Women Leaders and Social Performance: Evidence from Financial Cooperatives in Senegal

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Abstract

How do women leaders such as board members and top managers influence the social performance of organizations? This paper addresses the question by exploiting a unique database from a Senegalese network of 36 financial cooperatives. We scrutinize the loan-granting decisions, made jointly by the locally elected board and the top manager assigned by the central union of the network. Our findings are threefold. First, female-dominated boards favor social orientation. Second, female managers tend to align their strategy with local boards' preferences. Third, the central union tends to assign male managers to female-dominated boards, probably to curb the boards' social orientation.

1. Introduction

This paper investigates how women leaders such as elected board members and top managers influence the social performance of organizations. Worldwide, both the percentage of women sitting on corporate boards and the proportion of female top managers are still well below the share of women in the workforce. This is the case even within the female-oriented not-for-profit sector. Although female participation in leadership roles is often advocated as a significant driver of performance in for-profit firms (Krishnan *et al*., 2005; Smith et *al*., 2006), the way women leaders influence social performance in not-for-profit and hybrid organizations is poorly elucidated. We address this issue by exploiting a detailed database compiled from financial cooperatives in Senegal.

Financial cooperatives are hybrid organizations combining banking activities with democratic governance.[1] This unusual combination creates potential trade-offs between financial and social objectives and makes financial cooperatives fertile ground for examining the behavior of women in leadership positions. On the one hand, the financial sector is male-dominated and plagued by gender stereotypes (Ogden *et al*., 2006; Petit, 2007); and women access hardly any leadership positions in banks (Özbilgin and Woodward, 2004). On the other hand, organizations benefitting from internal democracy are more open-minded toward female leaders. Gender imbalances in top management also exist in not-for-profit and hybrid organizations but are less pronounced than in for-profits (Lyon and Humbert, 2012).

For corporate governance scholars, financial cooperatives are attractive targets of study since they are made of several entities sharing the same business activity and governance features

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[1] See Jones and Kalmi (2009) for a worldwide survey of the cooperative sector.

(Jones and Kalmi, 2015). Typically, financial cooperatives are organized into networks of local cooperatives (LCs) placed under the umbrella of a central union (CU). While the level of centralization varies across networks, the common structure of LCs involves democratically elected boards and similar staff hierarchy and employment conditions. From a statistical viewpoint, this configuration produces a sample made up naturally of similarly structured organizations, and so constitutes an asset for analyzing and comparing the behavior of economic agents in leadership positions, including from the gender perspective.

The unique democratic nature of cooperatives makes it possible to identify the impact of women conditionally on their place in the decision-making structure of the organization. As stressed by Das (2014), there might be a gap between women's motivation and their ability to affect decision-making. In cooperatives, two types of leaders coexist: the first group is made up of elected board members who need to please their voters in order to get re-elected; the second includes professional top managers. The interests of these two groups of stakeholders are not necessarily aligned. Typically, the literature examines the influences of the two groups of female leaders separately. Scrutinizing their interactions, we acknowledge that gendered action is partly shaped by institutional constraints and hierarchies (Razavi, 1997; Boehe and Cruz, 2013; Goldman and Little, 2015), and by gender inequality in social institutions (Teasdale *et al.*, 2011; Branisa, *et al.*, 2013).

Women are known to differ from men in their leadership style. They tend to adopt a more participative, less directive style than their male counterparts (Eagley and Johnson, 1990). Moreover, gender differences are sensitive to the type of organization and the subordinates' gender (Cuadrado *et al.* 2012). Although financial cooperatives are particularly appropriate for addressing the attitude of women leaders, few papers take that stance, probably because

exhaustive micro-data is hard to obtain.[2] Exceptions include McKillop *et al.* (2003), who analyze the impact of female participation in Irish financial cooperatives. The authors provide evidence of male predominance in governance bodies. Women are more present in member-interface positions than in strategic and top-management ones. These results are in line with the gender imbalance observed in democratic institutions by Heenan and McLaughlin (2002). Closer to our topic, Mayoux (2001) studies a Cameroonian network of 22 local LCs. She finds the majority of savers are female whereas women are underrepresented in the governance bodies. Concurrently, female savings are recycled into low-interest loans made to men. The author also points out that women leaders sometimes contribute to gender inequalities. However, the evidence rests upon two female-governed LCs only. By working with a larger network and using time variations of both the composition of the LCs' governing bodies and the characteristics of the loans granted, we deliver a more nuanced—and likely more robust—picture.

The network studied in this paper, *Union des Mutuelles du Partenariat pour la Mobilisation de l'Epargne et du Crédit au Sénégal* (UM-PAMECAS), is one of the largest microfinance institutions (MFIs) in West Africa. It consists of 36 LCs grouped under the authority of a CU. In each LC, loan-granting decisions are made jointly by the locally elected board members and the top manager, whose career is supervised by the CU. Our exceptionally rich panel database allows us to separately evaluate the social performance of board members and top managers. In line with the microfinance literature, we measure social performance by means of average loan size and percentage of female borrowers (Hermes *et al.*, 2011). Our findings are threefold. First, female-dominated boards favor social orientation in loan-granting. This result is in line with previous evidence on female participation in democratic governance in India (Beaman *et*

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al., 2011). Second, female top managers are not necessarily more socially oriented than their male colleagues. Instead, they tend to align their objectives on those of the local board, even though their superiors are based at the CU. By prioritizing consensus with board members over social performance, female managers adopt a more democratic behavioral pattern than their male counterparts. Third, the CU tends to send male managers to LCs with female-dominated boards. We interpret this as evidence that the CU management aims to curb social biases that might hinder the consolidated financial situation of the network. Overall, gender is a key factor in considering social performance, but gender interactions appear far more complex than previously thought.

The rest of the paper is organized as follows. Section 2 depicts the situation of financial cooperatives in Senegal. Section 3 reviews the literature on gender and leadership, with a special focus on developing countries. Section 4 introduces the methodology. Section 5 presents the data, discusses the results, and conducts robustness checks. Section 6 concludes.

2. Context

Throughout the developing world, financial cooperatives contribute to female access to financial services.[3] According to Fletschner (2009), of the three major sources of credit in rural Eastern Paraguay (State banks, wholesalers and financial cooperatives), only financial cooperatives serve women. Likewise, Boucher *et al.* (1993) find that Guatemalan credit unions

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[3] Although financial cooperatives serve a fairly high share of women, they are surpassed by other types of microcredit providers. In a sweeping analysis of the microfinance sector, Mersland (2009) shows that financial cooperative membership is gender-balanced, with an average of 51.9% women. Nevertheless, microfinance institutions with a for-profit and an NGO status manage to obtain higher rates by serving 55% and 82.1% of female clients, respectively. D'Espallier *et al.* (2011) also stress that NGOs are more likely than financial cooperatives and for-profit microfinance institutions to adopt women-friendly policies.

do not suffer from major gender biases, in contrast to other financial institutions, both in Guatemala and worldwide.

Gender inequalities in West Africa are lower than in the rest of the developing world (Deaton, 1997). Senegalese women increasingly engage in economic activities (Guérin, 2008) and control their own incomes (Howson, 2013) while remaining subordinate to men.[4] They are mainly involved in small businesses, and they run about one-third of informal-sector activities. Senegalese women are financially active (Lyons and Snoxell, 2005). They routinely participate in traditional rotating savings and credit associations (ROSCAs), which enable them to borrow and save small amounts of cash.[5] ROSCAs reinforce social capital among members. They also act as an insurance mechanism against financial distress since the members help each other in case of emergency. However, this trend towards economic empowerment is associated with an increase in intra-household tensions (Sow, 2003; Perry, 2005). In addition, customary patriarchal norms exclude women from access to both property and formal financial services (Noponen, 1991; Guérin, 2008).

In 1983 the Senegalese government introduced a specific legal status for cooperatives to democratize their structure and empower female members. But the impact of this status is mixed. On the one hand, traditional cooperatives active in agriculture are mostly male-led. As put by Creevey (1991, p.353), "By law, women may join the cooperatives but, in practice, they seldom do." On the other hand, a new generation of financial cooperatives[6] emerged in the

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[4] The situation varies across ethnic groups. Women from originally nomadic groups, such as Peulh and Hall Peular, tend to have fewer responsibilities than those from Wolof and Serere groups (Creevey, 1991).

[5] The ROSCA members meet on a regular basis. In each meeting, the members contribute a fixed amount to a common pot. This pot goes to a member designated in a strict alternation pattern. As a result, the member who gets the pot is a borrower, and the others are savers.

