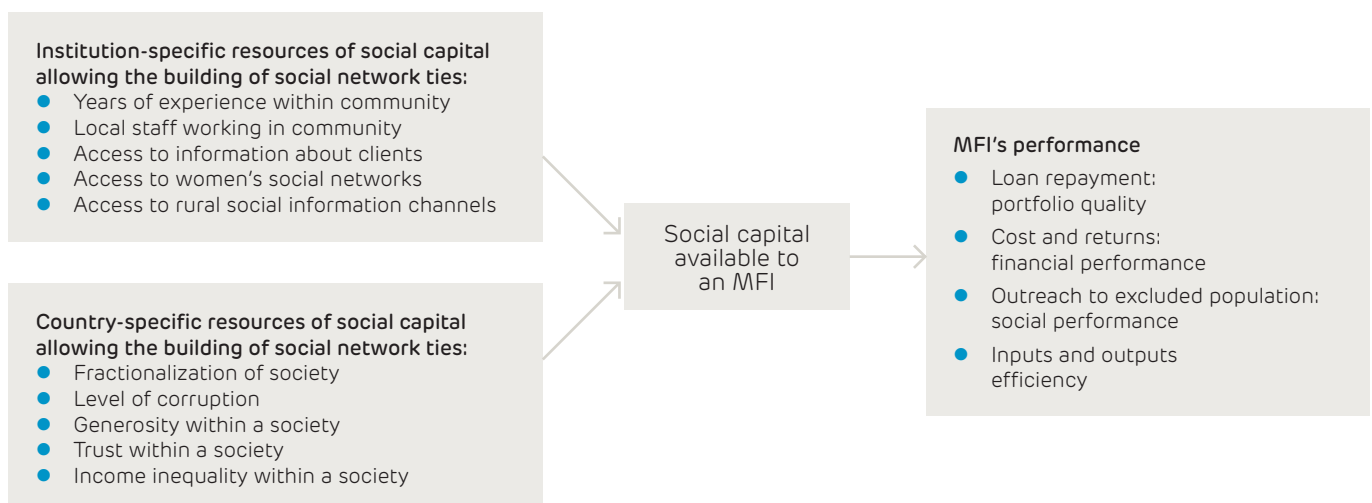
Based on the above discussion, we empirically investigate our overarching research question as to which extent the conditions conducive to the development of social capital in a society, arguably crudely defined by country borders, are linked to different levels of financial, social, and repayment performance,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

To avoid the ambiguities present in the definitions 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 that 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 the development of social capital—constitute the main explanatory variables for MFIs' performance in our models, controlling for a variety of other institution-level and country-level factors. We argue that certain features of the institutional and national environment in which MFIs operate constitute such resources because they support the genesis and the development of social network ties that, in turn, lead to the production of social capital as an effective instrument with which to circumvent information asymmetries. Figure 1 lists these resources of social capital, showing institutional measures in the top-left box and country-level measures in the bottom-left box of the figure.

Figure 1 Strategic consequences of relationship-to-profit

Source: Authors' own construction based on Dufhues et al. (2011) and Postelnicu et al. (2014)



We operationalize our hypotheses based on the resources of social capital identified in the literature discussed above. Because of the ambiguous results of the extant literature, we include a rather broad set of variables in our operationalization and empirical investigation. We use the

previously identified resources as proxies for the different areas of social capital, and deploy them in our models within the set of explanatory variables for the performance of European MFIs, controlling for a variety of other institution-level and country-level factors.

3.2 Proxies for social capital

The **size** (SIZE) of an MFI, measured in terms of number of staff as opposed to the more frequently used asset or loan portfolio volumes, can be considered a measure of the intensity of the social ties an MFI enjoys with its stakeholders, as MFIs typically employ a large proportion of local staff. Social ties are considered to positively 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 the conditions to develop social ties and to use the advantage of social capital. This prediction is supported by findings of Al-Azzam and Mimouni (2012), who find that geographic proximity improves the repayment performance of borrowers. However, it remains questionable whether the effect is strong enough to offset the disadvantages of small entities, such as low economies of scale. For instance, Ejigu (2009) reports a positive impact of size on the profitability and sustainability of MFIs in Ethiopia, as does a study conducted by Adugna (2014). A possible mechanism via which profitability plays positively on the size of an MFI is provided by Kyereboah-Coleman (2007), who shows that firm size has a positive impact on the yields on the gross loan portfolios of MFIs.