[6] To avoid confusing them with traditional cooperatives, the financial cooperatives have a specific name (in French: "Mutuelles d'épargne et de crédit").

wake of the microfinance movement. These organizations pay special attention to women, providing them with specific credit services such as micro-loans and micro-savings opportunities. One of the leading members of this movement is UM-PAMECAS.

The situation of microfinance is common to all member states of the West African Economic and Monetary Union (WAEMU).[7] In the late 1980's and early 1990's, the region experienced a major economic and banking crisis (Seck, 2013). In response, the banking sector was restructured and liberalized, including the closure of public development banks, which had been a failure (BCEAO, 2013). As a result, credit to rural areas and to small and medium enterprises dropped drastically, prompting international NGOs to promote microfinance projects. In June 1992, the WAEMU central bank, BCEAO, and the Canadian institution *Développement International Desjardins* (DID),[8] together launched the PARMEC project[9] for the development of microfinance in West Africa. In December 1993, the resulting PARMEC law was enacted by the WAEMU Council of Ministers. This law focuses on financial cooperatives, not only because of environmental characteristics, such as the prominence of low-density rural areas, but also because of the influence of DID. In July 1996, the WAEMU Council of Ministers went one step further and adopted a regulatory framework for non-cooperative MFIs. Still, the legal framework was favoring financial cooperatives, which benefitted from permanent licenses,

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[7] WAEMU is composed of Benin, Burkina Faso, Ivory Coast, Guinea-Bissau, Mali, Niger, Senegal, and Togo. It was created in 1994 to replace the West African Economic and Monetary Union, intensify the intra-zone trade, and reinforce the supervision of public deficits (Seck, 2013). WAEMU has a single currency, the CFA franc (CFAF), which has a fixed parity with the euro (EUR 1 = CFAF 655.957). CFAF is regulated by BCEAO, the WAEMU Central Bank. The laws enacted by the WAEMU Council of Ministers are later enforced in each member state by means of national decrees. Regarding microfinance, WAEMU countries share a common microfinance regulatory framework, and BCEAO is in charge of supervising large microfinance institutions.
[8] Created in 1970, DID is the NGO arm of the Desjardins Group, which is the largest cooperative financial group in Canada (Desrochers and Fischer, 2005). Desjardins Group is a network of 376 financial cooperatives and 864 service points. In 2013, its consolidated total asset reached USD 179 billion. DID's objective is to help disadvantaged communities in developing countries to access financial services. DID develops and supports microfinance institutions worldwide, and shares Desjardins' expertise and experience with its sponsored institutions.
[9] PARMEC is the acronym (in French) for "Programme d'Appui à la Réforme des Mutuelles d'Epargne et de Crédit."

whereas non-cooperative MFIs needed to renew their license every five years.

The WAEMU microfinance legal framework was reformed in April 2007. The revisions were threefold. First, in order to level the playing field, the new law covered all types of MFIs equally and provided permanent licensing to NGOs and shareholder-owned MFIs. Second, it reinforced regulatory supervision of large MFIs[10] by making BCEAO its direct authority and putting national ministries in charge of monitoring. Third, new prudential norms were adopted to push MFIs to professionalize and encourage the development of NGOs and shareholder-owned MFIs (Périlleux, 2013).

Nowadays, despite the regulatory changes, microfinance in Senegal remains largely dominated by cooperatives. For Senegal, BCEAO (2013) mentions a total of 238 MFIs serving 2.8 million clients through 958 service points. In 2013, these institutions collected EUR 315 million in savings and provided EUR 363 million credit. The three largest institutions—*Crédit Mutuel du Sénégal* (CMS), UM-PAMECAS, and *Alliance de Crédit et d'Epargne* (ACEP)—are networks of financial cooperatives, together representing around 77.7% of the members/clients of the microfinance sector in Senegal.[11] The fourth largest MFI is *MicroCred Sénégal*, a shareholder-owned institution formed in 2007. The remaining MFIs are small cooperative networks, individual cooperatives, and NGOs.[12]

The governance of WAEMU financial cooperatives is ruled by law. The structure includes the general assembly and three governance bodies: the administration committee, the credit committee, and the supervisory committee. While cooperatives grow through networking, their

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[10] Large MFIs are those with total savings and/or total credit over EUR 3 million.
[11] More precisely, 39% for CMS, 30.3% for UM-PAMECAS, and 8.4% for ACEP (Direction de la Microfinance, June 2013).
[12] Over the 50 Senegalese MFIs recorded by the Microfinance Information Exchange (MIX) for year 2013, one is shareholder-owned, four are NGOs, fifteen are networks of financial cooperatives, and 30 are small isolated financial cooperatives, some of which serving around 500 members only (http://www.mixmarket.org/).

levels of centralization and integration vary: In some networks, strategic decision-making takes place at the local level, whereas in others, LCs delegate this task to the CU, and deliver harmonized products. The Senegalese government promotes the centralized model and encourages stand-alone cooperatives to join existing networks or create new ones (Périlleux, 2013).[13]

Measured by members, UM-PAMECAS is the second largest MFI in Senegal. Our choice to analyze this network was guided by four factors. First, UM-PAMECAS was willing to share its data with our research team. Second, among the Big Three, UM-PAMECAS is the only one with a focus on women. Third, its highly centralized structure is well-suited to our research, based on the similarities between local governance bodies. Since human resources management is fully delegated to the CU, the top managers of all LCs have similar contracts. The same argument applies to the functioning of local boards. Assembling a sample of leaders active in identical corporate structures and benefitting from similar working conditions reduces the occurrence of self-selection biases and protects our results against endogeneity issues. Last, the fact that UM-PAMECAS fits the cooperative model promoted by the Senegalese government will probably add relevance to the conclusions of our study. One can indeed reasonably expect that future financial cooperatives in Senegal, and more broadly in West Africa, will organize themselves into networks and adopt a centralized and integrated structure.

The history of UM-PAMECAS helps in understanding its current structure. In 1996, DID undertook a microfinance project to supply financial services to the poor in the suburbs of the Senegalese capital Dakar. First, DID set up three LCs and grouped them under a CU to make economies of scale and enhance financial sustainability. In 1998, after a two-year experimental

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[13] In developed countries, decentralization is a key feature of social banks (Cornée and Szafarz, 2014).

phase, UM-PAMECAS became an official institution. The network grew quickly and extended its activities beyond Dakar, notably into rural areas. The current objective of UM-PAMECAS is to cover the whole country, and it shows strong concern for female participation (Tall Ba and Cissé, 2009).

The governance structure of UM-PAMECAS is highly centralized, but both the CU and the LCs are legal entities with financial cooperative status. In principle, LCs are free to leave the network; in practice, though, they have limited autonomy. So far, no LC has ever asserted its right to stand alone. The CU takes care of the financial sustainability of the network. Each LC has the four legal governance bodies. First, the LC general meeting brings together all the members annually and elects its representatives to the three other bodies.[14] Second, the LC board has nine elected directors and establishes local policies within the limits drafted by the CU. For instance, it is entitled to set priorities regarding credit recovery, sensitization to cooperative spirit, and gender empowerment. Third, the LC credit committee is composed of five elected members and makes loan-granting decisions on the basis of applications previously analyzed by credit officers and the priorities identified by the board. Last, the LC supervisory committee, with five elected members, controls operations and collects opinions and recommendations from LC members.

Human resources are managed at CU level for the whole network. In particular, the CU sends a top manager to each LC.[15] The CU is supervised by two main bodies: the CU board, composed of the local board chairpersons, and the CU supervisory committee, made up of seven

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[14] 100 members need to be present to conduct elections. The sizes of the local governing body are standardized throughout the network. In practice however, these sizes may slightly deviate from their target values due to unexpected circumstances.
[15] Before 2003, the local staff was partly recruited by local boards. Centralization is supposed to ensure that wage policy is consistent and that staff are independent from the local authorities (Tutunji and Serres, 2005).

representatives elected by the LCs. The CU board determines the strategic orientations for the network. In particular, it decides upon product design, expansion strategy, and network configuration. The CU board appoints an executive committee.

The loan-granting methodology adopted by UM-PAMECAS is in line with that used by the bulk of the microfinance industry, which typically supplies standardized short-to-medium-term loans with fixed interest rates and rigid repayment schedules (Armendáriz and Morduch, 2010). Since the interest rate is fixed, larger loans are more cost-effective for the lender, given fixed transaction costs (Armendáriz and Szafarz, 2011). Hence, profitability dictates the need to grant larger loans, while social concern points in the opposite direction.

The decisions are made jointly by the LC board and the top manager. The local board logically prioritizes the satisfaction of its membership. According to the CU's vice-president, "the employees are more concerned with the profitability of the network, whereas elected members are more preoccupied by the social performances of their local financial cooperative".[16] Since the staff is managed by the CU executive team, any tensions between financial and social objectives translate into a central-versus-local dynamic.[17] In this context, the next sections analyze the interplay of female/male-dominated boards with female/male managers.