The **age** (AGE) of an MFI tells us about the experience acquired by the institution with regard to operations, clients' behavior, and market experience, as well as to using the existing social ties with and among borrowers. The longer the history of the institution is, the deeper is its knowledge of its market and clients and the higher is the value of relevant social capital. Kyereboah-Coleman (2007) finds evidence of a negative impact on an MFI's performance, in terms of social performance (outreach) and loan portfolio quality, as age increases. Ejigu (2009), meanwhile, 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 loan (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 Bank Rakyat Indonesia (BRI) managed to lower its screening costs by using insider information about the creditworthiness of borrowers when it launched an individual approach to lending. The lower the ratio of loans per employee, the more time a loan officer can devote to a borrower and the stronger are the social ties that can be developed.

The **proportion of clients from rural areas** (RUR) is a strong predictor of the creation of social information channels. Such information channels mitigate 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 considers both the internal and the external ties of clients that borrow through group arrangements. They claim that information channels are especially dense in rural areas, where tightly-knit networks improve the capacity to collect and transmit information. This theory is supported by empirical findings that microfinance lending works better in rural areas than in urban ones (Wydick, 1999; Ahlin and Townsend, 2007).

The **proportion of female clients** (WOM) is considered to be a significant resource of social capital. Several authors argue that contracts drawn up 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 findings favor the idea that women are 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. Many studies in the developing world use the proportion of women among clients as an indicator of the depth of outreach. In a European environment, we use this proportion as a proxy for conditions conducive to the development of the social capital of the MFI, not as a social performance indicator per se. Our reasoning is that in high- and middle-income countries in Europe gender is not an equally strong predictor of poverty as it is in developing countries, but that it is a predictor of the conditions conducive to the development of social capital.

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

It seems intuitive to assume a strong negative link between social capital and the national **control of the level of corruption** (CORRUPTION). 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 the converse should also be the case. Ahlin et al. (2011) find that lower corruption levels are indeed related to faster extensive MFI growth but have no significant association with intensive growth. Postelnicu and Hermes (2015) confirm a significant positive 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 (Glanville et al., 2016). Generous behaviors like volunteering are essential to well-functioning societies and use social networks to increase the availability of information about volunteering opportunities and the likelihood of being asked to volunteer (Glanville et al., 2016). To measure generosity, we use the residual of the regression of the national average of Gallup World Poll responses to the question, "Have you donated money to a charity in the past month" on GDP per capita, this being the best available measure despite there being some crudeness to it. The higher the average generosity level within a society is, the better are the conditions required to develop social capital. By way of illustration, one of the most pervasive observations

in research into the predictors of formal volunteering is that persons with larger social networks volunteer more (Musick and Wilson, 2003). Brooks (2005) finds strong links between changes in social capital and in the charitable behavior of individuals. Thus, we hypothesize that it is possible to expect better financial performance and efficiency of MFIs when high levels of generosity are present.

Social trust (TRUST) is defined as a shared set of moral values that helps to create expectations of regular and honest behavior (Fukuyama, 1995). The extent to which trust is prevalent in a society is expected to be positively associated with the development of social capital. Postelnicu and Hermes (2015) indicate, as do Knack and Keefer (1995), that high-trust societies show better financial and social performance. 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 (1995) 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 et al. (2011), income inequality measured by the Gini coefficient is a negative predictor of the self-sufficiency of MFIs.

3.3 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 an assumption that good conditions favoring the development of social capital have a positive effect on all performance areas of MFIs. To research this conjecture, we develop four hypotheses with respect to four particular areas of interest—loan repayment, financial performance, social performance, and the 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 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 loan portfolio quality is positively associated with social capital—that is to say,

H₁: The quality of an MFI's loan portfolio, expressed as portfolio at risk, is positively associated with the conditions conducive to the development of social capital.

Financial performance

As microfinance performance indicators become increasingly harmonized with those used in standard banking, the most commonly used variable for overall financial performance is 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:

H₂: The financial performance of an MFI in terms of return on assets is positively associated with the conditions conducive to the development of social capital.

Social performance

The extant literature—for example, Mersland and Strøm (2010)—claims that size of 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 an MFI's depth of outreach to poor clients. This outreach is considered a key—although not the only—element of MFIs' social performance (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 social performance:

H₃: The social performance of an MFI in terms of reaching out to poor clients is positively associated with the conditions conducive to the development of social capital.

Efficiency

Efficiency, when measured using accounting variables, relates an MFI's outputs to its inputs, and typically focuses on the operating expenses incurred by the operation of 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 operations of the institution by the average gross loan portfolio. The lower this ratio, the more efficient are the processes of the institution. Our review of the literature allows us to hypothesize that the conditions conducive to social capital, in particular country-level conditions, are positively associated with the efficiency of MFIs:

H₄: The efficiency of an MFI is positively associated with the conditions conducive to the development of social capital.

Table 1 summarizes these hypotheses and the expected signs of the associations, with independent variables as derived from the literature.

Table 1 Summary of hypotheses

| Variable name | Hypothesis 1 Portfolio quality | Hypothesis 2 Financial performance | Hypothesis 3 Social performance | Hypothesis 4 Efficiency |
|---|-----------------------------------|--|---------------------------------------|----------------------------|
| MF-specific resources of social capital | | | | |
| MFI size in number of staff (SIZE) | - | + | +/- | + |
| MFI age in years (AGE) | +/- | + | +/- | + |
| Individual approach (LOANS_PER_STAFF) | - | + | | + |
| Proportion of clients from rural areas (RUR) | + | + | + | + |
| Proportion of female clients (WOM) | +/- | +/- | + | None |
| Cultural fractionalization of society (ETHNIC_FRAC, LANGUAGE_FRAC, RELIGION_FRAC) | - | - | - | - |
| Country-specific resources of social capital | | | | |
| Control of corruption (CORRUPTION) | + | None | + | + |
| Generosity (GENEROSITY) | +/- | + | + | + |
| Income inequality (GINI) | - | - | - | - |

4. Data and descriptive statistics

4.1 MFI data

Our 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 the 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 microlenders across 10 European countries participating in 2004 to 149 institutions from across 22 countries participating in the most recently available edition. The EMN survey data include the standard MFI institution yearly indicators, although the scope of variables has broadened over the years. We use data on microfinance institutions from this survey from the years 2008 to 2015, with several filters. We exclude 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 crisis 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. In total, 90 percent of the remaining institutions in the research sample report that the percentage of their turnover made up of microlending is higher than 75 percent.

The number of institutions in our data set was changing during the observation period, which led to the creation of unbalanced panel data. In all, we have 302 MFIs² from across 31 countries, each with 2.8 years of data over the period 2008–15. Although the survey covers all European countries that launched any form of microfinance activities, we cannot claim it to be a representative sample of all European MFIs, as the average response rate for the observation period was only 47 percent (it should be noted that the most recent edition experienced a significant increase in its response rate, to 69 percent). Nevertheless, this data set is unique as it allows us to identify 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

Our country-level data come from several sources. Data on societal fractionalization come from the National Bureau of Economic Research (Alesina et al. 2003), while the GINI coefficient and survey data on trust, social support, and generosity are taken from the World Happiness Report. Data on formal institutional variables like the level of corruption or of political stability come from a World Bank database, the Worldwide Governance Indicators. The World Bank's World Development Indicators are the source for macroeconomic variables such as GDP growth, GNI, and the shares of

economic sectors in national economies. An indicator of the efficiency of government regulation of business—namely, the Business Freedom indicator, a country-level score between 0 and 100, with 100 indicating the freest business environment—is published annually by the 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).

4.3 Descriptive statistics

All variables, including a description of the measures used and their descriptive statistics, are summarized in Table 2.

2 Although the highest annual number of MFIs participating in the EMN survey is 149 institutions, our sample consists of 302 different organizations. The high count of examining institutions is caused mainly by high fluctuation in the survey sample during the years 2008–2015.