3. Literature Review

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[16] Interview conducted on January 21, 2010.
[17] Desrochers and Fischer (2005) confirm that financial cooperatives that are more closely integrated are more financially sustainable.

Gender differences in leadership are still controversial. While most authors acknowledge the existence of a female leadership style, ongoing controversies question the existence of gender advantage in leadership, and the need for quotas to improve gender diversity in organizations. Moreover, two separate streams of literature deal with women in top management positions and those holding elected mandates, respectively. Interestingly, the papers in the two streams share some conclusions, while focusing on specific issues. A significant number of papers in the political stream deal with developing countries, making them especially relevant to our study. In contrast, the bulk of the management stream disregards developing countries. In fact, gender concerns are relatively recent in the corporate leadership literature (Fine, 2009). In this section, we briefly review the literature on female participation in developing-country elected bodies and in worldwide top management positions. We leave the discussion on quotas for Section 5.4 where our results are summarized.

The contributions of female participation to democratic governance in emerging economies are increasingly emphasized in the literature. The most relevant pieces of evidence on this issue come from India, where the 1993 constitutional amendment imposed that at least one-third of the seats in village governments and in the presidential offices should be reserved for women. Chattopadhyay and Duflo (2004) show that in villages reserved for women leaders, public goods are more extensively developed, and bribery is less frequent. As stated by Beaman *et al*. (2011, p. 163) "Women who are elected leaders differ from men in significant ways and (…) make different policy decisions." The papers suggest that female leaders' action is aligned with the preferences of women and delivers pro-social outcomes. For instance, women leaders are more likely to invest in drinking water facilities.

Strøm *et al*. (2014) investigate the impact of female board members in MFIs by exploiting an original database with wide geographic and time coverage (329 MFIs in 73 countries over a ten-year period). The authors find that the share of female leaders in MFIs worldwide exhibits relatively low dispersion. On average, the boards include 29% women members, 23% of these boards have at least three women, and 27% of CEOs are female. Interestingly, female leaders are more frequent in MFIs with a gender bias toward female clients, and in NGOs and cooperatives (compared with private firms). Strøm *et al*. (2014) show that female managers and female board members all have a positive impact on financial performance. Hartarska *et al*. (2014) complement these results by showing that MFIs with female CEOs manage to reach more clients than male-led MFIs. Our study will revisit the issue of gender and social performance in MFIs, but from a micro perspective.

Is there such a thing as female leadership style? Based on seventeen studies, the pioneering meta-analysis by Dobbins and Platz (1986) concludes that "male and female leaders exhibit equal amounts of initiating structure and consideration and have equally satisfied subordinates" (p. 118). Kolb (1999) notes, however, that leadership stereotypes are predominantly described in masculine terms. The argument is supported by the observation that, all else equal, men tend to climb the corporate ladder faster than women do, a phenomenon also referred to as the "glass cliff" (Ryan and Haslam 2007). The notion of role model (Eagley, 1987) helps rationalize the facts. The role congruity theory developed by Eagly and Karau (2002) asserts that women leaders are evaluated more harshly than their male counterparts because leadership is associated with stereotypically male characteristics, such as power and authority. In addition, the intensity of the prejudice relates to the perception of incongruity between the female gender role and leadership roles.

From an extensive meta-analysis encompassing 162 studies, Eagley and Johnson (1990) conclude that women leaders tend to adopt a more democratic and collaborative style than do men.[18] This distinctive style is people-oriented and "transformational" rather than task-oriented and "transactional". It also embeds higher social concerns. According to Waldman *et al.* (2006), transformational leadership implies intellectual stimulation that is significantly associated with the propensity of firms to engage in corporate social responsibility activities.

Forsyth *et al.* (1997) show that women opting for a task-oriented leadership style are rated negatively by agents with conservative views. Likewise, women who opt for a more confrontational leadership style are judged more harshly than their male colleagues (Korabik *et al.*, 1993; Eagly and Karau, 2002). These facts are consistent with role congruity theory. Nevertheless, articles in newspapers often claim that being a woman is an advantage for holding leadership positions. With more nuances, Vecchio (2002) advocates leadership conceptualization that subsumes the dichotomy from role congruity theory, arguing that this one-dimensional view of leadership has become "simplistic and inappropriate" (p. 645). Recalling that Dobbins and Platz (1986) fail to detect significant sex differences in leadership, the author dismisses the gender stereotypes used to claim both male advantage (task focus, lower emotionality, and a propensity to be directive) and female advantage (participation, power sharing, and inclusion).

The lively debate on the relevance of role congruity theory for leadership (Eagly and Carli, 2003; Vecchio, 2003) testifies to the need for further assessments of leader role models in various contexts. From that perspective, this paper explores new avenues by scrutinizing the behavior of female leaders in West African cooperatives. Theoretical considerations aside,

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[18] This analysis was later supplemented by Eagly and Johannesen-Schmidt (2001). Druskat (1994) and Meinhard and Foster (2003) observe similar characteristics in not-for-profit institutions.

getting a better understanding of the actions and motivations of women leaders in Africa is instrumental to development goals. Barring skilled women from leadership positions can indeed constitute a considerable waste of talent, especially for countries with a shortage of well-trained managers. Moreover, female empowerment is typically associated with democratic development (Wyndow *et al.*, 2013). Assessing the validity of gender-related leadership theories should help address gender gaps and design meaningful policies for equity and empowerment (Moser, 1989).

4. Methodology

We will run multivariate analyses to understand how gender dominance in the board and the gender of the top manager impact social performance. Following the tradition of the microfinance literature, we use two typical indicators of social performance (Tchakoute-Tchuigoua, 2010; Hermes and Lensink, 2011; D'Espallier *et al.*, 2013a). First, we consider the share of loans allocated to women, which may capture some kind of "gender affinity" rather than pure social orientation. Second, we concentrate on average loan size, which is the typical proxy for depth of outreach and is directly linked to poverty alleviation. The two types of performance are intertwined since women are poorer than men on average.[19]

Other indicators are used in the literature to evaluate MFIs' social performance: the number of clients served is a proxy for breadth of outreach, and the percentage of loans provided in rural areas is used to measure the so-called "rurality bias" (Strom *et al.*, 2014). In the case of UM-PAMECAS, however, using these two indicators to assess LCs' social performance would

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[19] Women are not only poorer than men on average; they are also better credit risks than men (D'Espalier *et al.*, 2011). See Servet (2011) on corporate responsibility and social performance.

make little sense since the network expansion strategy is designed by the CU. The LC authorities have little say in their location (rural versus urban), while the number of members is mostly a question of population density in the targeted area. Although we do not consider LC size as social performance, we control for it in the econometric analysis. Less frequently used social indicators are discussed by Schreiner (2002). They include cost to clients (cost supported by clients), length of outreach (time frame of the supply), and scope of outreach (number of financial contracts supplied). As acknowledged by the author, both the cost to clients and the length of outreach are hard to measure. Scope of outreach is irrelevant to our study since all LCs supply the same products.

The models estimated in the next section can be summarized as:

$$Y_{it} = \alpha_1 FB_{it} + \alpha_2 FM_{it} + \alpha_3 FB * FM_{it} + \alpha_4 \boldsymbol{X}_{it} + \alpha_5 Year_t + \mu_i + \varepsilon_{it} \qquad (1)$$

where Y_{it} is the social performance—i.e. the share of loans allocated to women or the average loan size—for LC i in month t, FB_{it} is the *Female-dominated Board* dummy that equals 1 if the board has at least 50% of female members and 0 otherwise, FM_{it} is the *Female Manager* dummy that equals 1 if the manager is a woman and 0 otherwise, $FB * FM_{it}$ is an interaction term capturing the joint effect of female-dominated board and female manager. Vector $\boldsymbol{X}_{it}$ represents a set of control variables comprising LCs' share of female members and LCs' total asset that proxies LC size. The specification also includes year dummies and LC-specific effects acknowledging for LC's invariant characteristics. Finally, ε_{it} is the idiosyncratic error term.

To estimate Eq. (1), we will run robust fixed-effect (FE) panel estimation. Controlling for stable LC characteristics, whether observable or not, reduces the risk of biases due to omitted

variables. We will perform FE estimation based on mean-differenced data—also referred to as within-estimation (Hausman and Taylor, 1981)—to avoid losing one month of observations, as would be the case had we chosen an FE model in differences. In addition, within-estimation removes panel-level averages from each side of the model, thus eliminating the LC-specific effect. We will use the robust option to correct for potential cross-sectional heteroskedasticity and serial correlation.