Table 2 Description of variables and summary statistics

| Variable | Abbreviation | Description | Source | Mean | SD | Min | Max | N |
|--|---------------------|---|--|---|---------|-------|--------|-----|
| Dependent variables | | | | | | | | |
| Portfolio quality | PAR30 | Outstanding balance on arrears over 30 days/gross loan portfolio | European MFIs survey (EMN) | 10.13 | 14.76 | 0 | 96 | 483 |
| Financial performance | ROA | [(Net operating income - taxes)/total assets] * 100 | European MFIs survey (EMN) | 7.36 | 18.89 | -15 | 166 | 394 |
| Social performance | LOANS_SIZE TO_GNIpc | Average loan size in current year/GNI per capita | European MFIs survey (EMN) | .48 | .88 | .001 | 14.10 | 565 |
| Efficiency | OER | [Operating expenses/average gross loan portfolio] * 100 | European MFIs survey (EMN) | 16.97 | 21.12 | 0 | 156 | 413 |
| Independent variables—explanatory | | | | | | | | |
| MFI-specific ($X0_{jt}$) | | | | | | | | |
| Size | SIZE | Number of employees (E) | European MFIs survey (EMN) | Ordinal variable with categories: Very small (0-5 E), Small (5-50 E), Middle (50-500 E), and Big (500 E and more) | | | | |
| Age | AGE | Number of years since creation | European MFIs survey (EMN) | 11.94 | 11.94 | 0 | 133 | 858 |
| Individual approach | LOANS_per_STAFF | Gross loan portfolio in 000 Euros/ number of employees (in constant prices 2010) | European MFIs survey (EMN) | 875.6 | 3,847.5 | 11.42 | 541.75 | 541 |
| Proportion of female clients | WOM | Women as % of total borrowers | European MFIs survey (EMN) | 31.56 | 28.41 | 0 | 100 | 613 |
| Proportion of clients from rural areas | RUR | Rural population as % of total borrowers | European MFIs survey (EMN) | 44.14 | 22.23 | .5 | 100 | 464 |
| Country-specific ($Y1_{jt}$) | | | | | | | | |
| Ethnic fractionalization | ETHNIC_FRAC | Probability that two randomly chosen individuals in one country are not from the same ethnic group | Fractionalization Data (Alesina et al. 2003) | .23 | .16 | .041 | .81 | 848 |
| Language fractionalization | LANGUAGE_FRAC | Probability that two randomly chosen individuals in one country are not from the same language group | Fractionalization Data (Alesina et al.) | .18 | .15 | .020 | .58 | 848 |
| Religion fractionalization | RELIGION_FRAC | Probability that two randomly chosen individuals in one country are not from the same religious group | Fractionalization Data (Alesina et al. 2003) | .46 | .19 | .12 | .72 | 848 |
| Lack of Corruption | CORRUPTION | Control of corruption index (-2,5 to 2,5; Worldwide Governance Indicators) | Worldwide Governance Indicators (World Bank) | .68 | .85 | .88 | 2.41 | 861 |
| Generosity | GENEROSITY | 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?" on GDP per capita. | World Happiness Report (Sustainable Development Solutions Network) | .002 | .18 | .28 | .40 | 800 |
| Income inequality | GINI | GINI coefficient | World Development Indicators (World Bank) | .32 | .02 | .27 | .39 | 806 |
| Independent variables—control | | | | | | | | |
| MFI-specific ($X2_{jt}$) | | | | | | | | |
| Institutional type | INST_TYPE | | European MFIs survey (EMN) | Non-bank financial institution, cooperative/ credit union, non-governmental organization, bank, government body, community development financial institution, religious institution | | | | |
| Country-specific ($Y3_{jt}$) | | | | | | | | |
| Entrepreneurial environment | BUS_FREE | Business freedom score (0-100; Heritage Foundation) | Economic Freedom Data (Heritage Foundation) | 69.16 | 34.45 | 1 | 95.9 | 865 |

5. Empirical analysis

We aim to investigate to what extent the conditions conducive to the development of social capital in a society are linked to different levels of financial, social, and repayment performance as well as of the efficiency of MFIs in Europe. The comparative framework used to analyze the influence of social capital on the performance of MFIs follows that of Ahlin et al. (2011) and Postelnicu and Hermes (2015). 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 analyzed 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. Before we proceed to the estimation of the econometric models, we specify them in the following section.

5.1 Model specification

Quality of the loan portfolio (H1)

To test the first hypothesis, we take the standard measure of portfolio quality, **PAR30** (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 the institution- and country-specific levels. Baseline MFI control variables include institutional type (INST_TYPE). Country-level controls include the economic growth measure (GDP_Growth) and an indicator describing the quality of the entrepreneurial environment (BUS_FREE). We eliminated the variables for trust, financial leverage, and cost of capital because of multicollinearity.

The specification of the regression model is inspired by Ahlin et al. (2011) and Postelnicu and Hermes (2015; 2016). We use additional categories in order to include variables of primary interest to us, which are believed to be the resources of social capital on both the country- and the institution-specific level, whereas the two other groups of variables include controls on the country- and institution-specific levels. To test the influence of conditions conducive to the development of social capital on the loan portfolio quality of European MFIs, the following regression model is estimated:

Model (1):

$$PAR30_{ijt} = \alpha + \beta_0 X0_{ijt} + \beta_1 Y1_{jt} + \beta_2 X2_{ijt} + \beta_3 Y3_{jt} + \varepsilon_{ijt},$$

where $PAR30_{ijt}$ is a year-t quality portfolio indicator of MFI i located in country j . $X0_{ijt}$ 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 . $Y1_{jt}$ is a set of country-specific resources of social capital describing country j in a year t . $X2_{ijt}$ is a set of MFI-specific control variables for MFI i located in country j in a year t . $Y3_{jt}$ is a set of country-specific control variables describing country j in a year t .