We will subsequently check the robustness of our results along three dimensions. First, we will question the estimation method and run random-effect (RE) estimation instead of FE panel regressions. Our baseline regressions will use FE panel estimation. This choice is guided by prudence. Unlike RE estimation, FE estimation does not require the assumption that individual effects are orthogonal to regressors. In any case, FE estimates are unbiased and consistent. Still, under the orthogonality assumption, the RE specification is preferable because it provides estimators that are unbiased, consistent, and efficient, whereas the FE estimators are not efficient (Hausman, 1978). Second, we will check whether gender dominance is really necessary for female board members to bring their social agenda to the fore. To do so, we will replace the majority threshold (50%) by 33%.

Third, endogeneity is a standard concern in the microfinance literature, at least in non-randomized studies.[20] Endogeneity has two major sources: omitted-variable biases and reverse causality. To address those concerns, we refer to Adams and Ferreira (2009), who estimate the impact of female board members on financial performance in for-profit companies. The authors recognize that firm culture can drive significant omitted-variable biases for example, because more progressive firms can have a larger number of female directors. To overcome this issue

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[20] See Hermes and Lensink (2007). For a macro perspective, see also Imai *et al*. (2012).

and control for time-invariant firms' characteristics such as culture, the authors use firm fixed effects. In our case, the omission of meaningful variables is unlikely because all the LCs of UM-PAMECAS belong to the same network and share cultural and social norms. However, for the sake of caution, we follow Adams and Ferreira (2009)'s recommendation and insert LC fixed effects in all our regressions. On reverse causality, Adams and Ferreira (2009) stress that "(…) both director compensation structure and firm performance are likely to affect both the incentives of women to join firms and the incentives of firms to hire female directors" (p. 295). To some extent, the design of our study supported by the specific governance features of UM-PAMECAS makes this scenario rather implausible. Board members are elected at the general meeting by all the LC's members from among themselves. The interests of the voting members differ according to whether they are men or women, and whether they need small or large loans. Making the case for endogeneity is difficult since coordination issues are combined with multiple objectives. Furthermore, we control for the proportion of female members, who constitute the group more likely to share common interests.

In principle, in model (1) reverse causality could also stem from social performance affecting the gender of the manager. However, this scenario is implausible because UM-PAMECAS human resource management is centralized. The CU assigns all the employees to the LCs, and rotates them every five years or so. UM-PAMECAS female managers willing to join more socially-oriented LCs are unable to do so. From the econometric standpoint, centralization protects our results again reverse causality. In this regard, our context is more favorable than that of Adams and Ferreira (2009). Regardless of this argument, we will address the concern of reverse causality by means of a robustness check exploiting the time dimension. Precisely, we will investigate further if the expected changes in social performance actually occur within six months of a switch in manager's gender. We will thus address the concern of endogeneity by

scrutinizing social performance around the transitions from male/female managers to female/male managers.

Finally, we have no other information on the managers besides their gender. One could thus object to our results on the grounds that the differences we capture might be due to other characteristics such as age, education, and place of origin. While our data exclude these characteristics, the concern is again mitigated by the fact that all the managers are hired, supervised, and promoted by the same body, the CU executive committee. The managers themselves have little to say in their workplace. In this way, we can at least exclude the presence of a self-selection bias.

Overall, we are dealing with an original hand-collected database including the characteristics of over 200,000 microloans. In addition, to gain confidence in the results, we will submit our multivariate panel-based analysis to robustness checks, which will question the estimation methodology and address the endogeneity concern.

5. Data, Results, and Discussion

5.1. Data and Descriptive Statistics

We use monthly data on all the loans granted by the LCs in the UM-PAMECAS network over the period stretching from January 2007 to May 2010. Altogether, these 36 LCs granted 204,609 loans over the period under study. For each loan we observe the gender of the borrower and the loan size.[21] Our dataset is thus made up of an unbalanced panel of 1,158 monthly observations

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[21] We have omitted the few group loans and those for which the sex of the borrower is unclear, leaving us with a total of 193,050 loans.

(36 LCs over 41 months). Appendix A features detailed information on the LCs, collected in May 2010. Table A1 reveals that 61% of the LCs operate in urban areas whereas the remaining 39% are located in peri-urban and rural areas. The average LC is ten years old and holds total assets of EUR 1.6M. Table A2 provides social characteristics. On average, by May 2010, the LCs were serving 11,200 members, of whom 52% were female. The mean percentage of women in the LC board[22] reaches 32%, whereas 31% of top managers are female.[23]

Around the world, women are poorer than men on average. And Senegal is no exception. To address this reality, UM-PAMECAS has designed a special credit product targeting poor women. So-called AFSSEF[24] loans are offered to women who find it difficult to provide collateral. In addition, UM-PAMECAS proposes various credit arrangements grouped into four categories: small-business loans, personal loans, medium-business loans,[25] and so-called "*in fine* loans" subject to bullet repayment.[26] The credit officers are in charge of directing applicants toward the loan type that fits their needs. Table B1 in Appendix B provides the characteristics and market shares of each type of loan. Once the category is determined, loan size is the sole credit condition tailored to the applicant's profile.

Since it was formed, UM-PAMECAS has shown strong concern for female participation. On average over the study period, women account for 53% of total membership and 65% of

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[22] In our database, a board member is any elected member of a governing body (board, credit committee, or LC supervisory committee).

[23] The typical staff of an LC includes one manager, one chief cashier, four cashiers and three credit officers. The top manager supervises operations, the chief cashier is in charge of accounting, the cashiers take care of financial transactions with members, and the credit officers analyze credit applications and subsequently enforce repayment. Overall, LC staffs are gender balanced. In May 2010, 50% of the LC employees were female. However, women are under-represented in top managerial position.

[24] AFSSEF means "Access to financial services for Senegalese women" (in French: *Accès des Femmes Sénégalaises aux Services Financiers*).

[25] These typically larger loans require an additional approval by the CU (1.1% of the sample).

[26] *In fine* loans are meant to finance agriculture, stockbreeding, and other activities that generate irregular cash flows.

borrowers. However, they receive significantly smaller loans.[27] On average, loans to female borrowers are nearly half the size of those granted to their male counterparts. The gender-blind average loan size is EUR 692,[28] while the gender-sensitive averages are EUR 515 for women and EUR 1,025 for men.

< Insert Table 1 here >

Loan allocation depends on the composition of the board. Panel A in Table 1 shows that LCs with female-dominated boards, i.e. with at least 50% female members, serve more women. The average loan size is also affected by the board make-up, but only slightly. These figures are in line with the literature showing that firms with a higher share of women on the board exhibit greater social and ethical orientations (Smith *et al*., 2001; Bernardi *et al*., 2009). Logically, female-dominated boards are more likely to be found in LCs with a greater number of female members. The likelihood of having a female manager is much higher in male-dominated boards than in female-dominate ones (39% versus 20%). This striking fact is further investigated in Table 2.

The descriptive statistics disaggregated by manager gender (Table 1, Panel B) contrast with the literature consensus that female managers are more socially oriented than their male counterparts. Compared with males, female managers are associated with fewer loans to women and higher loan sizes. Unexpectedly, female top managers are more frequent in LCs with a higher share of male members. Importantly, Table 1 reveals that the relationship between managers' gender and the gendered composition of LCs and their boards is not random.

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[27] Agier and Szafarz (2013a) analyze the multiple causes of gendered differences in loan size.
[28] The average loan size represents 50% of the PPP Senegalese GNI per capita in 2010 (WBI, 2011). This is in line with the general average size of financial cooperatives' loans in microfinance, which reaches 51% of the GNI per capita (Périlleux *et al.*, 2012).

In Table 2, a Pearson independence test confirms that female managers are significantly more frequently associated with male-dominated boards, and vice versa ($p < 0.01$). This result suggests that the CU makes strategic staff allocations and preferably sends male managers to LCs with female-dominated boards. While the CU hardly influences the board composition, it fully controls the allocation of top managers. Hence, we interpret the outcome of the independence test as evidence that the CU management aims to curb social biases that might hinder the consolidated financial situation of the network. Further econometric analysis is needed to disentangle the actions of the manager and the LC board.

< Insert Table 2 here >

5.2. Regression Analysis

For each explained social performance, we estimate two specifications. In the first, the explanatory variables include two gender dummies: one for the manager, the other for board dominance. In the second specification, we add the interaction between the two dummies to account for the dependence identified from Table 2. In all equations, the control variables include the percentage of female members and the LC size proxied by total assets.[29]

The baseline results are reported in Table 3. In specifications (1) and (2), the interaction term is absent. Using the share of female borrowers as an indicator of social performance, regression (1) confirms that female-dominated boards exhibit higher social orientation in loan-granting

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[29] In the literature, two variables are typically used to proxy financial cooperative size: total assets and number of members. To avoid multicollinearity, only one of these variables may be included in regressions. Here, we have favored total assets, for which we have accurate monthly observations. In contrast, in our database the number of members is updated only a few times a year.

than male-dominated ones. Regression (1) also shows that the share of loans granted to women is not significantly affected by the manager's gender. In line with Agier and Szafarz (2013), we rule out the "gender affinity" hypothesis for the manager. The attitude of female managers contrasts with the behavior of same-gender elected board members, who have a significantly positive influence on the share of loans granted to women. Regression (2) shows that the average loan size is hardly affected by gender-specific variables. The results from regression (2) suggest that the differences found in Table 1 are mainly attributable to external shocks captured through year dummies.

< Insert Table 3 here >

Next, specifications (3) and (4) in Table 3 include an interaction term to account for the dependency between the manager's gender and gender dominance in the board. The results resolve the apparent puzzle detected from the descriptive statistics. In both equations, the loading of the interaction term is highly significant and far surpasses that of the female-manager dummy. As a consequence, the empirical results should be interpreted by examining gendered combinations rather than gender-domination in the board and manager's gender separately.

The results suggest that female top managers associated with female-dominated boards favor social performance. In contrast, when the board is male-dominated board female managers serve fewer women, and grant significantly larger loans than do their male colleagues. Before discussing those results in Subsection 5.4, we will test their robustness.

Next, we re-estimate model (1) with random effects. The results in Table 4 align perfectly with those obtained previously (Table 3). As testified by p-values, Hausman tests fail to reject the

RE specifications for regressions (1) and (3), which explain the share of female borrowers. In contrast, the test rejects the RE specification at the 10% level for regressions (2) and (4), which concern average loan size. The exercise suggests that our findings are robust to the estimation method.

< Insert Table 4 here >

Finally, to check whether the majority threshold of 50% is necessary for female board-members to bring their social agenda to the fore, we use the threshold of 33% instead of the 50% used in Tables 3 and 4. Table 5 shows that 33% of female board members is an insufficient proportion to produce any significant impact. This confirms that majorities matter for corporate control (Chapelle and Szafarz, 2005).

< Insert Table 5 here >

5.3. Addressing Endogeneity

As explained in the methodological section, the governance structure of UM-PAMECAS protects our results against the reverse causality that would go from social performance to board gendered composition. To address the concern of reverse causality from social performance to the manager's gender, we examine transitions, i.e. the points in time when a manager is replaced by a colleague of the opposite sex, as an additional check to reject the possibility of reverse causality. We have few time variations because boards are elected yearly, managers are reshuffled every five years or so, and our observation period is limited to four years. In total,

our data include only seven transitions involving a change in manager's gender. Hence, the check is confined to stylized facts.

First and most importantly, we observe that in all board elections taking place in the year following a transition, the board's gender dominance remained unchanged. Hence, the manager's gender does not seem to have any influence on votes. Second, we scrutinize the two types of social performance (average loan size and share of female borrowers) six months before and after the transitions.

< Insert Table 6 here >

Table 6 summarizes the results in the four possible situations. For each transition we compare the average loan sizes and the shares of females in the six-month periods before and after the change in manager's gender. When there is more than one case, we report mean values. The transitions from a male to a female manager are associated with higher social performance. Specifically, the average loan size decreases (-EUR 39), and the share of female borrowers increases slightly (+1.3%). However, LCs exhibit contrasted impacts depending on whether their board is male- or female-dominated. As predicted by our baseline model, in the case where the board is male-dominated, replacing a male manager by a female one was detrimental to social performance (higher loan size, smaller share of female borrowers).

The transitions from female to male manager deliver mixed social performance. We observe an increase in average loan size (+EUR 46) and a positive—but below-one-percent—variation in the share of female borrowers (+0.27%). The increase in average loan size is spectacular in the LC with a female-dominated board (+EUR 120), where the growth rate surpasses 15%. The

cases of male-dominated boards are less clear-cut. Although the change observed in the share of female borrowers is in line with the prediction of our baseline model, the small increase in average loan size (+EUR 22) goes in the opposite direction. Overall, most figures are in line with the baseline results presented in Subsection 5.2 (precisely, seven out of eight transition effects). This is a reasonably good performance given that we are dealing with very small numbers.

5.4. Discussion and Policy Implications

To our knowledge, this is the first study involving interactions of female board members and women top managers in developing countries. In the microfinance literature, gendered attitudes are documented for loan officers (Agier and Szafarz, 2013) and leaders (Mersland and Strøm, 2009), but gender interactions remain unaddressed, probably because of the scarcity of women leaders. We circumvent this problem by exploiting a unique database released by a Senegalese network of 36 financial cooperatives sharing identical operating system and governance characteristics. In addition, a number of checks attest to the robustness of our panel estimation results, including against the thorny issue of endogeneity. The remainder of this section summarizes and discusses our main results and suggests policy implications.

To ease comparisons, Table 7 presents the regression results with an emphasis on leaders' gender combinations.[30] The benchmark is the situation of male managers associated with male-dominated boards. In this configuration, changing the manager's gender has a large and negative impact on the share of female borrowers, and a small and positive impact on the average loan size. Apparently, female managers favor loans to men as well as larger loans, but

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[30] Table C1 in Appendix C features the FE estimates.

only when these managers are associated with male-dominated boards. In contrast, when the board is female-dominated, the effects are reversed: female managers associated with female-dominated boards serve women preferably, and grant significantly smaller loans than do their male colleagues under the same circumstances. Table 7 also shows that male managers mitigate the social orientation of female-dominated boards. The average loan size granted by male managers is insensitive to gender dominance in the board. Still, the impact of female-dominated boards is visible through the moderately positive impact on the share of female borrowers.

< Insert Table 7 here >

We show that female-dominated boards adopt loan-granting policies that are socially oriented and favorable to female borrowers. These results are in line with the findings of Chattopadhyay and Duflo (2004) and Beaman *et al.* (2011) on the action of female elected leaders in Indian villages. Less expectedly, they also confirm evidence by Matsa and Miller (2011) on publicly traded US companies showing that female board members support the presence of women in the top management.[31] From this perspective, our findings fuel the debate that surrounds the notion of gender affinity ("women for women"), sometimes opposed to women's same-sex conflict, which according to Sheppard and Aquino (2014) is overly problematized.

At the same time, our results show that the social performance of women leaders is closely linked to their role in the organization they serve. In financial cooperatives, the behavior of female top managers contrasts with the attitude of women on the board. Our results suggest that female managers align their preferences on those of the majority of board members they work

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[31] Likewise, Kurtulus and Tomaskovic-Devey (2012) show that female top managers promote gender diversity in mid-level management positions.

with. They neither prioritize social outcomes nor systematically pursue the financial objective of the CU that appoints them. Rather, they tend to follow the policy rules set by their democratically elected local boards. In contrast, the average loan size corresponding to male managers is insensitive to LC board composition.

An alternative explanation could be that female managers are powerless when associated with a male-dominated board. But this scenario is inconsistent with the facts. Indeed, female managers associated with male-dominated boards grant significantly larger loans than do male managers associated with male-dominated boards. Female managers are thus efficient in their work. Aligning their objectives on those of their local boards is not necessarily a sign of weakness.

Our study might have policy implications. Prudently, we stick to tentative recommendations for financial cooperatives in West Africa, keeping in mind that this specific form of governance is sponsored by local regulatory authorities. While the cooperative status has proven to deliver effective social performance, it is still exposed to the new commercialization trend taking place in the microfinance industry (Hudon and Sandberg, 2013).[32] Our findings are in line with the bulk of the literature on gender and leadership, which associates female elected leaders with prevalence of social outcomes. Therefore, we speculate that female presence on the boards of financial cooperatives act as a natural hedge against mission drift since female board members tend to devote more attention than men to social performance. However, in this respect the evidence reveals that a small female presence is insufficient. If socially-minded gender quotas are to be imposed on boards, they should be close to 50%.

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[32] Brière and Szafarz (2015) mention that the convergence of microfinance toward mainstream finance can be accompanied by a reduction in the proportion of female borrowers served.

But do financial cooperatives in West Africa need gender quotas? Despite a women-friendly orientation associated with democratic principles, the governing and executive bodies of financial cooperatives seem to be predominantly male-dominated, albeit with a significant minority of women involved. Overall, the financial cooperatives under study have 52% of female members, but only 32% of female board members and 31% of female top managers (figures from May 2010). The shares of female board members and top managers are comparable to those provided by Strøm *et al*., (2014) for the microfinance industry worldwide (29% and 27%, respectively). In this respect, the figures in our study can be seen as an encouragement to impose quotas, like in Norway (Pande and Ford, 2011), in order to raise the shares of women in leadership positions.