Financial performance

We analyze financial performance using the return on assets **ROA** (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):

$$ROA_{ijt} = \alpha + \beta_0 X0_{ijt} + \beta_1 Y1_{jt} + \beta_2 X2_{ijt} + \beta_3 Y3_{jt} + \varepsilon_{ijt},$$

where 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 focuses on the social performance of institutions. We analyze 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 as summarized in Table 1. To test the third hypothesis, the following regression model is estimated:

Model (3):

$$LOAN_SIZE_TO_GNIpc_{ijt} = \alpha + \beta_0 X0_{ijt} + \beta_1 Y1_{jt} + \beta_2 X2_{ijt} + \beta_3 Y3_{jt} + \varepsilon_{ijt},$$

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

Model (4):

$$OER_{ijt} = \alpha + \beta_0 X0_{ijt} + \beta_1 Y1_{jt} + \beta_2 X2_{ijt} + \beta_3 Y3_{jt} + \varepsilon_{ijt},$$

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 Model estimation

We estimate our regression models with a year fixed effects approach and control for cross-country heterogeneity/ variance using a set of institutional and economic controls. Variables from the pooled data set used in the regressions were tested for stationarity and were found to be stationary. All presented econometric models are estimated with robust standard errors in order to overcome the 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 conclude that all values are below the generally accepted threshold of 10 (Verbeek, 2012) after eliminating (due to multicollinearity) the variables mentioned above.

We also use the alternative estimation strategy of clustered standard errors with respect to countries—doing so as a robustness check (Angrist and Pischke, 2008)—and conclude that our results are stable. Therefore, we are allowed to interpret our estimated econometric models (1) to (4). 5.2.

5.3 Results and discussion

The results are presented in columns (1) to (4) in Table 3.

Table 3 Description of variables and summary statistics

| | (1) PAR30 | (2) ROA | (3) LOAN_SIZE_TO_GNIpc | (4) OER |
|--|------------------------------|-------------------------------|---------------------------------|-------------------------------|
| SIZE_CAT==Big | 0 (.) | 0 (.) | 0 (.) | 0 (.) |
| SIZE_CAT==Middle | 0 (.) | 0 (.) | 0 (.) | 0 (.) |
| SIZE_CAT==Small | 1.584 (1.597) | 1.653 (1.438) | -0.0429 (0.0687) | -3.382 (3.341) |
| SIZE_CAT==Very small | 0.172 (1.620) | 8.726** (2.641) | -0.0677 (0.0800) | -4.873 (3.481) |
| AGE | 0.0000380 (0.0353) | 0.00376 (0.0638) | -0.00332** (0.00126) | -0.283** (0.0884) |
| LOANS_per_STAFF | -8.47e-08 (6.61e-08) | -0.000000171 (0.000000109) | 7.74e-10 (3.14e-09) | -0.000000112 (0.000000115) |
| RUR | -0.0676** (0.0240) | 0.0665* (0.0313) | 0.000436 (0.000788) | -0.0776* (0.0388) |
| WOM | -0.0629† (0.0331) | 0.0498† (0.0309) | -0.00653*** (0.00127) | 0.202* (0.0796) |
| OER | 0.0267 (0.0444) | -0.0779* (0.0393) | -0.00225** (0.000726) | |
| ETHNIC_FRAC | -14.12** (5.218) | 17.81† (10.59) | -0.432* (0.204) | 22.98* (9.465) |
| LANGUAGE_FRAC | 8.813 (6.282) | -29.94* (12.78) | 0.148 (0.281) | -46.65** (15.83) |
| RELIGION_FRAC | 9.018 (5.800) | 10.85 (8.984) | 0.322† (0.191) | 7.991 (7.406) |
| CORRUPTION | 4.187** (1.293) | 7.992* (3.627) | -0.129* (0.0525) | 5.503 (3.961) |
| CORRUPTION | -12.64† (7.344) | -12.17 (13.67) | -0.428* (0.199) | 12.67 (17.58) |
| GENEROSITY | -28.04 (31.06) | 49.24 (38.04) | -0.828 (1.131) | 103.8 (75.50) |
| INSTIT_TYPE==Bank | -6.831† (3.829) | -33.38† (17.87) | 0.342** (0.109) | 10.34 (5.683) |
| INSTIT_TYPE==Community Development Financial Institution (CDFI) | 0 (.) | -46.25* (18.36) | 0.607*** (0.127) | 1.742 (8.195) |
| INSTIT_TYPE==Cooperative/Credit Union | -11.56*** (3.000) | -38.42* (17.56) | 0.451*** (0.0964) | 26.09** (8.492) |
| INSTIT_TYPE==Government body | 0 (.) | 0 (.) | 0.949*** (0.0792) | 33.55*** (3.415) |
| INSTIT_TYPE==NBFI | -5.286† (3.088) | -32.28† (18.15) | 0.377*** (0.0846) | 20.54*** (5.040) |
| INSTIT_TYPE==NGO | -7.498** (2.720) | -40.94* (17.45) | 0.656*** (0.111) | 17.11*** (5.105) |
| INSTIT_TYPE==Other | -12.09*** (3.221) | 0 (.) | 0.516† (0.274) | 15.96** (5.597) |
| INSTIT_TYPE==Religious institution | 0 (.) | -42.04* (17.52) | 0 (.) | 0 (.) |
| BUS_FREE | -0.0918* (0.0363) | 0.0634 (0.0400) | -0.000771 (0.00131) | -0.112 (0.0863) |
| Constant | 28.68** (9.865) | 8.268 (23.81) | 0.604† (0.327) | -27.85 (23.67) |
| Observations | 245 | 237 | 257 | 266 |
| R ² | 0.184 | 0.295 | 0.362 | 0.150 |
| Adjusted R ² | 0.115 | 0.230 | 0.305 | 0.080 |
| AIC | 1,784.4 | 1,969.7 | 168.9 | 2,380.9 |
| BIC | 1,854.4 | 2,042.6 | 243.4 | 2,452.5 |