However, gender quotas and reservations for women have well-known drawbacks, including reinforcement of negative stereotypes about women's capacities (Franceschet and Piscopo, 2008). Klettner *et al.* (2014) advocate the alternative strategy of soft regulation, such as corporate governance codes with voluntary targets. In microfinance, issuing codes of ethics is common practice (Kleynjans and Hudon, 2014). Another concern relates to the availability of female leaders, at least in the short run (Adams and Ferreira, 2009). Arguably, this concern is even more acute in developing economies, notably in Africa, than in developed ones. In sum, low quotas (around 30%) would be ineffective and high quotas (around 50%) would be hard to enforce. While gender quotas have proved successful in many cases, their application to financial cooperatives in West Africa is probably premature.

6. Conclusion

Taking advantage of the double bottom line and the specific democratic networking structure of financial cooperatives makes it possible to identify separately the policies followed by female-dominated boards and female top managers. First, our results suggest that female-dominated boards favor social orientation in loan-granting. Second, although careers are supervised by the CU, we find that female managers behave in accordance with local authorities' policies. This, in turn, could explain why the central authority is tempted to assign female managers to LCs with male-dominated boards, which are more rigid on financial discipline. Hence, sending female managers to places where men are in the majority on the board is a way of pushing these women to serve the CU's best interests. As a result, our findings partly contradict the common wisdom according to which women are systematically more socially oriented than men under similar circumstances. While female-dominated boards enhance social loan allocation policies, female managers associated with male-dominated boards do not mitigate the financial discipline imposed by the board. In fact, they reinforce it.

Admittedly, our database is limited to a single network of financial cooperatives operating in Senegal. This restricts the external validity of our conclusions. Moreover, concerns about business conforming to social and ethical norms vary across countries (van den Heuvel *et al.*, 2014). Further research could investigate how female top managers influence the social performance of hybrid institutions in both developed and developing countries.[33] In addition, the governance of cooperatives is more complex than that of for-profit firms (Cornforth, 2004; Hudon and Périlleux, 2014). In particular, aside from securing the financial sustainability of the whole network, the objectives of the CU are not clear-cut. Therefore it is difficult, if not

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[33] The book "Women in Management Worldwide" edited by Davidson and Burke (2011) offers interesting international comparisons. However, the only African country present in the survey is South Africa.

impossible, to assess whether top managers' behavior is aligned with their employer's objectives. The best we could do is compare the on-field interactions of male and female managers with their local board members. Admittedly, this leaves room for further investigation into tensions between social and financial performance from a gender perspective.

Worldwide, not-for-profit and hybrid organizations are typically less reluctant than for-profits to hire female top managers. The sector is also known for producing higher job satisfaction than for-profit firms do (Benz, 2005). So far, these two features have been observed independently. They may possibly be linked. Female managers' tendency to behave consensually can indeed contribute to enhancing overall satisfaction, not only among co-workers but also among members of governing bodies.[34]

Importantly, our dataset comes from Africa whereas existing evidence on managerial leadership concentrates on industrialized countries. While leaders' attitudes are known to be sensitive to corporate context, the way they correlate with country-level development is still *terra incognita*. It is often advocated that empowering the female workforce is an efficient means to reach development goals. Still, empowering women within the corporate world is hard without deeper cultural and legal changes within societies (Garikipati, 2008; Duflo, 2012; Ganle *et al*., 2015). On the other hand, Mersland and Strøm (2009) and D'Espallier *et al*. (2013) use global data to show that female CEOs can make a difference in the management of MFIs. Our results confirm their findings and detail the mechanisms that take place at the micro level. They also enrich the analysis by looking at the interaction between managers' and elected members' leadership.

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[34] Matsa and Miller (2013) show that the Norwegian firms affected by the 2006 gender quota (i.e. at least 40% women in the board of publicly traded companies) undertook fewer workforce reductions.

The leadership literature theory provides rationales for the behavioral evidence detected in our analysis. First, female managers are less inclined than men to define career success in terms of promotion (Sturges, 1999), and legitimacy is known to be a major driver of female managerial action (Silverman *et al*., 2014).[35] Second, female managers typically adopt a participative style and use their relational skills (Eagly, 1987; Buttner, 2001). When they depart from this gender role, they are judged more harshly than their male colleagues, and they may suffer social reprisals. All these arguments could explain why female managers tend to adopt people-oriented leadership styles and refrain from hurting the feelings of local board members even though the latter have almost no impact on their careers. From a theoretical perspective, our results extend the validity of the gender congruity theory in leadership beyond industrialized countries. Further work is still needed to explore how far women leaders in developing countries can bring the social agenda of financial inclusion to the forefront.

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[35] García-Peñalosa and Konte (2014) suggest that fear of conflict could explain why African women are reluctant to support democracy as strongly as men do.

References

Adams, R.B. and D. Ferreira (2009). Women in the Boardroom and their Impact on Governance and Performance. *Journal of Financial Economics* 94(2) 291-309.

Agier, I. and A. Szafarz (2013). Microfinance and Gender: Is There a Glass Ceiling on Loan Size? *World Development* 42, 165-181.

Agier, I. and A. Szafarz (2013a). Subjectivity in Credit Allocation to Micro-Entrepreneurs: Evidence from Brazil. *Small Business Economics* 41 (1), 263-275.

Armendáriz, B. and J. Morduch (2010). *The Economics of Microfinance*, Cambridge, MA: MIT Press.

Armendáriz, B. and A. Szafarz (2011). On Mission Drift in Microfinance Institutions, in: B. Armendariz and M. Labie (Eds), *The Handbook of Microfinance*, London-Singapore: World Scientific Publishing, 341-366.

BCEAO (2012). *Le secteur de la microfinance dans l'UMOA depuis 1992*. Banque Centrale des Etats de l'Afrique de l'Ouest, Dakar, Senegal.

BCEAO (2013). *Statistics.* December Dakar, Senegal.

Beaman, L., E. Duflo, R. Pande, and P. Topalova (2011). Political Reservation and Substantive Representation: Evidence from Indian Village Councils. In S. Bery, B. Bosworth and A. Panagariya (Eds.). *India Policy Forum 2010-11*, 7, 159-191.

Benz, M. (2005). Not for the Profit, but for the Satisfaction? Evidence on Worker Well-Being in Non-Profit Firms. *Kyklos* 58(2), 155-176.

Bernardi R.A, S.M. Bosco, and V.L Columb (2009). Does Female Representation on Boards of Directors Associate with the 'Most Ethical Companies' List? *Corporate Reputation Review* 12, 270–280.

Boehe, D.M. and Cruz, L.B. (2013). Gender and Microfinance Performance: Why Does the Institutional Context Matter? *World Development* 47, 121-135.

Boucher, S., B. Barham, and B. Branch (1993). Financial Market Niche: Member Behavior Profile Credit Unions in Guatemala, 1987-1992. *World Council of Credit Unions Research Monograph Series*, Madison, Wisconsin.

Branisa, B., S. Klasen, and M. Ziegler (2013). Gender Inequality in Social Institutions and Gendered Development Outcomes, *World Development* 45, 252-268.

Brière, M. and A. Szafarz (2015). Does Commercial Microfinance Belong to the Financial Sector? Lessons from the Stock Market, *World Development* 67, 110-125.

Buttner, E.H. (2001). Examining Female Entrepreneurs' Management Style: An Application of a Relational Frame. *Journal of Business Ethics* 29(3), 253-269.

Chattopadhyay, R. and E. Duflo (2004). Women as Policy Makers: Evidence from a Randomized Policy Experiment in India. *Econometrica* 72(5), 1409–1443.

Chapelle, A. and A. Szafarz (2005). Controlling Firms through the Majority Voting Rule. *Physica A* 355, 509-529.

Cornforth, C. (2004). The Governance of Cooperatives and Mutual Associations: A Paradox Perspective. *Annals of Public and Cooperative Economics* 75(1), 11-32.

Cornée, S., and A. Szafarz (2014). Vive la Différence: Social Banks and Reciprocity in the Credit Market, *Journal of Business Ethics*, 125, 361-380.

Creevey, L.E. (1991). The Impact of Islam on Women in Senegal, *Journal of Developing Areas*, 25(3), 347-368.

Cuadrado, I., M. Navas, E. Ferrer, and J.F. Morales (2012). Gender Differences in Leadership Styles as a Function of Subordinates' Sex and Type of Organization. *Journal of Applied Social Psychology* 42, 3083-3113.