Standard errors in parentheses † $p < 0.1$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$, (omitted) refers to a reference category or to a category with no observations.

Table 3 shows the results of estimating the impact of the different social capital resources on the loan portfolio quality, financial and social performance, and efficiency, and does the same for the impact of the control variables. In a nutshell, the results show the direction and strength of the

relationship between the measurable influences of social capital resources on repayment, financial performance, and social performance and efficiency, controlling for a number of factors.

The role of social capital and portfolio quality (H_1)

A negative sign for the estimated coefficients indicates that we find a positive relationship between the particular independent variables and the loan portfolio quality in Model (1). Specifically, among the institutional variables, we find significant positive evidence for the proportion of clients from rural areas (*RUR*) and the proportion of female clients (*WOM*). Among the country-specific variables, we find a significant influence of generosity, low levels of ethnic fractionalization of society, and a lack of corruption. In total, we find significant association between *PAR30* and five of the nine examined resources of social capital. Our presented results therefore support Hypothesis 1 (H_1), that more intense conditions conducive to the development of social capital are connected with better portfolio quality, and thus with better repayment behavior in MFI clients.

The proportion 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. Postelnicu 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 increase the capacity to collect and transmit information. This theoretical model is consistent with our findings, as well as with the findings of Wydick (1999) and Ahlin and Townsend (2007) for developing economies.

Higher social pressure is also a potential factor contributing to the result that the proportion of female clients (*WOM*) is negatively and statistically significantly associated with lower rates of late repayments. This finding is in accordance with the 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 social collateral more valuable. This indicates that the greater the proportion 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 societies' structural characteristics 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 behavior; in other words, the higher the proportion of generous people in the population, the better is the repayment behavior observed among the clients of MFIs located in that country. This finding is consistent with those of Cowell et al. (2017), who assess the development of generosity and moral cognition across five cultures in populations of children, and find that social cognitive

development, including generosity, combined with basic demographics seems to be the best predictor of moral behavior.

Our results on the cultural fractionalization of society are not uniform. On the one hand, language (*LANGUAGE_FRAC*) and religious (*RELIGION_FRAC*) fractionalization are not statistically significant. On the other, ethnic fractionalization appears to be a significant predictor of portfolio quality. This could be explained by the fact that higher ethnic fractionalization may bring about higher levels of trust among individuals belonging to the same ethnic group, and thus support the genesis of social capital within such groups in a more intensive way than would occur 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 for-profit firms (banks (*Bank*) and non-bank financial institutions (*NBFI*)) and non-profit organizations (cooperatives (*Cooperative/Credit Union*) and non-governmental organizations (*NGO*)). The second group outperforms the for-profit firms statistically significantly in terms of borrowers' repayment behavior. This is in contrast to the empirical findings of Morgan (2016), who supports the theoretical prediction that regulatory oversight leads, due to the fact that more commercially orientated organizations are constrained and monitored by external parties, to such organizations taking fewer risks than their not-for-profit counterparts.

Among the country-specific variables we find a significant association of repayment quality with our control variable, Business Freedom Index (*BUS_FREE*). The higher this country-level score, the better the portfolio quality of MFIs in the country. Surprisingly, we find a negative and statistically significant association of repayment with the level of corruption control (*CORRUPTION*). The more developed mechanisms to control corruption in the country are, the worse is the portfolio quality of that country's MFIs. This could be explained by the fact that the countries with lowest levels of corruption—the seven European countries with the best anti-corruption mechanisms according to their actual rankings in the Worldwide Governance Indicators (2016); namely, Finland, Denmark, Sweden, Norway, Luxembourg, Liechtenstein, and Switzerland—are also those with the lowest levels of 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 has shifted from the traditional objective of lending for income-generating activities to social help.

Social capital and financial performance (H_2)

Looking at financial performance as measured through the return on assets in Model (2), we find some similar results to, but also differences to, Model (1). Not surprisingly economies of scale matter, as evidenced in the strongly significant relationship between the size variable ($SIZE_CAT=very\ small$) and the ROA. Further, we find strong evidence for the second hypothesis, that more intense conditions conducive to the development of social capital are connected with better financial performance of MFIs. We can support this hypothesis for the following five of the nine examined resources of social capital that are shown to be statistically significant in Model (2). Among the institutional variables, we find significant positive evidence for the size ($SIZE_CAT=Very\ small$), the proportion of clients from rural areas (RUR), and the proportion of female clients (WOM). Among the country-specific variables, we find a significant influence of fractionalization—that is to say, ethnic ($ETHNIC_FRAC$) and language fractionalization ($LANGUAGE_FRAC$)—and of lack of corruption ($CORRUPTION$).

Economies of scale matter, but not in the expected direction. Indeed, the best profitability is statistically significantly achieved by the smallest institutions. These include institutions with less than five employees. Size ($SIZE$) is thus a significant predictor of the 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., Aduana 2014), which show that MFIs' sizes and expense ratios are inversely related to their financial performance.

The effect of the proportion of rural clients (RUR) is positively and significantly associated with the ROA, which is in line with this proportion's previously discussed significant and negative effects on portfolio quality. This finding is consistent with Mersland and Strom (2014). A possible explanation for this is that social networks are more tightly knit in rural areas, and thus help in building social collateral and collecting loans.

A higher proportion 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 female entrepreneurs tend to be involved in traditional sectors with lower profits and harder competition, which should make them less profitable clients. Meyer (2015) finds for MFIs in developing countries that the effects of more female borrowers on the ROA and the return on equity (ROE) are very small and not significantly different from zero, as the negative effects of smaller loans and higher operating costs seem to offset the positive effects of portfolio quality—the latter effect also found by D'Espallier et al. (2013).

Two of the three fractionalization variables ($ETHNIC_FRAC$ and $LANGUAGE_FRAC$) are significant with respect to financial performance. The significantly positive coefficient for $ETHNIC_FRAC$ and the significantly negative coefficient for $LANGUAGE_FRAC$ indicate the opposite influence of these two fractionalization measures on profitability. Compared to the case of Model (1), the effect of ethical fractionalization changes direction, as such fractionalization affects profitability 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 et al. (2011) for MFIs in developing countries. Among the institutional controls, we find again statistically significant but less strong evidence for the importance of institutional type ($INST_TYPE$). Our empirical results show that profit-oriented organizations achieved higher profits in comparison to non-profit ones. Still, the difference between for-profit-type organizations and our broadly defined group of non-profit organizations remains small.

Social performance and social capital (H_3)

Our third hypothesis, that MFIs' social performance is positively associated with conditions conducive to the development of social capital, is examined in Model (3). Overall, our hypothesis is supported through a significant positive relationship of five of all nine measures of social capital resources with the average loan size in relation to GNI per capita ($LOAN_SIZE_TO_GNIpc$).

The results confirm that the longer the history of the institution (AGE) is, the greater is its outreach. This relationship is statistically significant in the observed sample of European microfinance institutions. As expected, a higher proportion of female borrowers (WOM) improves the social performance of MFIs in Europe. We find a strong positive influence of proportion of women on the average loan size, which is consistent with findings in the empirical literature (e.g., Basseem, 2012).

Among the structural characteristics of a society conducive to the building of social capital, we find strong evidence that the levels of generosity ($GENEROSITY$), ethnic fractionalization ($ETHNIC_FRAC$), and corruption ($CORRUPTION$) move in the directions we hypothesized. The more generous the people who live in the particular country are, the easier is for an MFI to achieve a double bottom line through social performance measured in terms of poverty outreach. Our strong evidence for a positive relationship between social performance and ethnic fractionalization stands in contrast to the results of Postelnicu and Hermes (2015) for developing economies; in the European context, our finding could be explained

by a higher level of trust and social responsibility among borrowers and lenders situated within the same ethnic group.

Interestingly, of all institution-level controls, we find again statistically significant evidence for the relevance of institutional type (INST_TYPE), as profit-oriented organizations are found to be more successful in achieving their social mission than not-for-profits.