Das, P. (2014). Women's participation in Community-Level Water Governance in Urban India: The Gap Between Motivation and Ability. *World Development* 64, 206-218.

Davidson, M.J. and R.J. Burke (Eds.) (2011). *Women in Management Worldwide: Progress and Prospects*. 2d Edition. Farnham, UK: Gower Publishing Ltd.

Deaton, A.S. (1997). *The Analysis of Household Surveys: A Microeconomic Approach to Development Policy*. World Bank Publication, Johns Hopkins University Press: Baltimore and London.

D'Espallier, B., I. Guérin, and R. Mersland (2011). Women and Repayment in Microfinance: A Global Analysis. *World Development* 39(5), 758–772.

D'Espallier, B., I. Guérin, and R. Mersland (2013). Focus on Women in Microfinance Institutions. *Journal of Development Studies* 49(5), 589-608.

D'Espallier, B., M. Hudon, and A. Szafarz (2013a). Unsubsidized Microfinance Institutions. *Economics Letters* 120(2), 174-176.

Desrochers M. and K.P. Fischer (2005). The Power of Networks: Integration and Financial Cooperative Performance. *Annals of Public and Cooperative Economics* 76(3), 307–354.

Direction de la Microfinance (2013). Rapport sur la situation globale du secteur de la microfinance au 30 juin 2013. *Comité National de Coordination des activités de microfinance*. Dakar, Senegal.

Dobbins, G.H. and S.J. Platz (1986). Sex Differences in Leadership: How Real Are They? *Academy of Management Review* 11(1), 118-127.

Duflo, E. (2012). Women's Empowerment and Economic Development. *Journal of Economic Literature* 50 (4) 1051-1079.

Druskat, V.U. (1994). Gender and Leadership Style: Transformational and Transactional Leadership in the Roman Catholic Church. *Leadership Quarterly,* 5(2), 99-119.

Eagly A.H (1987). *Sex Differences in Social Behavior: A Social-Role Interpretation*. Hillsdale, NJ: Erlbaum.

Eagly, A.H. and L.L. Carli (2003). The Female Leadership: An Evaluation of the Evidence. *Leadership Quarterly* 14(6), 807-834.

Eagly, A.H and M.C. Johannesen-Schmidt (2001). The Leadership Styles of Women and Men. *Journal of Social Issues* 57(4), 1540-1560.

Eagly, A.H. and B.T. Johnson (1990). Gender and Leadership Style: A Meta-Analysis. *Psychological Bulletin* 108(2), 233-256.

Eagly, A.H. and S.J. Karau (2002). Role Congruity Theory of Prejudice toward Female Leaders. *Psychological Review* 109(3), 573-598.

Fine, M.G. (2009). Women's Leaders' Discursive Constructions of Leadership. *Women's Studies in Communication* 32(2), 180-202.

Fletschner, D. (2009). Rural Women's Access to Credit: Market Imperfections and Intra-Household Dynamics. *World Development* 37(3), 618-631.

Forsyth, D.R., M.M. Heiney and S.S. Wright (1997). Biases in Appraisals of Women Leaders. *Group Dynamics: Theory, Research, and Practice* 1(1), 98-103.

Franceschet, S. and J.M. Piscopo (2008). Gender Quotas and Women's Substantive Representation: Lessons from Argentina. *Politics and Gender* 4(3), 393-425.

Ganle, J.K., K. Afriyie, and A.Y. Segbefia (2015). Microcredit: Empowerment and Disempowerment of Rural Women in Ghana. *World Development* 66, 335-345.

García-Peñalosa, C. and M. Konte (2014). Why Are Women Less Democratic than Men? Evidence from Sub-Saharan African Countries, *World Development* 59, 104-119.

Garikipati, S. (2008). The Impact of Lending to Women on Household Vulnerability and Women's Empowerment: Evidence from India. *World Development* 36(12), 2620-2642.

Guérin, I. (2008). Women and Money: Lessons from Senegal. *Development and Change*, 37(3), 549-570.

Goldman, M.J. and J.S. Little (2015). Innovative Grassroots NGOs and the Complex Process of Women's Empowerment: An Empirical Investigation from Northern Tanzania. *World Development* 66, 762-777.

Hartarska, V., R. Mersland, and D. Nadolnyak (2014). Are women Better Bankers to the Poor? Evidence from Rural Microfinance Institutions. *American Journal of Agricultural Economics*, forthcoming.

Hausman, J.A. and W.E. Taylor (1981). Panel Data and Unobservable Individual Effects. *Econometrica* 49(6), 1377-1398.

Hausman, J.A. (1978). Specification Tests in Econometrics. *Econometrica*, 46(6), 1251-1271.

Heenan, D. and R. McLaughlin (2002). Re-Assessing the Role of Credit Unions in Community Development: A Case Study of Derry Credit Union, Northern Ireland. *Community Development Journal* 37(3), 249-259.

Hermes, N. and R. Lensink (2007). The Empirics of Microfinance: What Do We Know? *Economic Journal* 117(517), F1-F10.

Hermes, N., R. Lensink, and A. Meesters (2011). Outreach and Efficiency of Microfinance Institutions. *World Development* 39(6), 938-948.

Howson, C. (2013). Adverse Incorporation and Microfinance among Cross-Border Traders in Senegal. *World Development*, 42, 199-208.

Hudon, M. and A. Périlleux (2014). Surplus Distribution and Characteristics of Social Enterprises: Evidence from Microfinance. *Quarterly Review of Economics and Finance*, 54(2), 147–157.

Hudon M. and J. Sandberg (2013). The Ethical Crisis in Microfinance: Issues, Findings, and Implications. *Business Ethics Quarterly* 23, 561-589.

Imai, K.S., R. Gaiha, G. Thapa, and S. K. Annim (2012). Microfinance and Poverty—A Macro Perspective. *World Development* 40(8), 1675-1689.

Jones, D.C. and P. Kalmi (2009). Trust, Inequality and the Size of the Cooperative Sector: Cross-Country Evidence. *Annals of Public and Cooperative Economics* 80(2), 165-195.

Jones, D.C. and P. Kalmi (2015). Membership and Performance in Finnish Financial Cooperatives: A New View of Cooperatives? *Review of Social Economy*, forthcoming.

Klettner, A., T. Clarke, and M. Boersma (2014). Strategic and Regulatory Approaches to Increasing Women in Leadership: Multilevel Targets and Mandatory Quotas as Levers for Cultural Change. *Journal of Business Ethics*122, 145-165.

Kleynjans, L. and M. Hudon (2014). A Study of Codes of Ethics for Mexican Microfinance Institutions. *Journal of Business Ethics*, forthcoming.

Kolb, J.A. (1999). The Effect of Gender Role, Attitude toward Leadership, and Self-Confidence on Leader Emergence: Implications for Leadership Development. *Human Resource Development Quarterly* 10(4), 305-320.

Korabik, K., G.L. Baril, and C. Watson (1993). Managers' Conflict Management Style and Leadership Effectiveness: The Moderating Effects of Gender. *Sex Roles* 29(5-6), 405-420.

Krishnan H.A. and D. Park (2005). A Few Good Women—on Top Management Teams. *Journal of Business Research* 58(12), 1712-1720.

Kurtulus, F.D. and D. Tomaskovic-Devey (2012). Do Female Top Managers Help women to Advance? A Panel Study Using EEO-1 Records. *Annals of the American Academy of Political and Social Science* 639(1), 173-197

Lyon, F. and A.L. Humbert (2012). Gender Balance in the Governance of Social Enterprise. *Local Economy* 27(8), 831-845.

Lyons, M. and S. Snoxell (2005). Sustainable Urban Livelihoods and Marketplace Social Capital: Crisis and Strategy in Petty Trade. *Urban Studies* 42(8), 1301-1320.

Matsa D.A. and A. R. Miller (2011). Chipping away at the Glass Ceiling: Gender spillovers in Corporate Leadership. *American Economic Review* 101(3), 635-639.

Matsa D.A. and A. R. Miller (2013). A Female Style in Corporate Leadership? Evidence from Quotas. *American Economic Journal: Applied Economics* 5(3), 136-169..

Mayoux, L. (2001). Tackling the Down Side: Social Capital, Women's Empowerment and Micro-Finance in Cameroon. *Development and Change* 32, 435-464.

McKillop, D.G., R. Briscoe, O. McCarthy, M. Ward, and C. Ferguson (2003). Irish Credit Unions: Exploring the Gender Mix. *Voluntas: International Journal of Voluntary and Nonprofit Organizations* 14(3), 339-358.