Social capital and efficiency (H₄)

Our last hypothesis, regarding the influence of social capital on the efficiency of microfinance institutions, is investigated in Model (4). Our results indicate that MFIs grow in efficiency as they get older (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 proportion of women among clients (WOM), as the OER ratio grows with a growing proportion of female clients. This is consistent with the empirical evidence from developing countries (e.g., Hermes et al., 2011); in contrast to this evidence, however, efficiency does not affect the profitability of European MFIs—possibly due to the extensive subsidy system they enjoy. In contrast, serving rural clients

(RUR) means higher levels of efficiency, which is consistent with the theoretical framework of Postelnicu et al. (2014). The fractionalization indicators show, again, opposite results to each other. On the one hand, the ethnic fractionalization (ETHNIC_FRAC) in the country leads to a worsening of the efficiency of MFIs; on the other, the more languages are spoken in the country (LANGUAGE_FRAC), the better the efficiency of MFIs seems to be, although we do not find support for this result in the literature. Overall, the fourth hypothesis is supported for only four of the nine resources of social capital identified.

Limitations of the analysis

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

6. Conclusions

One of the main challenges for European policy makers with regard to microfinance is to support institutional frameworks that enable society to unlock the potential of microcredit suppliers in Europe regarding business models that can, in the longer term, help the inclusion of socially marginalized people, increase job creation, and thus make a contribution to economic growth. Economic and societal conditions and institutional frameworks are not homogeneous across Europe; Eriksson, et al. (2011), for instance, identify a dichotomy between Western European and Central Eastern European microfinance markets and business models. Still, the interest in defining long-term, reliable business models for microfinance is overarching, and divergences with regard to socially and financially excluded populations between these two geographies are tending to become smaller (Di Cataldo and Rodríguez-Pose, 2016).

In our study, we therefore investigate performance drivers of MFIs based on a cross-country data set collected from European countries, and derive conclusions for the European microfinance industry in general. Generally, our empirical results support our hypotheses that specific conditions that are more conducive to the development of social resources, and to their use for the building of social capital, have a positive influence on loan repayments, profitability, and depth of social outreach, as well as on—to a certain extent—the efficiency of European MFIs.

Our main focus has been on the role that social capital plays in enabling strong results from microfinance—in particular microenterprise lending—in Europe. We contribute to the body of theoretical and empirical research on social capital in credit markets by emphasizing that it is not only institutional variables, and those influencing contractual security—for instance, levels of corruption or trust in the honesty of contractual partners—that matter in microcredit markets. We, in addition, include the degree of fractionalization of societies, and find that certain types of societal fractionalization make the business of lending to socially excluded individuals more challenging than, for instance, mere income inequalities in a society do. Among the country-specific predictors included in our models, the ethnic fractionalization of a society is statistically significant for all measures of MFI performance; but, in contrast to previous findings from developing economies, this measure is associated with better performance of MFIs in all areas. We explain this by the fact that higher ethnic fractionalization may cause more intensive trust among members of the same ethnic group, supporting the genesis of social capital in such groups in more intensive way than might occur in non-fractionalized societies.

We also find that a higher proportion of clients from rural areas improves most MFI performance indicators. This finding indicates that it would be useful to promote microfinance

supply within rural areas, where people seem to use social networks more intensively than they are used in cities. In other words, promoting the creation of rural microfinance institutions turns out to be a recommended tool for regional policies that aim at decreasing disparities between urban and rural areas.

Another interesting implication of our analysis, one which stands in contrast to most studies focusing on developing economies, is that in many respects smaller lending 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 attributable, however, to the effects of social capital. Smaller entities have better conditions for the development of the social ties that make the standard screening, monitoring, and enforcement techniques of microlenders more effective. Better use of the resources of social capital also comes to mind when we seek to understand the result that the proportion of female clients contributes statistically significantly to all tested areas of MFI performance. We explain this result with the notion that women's social collateral has a higher value, which leads to better repayment performance and thus to the better overall performance of MFIs.

Our empirical results indicate that profit-oriented institutions like banks and non-bank financial institutions outperform not-for-profits in all the areas of performance that we measured. This is a strong indication that despite the unresolved question of the 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 lend further support to the theory of social collateral in microfinance, in particular 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 of both internal and 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 achieve higher quality of repayment compared to their urban counterparts. This can be explained by the fact that 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 microenterprise growth, job creation, 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, taking into account that these may cater to subgroups of the population and may be located especially in rural areas. These institutions should design their products based on market research that assesses the demand from female clients, as our paper—like many that precede it—finds that a large proportion of female clients is associated with better performance of MFIs, or of specific groups in contexts exhibiting high ethnic fractionalization and other elements of cultural fractionalization.

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Research data

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