Meinhard, A.G. and M.K. Foster (2003). Differences in the Response of Women's Voluntary Organizations to Shifts in Canadian Public Policy. *Nonprofit and Voluntary Sector Quarterly* 32(3), 366-396.

Mersland, R. (2009). The Cost of Ownership in Microfinance Organizations. *World Development* 37(2), 469-478.

Mersland, R. and R.Ø. Strøm (2009). Performance and Governance in Microfinance Institutions. *Journal of Banking & Finance* 33(4), 662-669.

Moser, C.O.N. (1989). Gender Planning in the Third World: Meeting Practical and Strategic Gender Needs. *World Development* 17(11), 1799–1825.

Noponen, H. (1991). The Dynamics of Work and Survival for the Urban Poor: A Gender Analysis of Panel Data from Madras. *Development and Change* 22(2), 233–260.

Ogden, S.M., D. McTavish, and L. McKean (2006). Clearing the Way for Gender Balance in the Management of the UK Financial Services Industry: Enablers and Barriers. *Women in Management Review* 21(1), 40-53.

Özbilgin, M.F. and D. Woodward (2004). 'Belonging' and 'Otherness': Sex Equality in Banking in Turkey and Britain. *Gender, Work & Organization* 11(6), 668–688.

Pande, R. and D. Ford (2011). Gender Quotas and Female Leadership: A Review, Harvard University, Background Paper for the World Development Report on Gender.

Petit, P. (2007). The effects of Age and Family Constraints on Gender Hiring Discrimination: A field Experiment in the French Financial Sector. *Labour Economics* 14(3), 371-391.

Périlleux, A. (2013). Strategic Governance Lessons from History for West African Microfinance Cooperatives: a Way to Encourage Investments in Rural Areas. *Strategic Change: Briefings in Entrepreneurial Finance* 22, 95-106.

Périlleux, A., M. Hudon and E. Bloy (2012). Surplus Distribution in Microfinance: Differences Among Cooperative, Nonprofit, and Shareholder Forms of Ownership. *Nonprofit and Voluntary Sector Quarterly* 41(3), 386-404.

Perry, D.L. (2005). Wolof Women, Economic Liberalization, and the Crisis of Masculinity in Rural Senegal. *Ethnology*, 44(3), 207-226.

Razavi, S. (1997). Fitting Gender into Development Institutions, *World Development* 25(7) 1111-1125.

Ryan, M.K. and S. A. Haslam (2007) The Glass Cliff: Exploring the Dynamics Surrounding the Appointment of Women to Precarious Leadership Positions, *Academy of Management Review* 32 (2), 549-572.

Schreiner, M. (2002). Aspects of Outreach: A Framework for Discussion of the Social Benefits of Microfinance. *Journal of International Development* 14, 591-603.

Seck, D. (2013). Fifteen Years of WAEMU: Results and Strategies for the Future. In Elias T. Ayuk and Samuel T. Kaboré (Eds.). *Wealth through Integration. Regional Integration and Poverty-Reduction Strategies in West Africa*. Springer: New York.

Servet, J-M. (2011). Corporate Responsibility versus Social Performance and Financial Inclusion, in: B. Armendariz and M. Labie (Eds), *The Handbook of Microfinance*, London-Singapore: World Scientific Publishing, 301-322.

Sheppard, L.D. and K. Aquino (2014), Sisters in Arms. A Theory of Female Same-Sex Conflict and Its Problematization in Organizations, *Journal of Management*, forthcoming.

Silverman D., J. Slemrod, and N. Uler (2014). Distinguishing the Role of Authority "In" and Authority "To." *Journal of Public Economics* 113, 32–42.

Smith, N., V. Smith, and M. Verner (2006). Do women in Top Management Affect Firm Performance? A Panel Study of 2,500 Danish Firms. *International Journal of Productivity and Performance Management* 55(7), 569-593.

Smith, W.J., R.E. Wokutch, K.V. Harrington, and B.S. Dennis (2001). An Examination of the Influence of Diversity and Stakeholder Role on Corporate Social Orientation. *Business & Society* 40, 266-294.

Sow, F. (2003). Fundamentalisms, Globalisation and Women's Human Rights in Senegal. *Gender & Development* 11(1), 69-76.

Sturges, J. (1999).What it Means to Succeed: Personal Conceptions of Career Success Held by Male and Female Managers at Different Ages. *British Journal of Management* 10(3), 239-252.

Strøm, R.Ø., B. D'Espallier, and R. Mersland (2014). Female Leadership, Performance, and Governance in Microfinance Institutions. *Journal of Banking & Finance*, 42(C), 60-75.

Tall Ba, S. and W. Cissé (2009). *Rapport social - Evaluation SPI du réseau PAMECAS*, Cerise Report.

Tchakoute-Tchuigoua, H. (2010). Is There a Difference in Performance by the Legal Status of Microfinance Institutions? *Quarterly Review of Economics and Finance* 50(4), 436-442.

Teasdale, S., S. McKay, J. Phillimore, and N. Teasdale (2011). Exploring Gender and Social Entrepreneurship: Women's Leadership, Employment and Participation in the Third Sector and Social Enterprises, *Voluntary Sector Review* 2(1), 57-76.

Tutunji, H. and P. Serres (2005). PAMECAS, Senegal. *Planet Rating Report*, Saint Ouen, France.

van den Heuvel, G., J. Soeters, and T. Gössling (2014). Global Business, Global Responsibilities. Corporate Social Responsibility Orientations within a Multinational Bank. *Business and Society* 53(3), 378-413.

Vecchio, R.P. (2002). Leadership and Gender Advantage. *Leadership Quarterly* 13, 643-671.

Vecchio, R.P. (2003). In Search of Gender Advantage. *Leadership Quarterly* 14, 835-850.

Waldman, D.A., D.S. Siegel and M. Javidan (2006). Components of CEO Transformational Leadership and Corporate Social Responsibility. *Journal of Management Studies* 43(8), 1703-1725.

WBI (2011). World Bank Indicators, Statistics for 2011. http://data.worldbank.org/indicator.

Wyndow, P., J. Li, and E. Mattes (2013). Female Empowerment as a Core Driver of Democratic Development: A Dynamic Panel Model from 1980 to 2005. *World Development* 52, 34-54.

Endnotes

Tables

Table 1: Descriptive Statistics

	Panel A: Gender dominance on the board		Panel B: Manager's gender	
	Female (N = 241)	Male (N = 917)	Female (N = 406)	Male (N = 752)
Share of female borrowers (%)	68.3	64.1***	64.5	65.2
Average loan size	671	697*	765	653***
Share of female managers (%)	19.9	39.0***		
Share of female members (%)	56.4	51.5***	49.5	54.2***
Total assets (in EUR '000)	1,898	1,462***	1,513	1,574

Note: The stars indicate the results of t-tests for equal means between female- and male-dominated boards (Panel A) and between female and male managers (Panel B). *** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level.

Table 2: Manager's Gender and Board Composition: Contingency Table

	Male-dominated board	Female-dominated board	Total
Male Manager	559 (595.5)	193 (156.5)	752
Female Manager	358 (321.5)	48 (84.5)	406
Total	917	241	1,158

Note: Expected frequencies in parentheses. Pearson independence test: $\chi^2(1) = 30.65$ (p < 0.01)

Table 3. Impact of Women Leaders on Social Performance: Fixed-effect Panel Estimation

	(1) Share of female borrowers	(2) Average loan size	(3) Share of female borrowers	(4) Average loan size
Female-dominated board	0.0196***	-22.32	0.0168**	-16.84
	(0.00718)	(25.48)	(0.00661)	(23.30)
Female manager	-0.00837	-17.16	-0.0384***	42.29**
	(0.0158)	(26.37)	(0.00880)	(17.43)
Female manager * female-dominated board			0.0628***	-124.5***
			(0.0133)	(18.62)
Share of female members	-0.00613	53.78	-0.0336	108.2
	(0.0847)	(180.7)	(0.0794)	(177.7)
Total assets	3.02e-06	0.0568	-1.54e-06	0.0658
	(1.39e-05)	(0.0528)	(1.52e-05)	(0.0513)
Year	YES	YES	YES	YES
Constant	0.678***	569.3***	0.709***	506.5***
	(0.0511)	(134.4)	(0.0488)	(133.9)
Statistics				
N	1,158	1,158	1,158	1,158
F-Stat	19.26***	3.98***	20.57***	21.68***
R^2-Within	0.107	0.0181	0.115	0.0220
R^2-Between	0.126	0.0281	0.0363	0.0872

Note: Robust standard errors reported in parentheses. *** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level.

Table 4: Impact of Gender on Social Performance: Random-Effect Panel Estimation

	(1) Share of female borrowers	(2) Average loan size	(3) Share of female borrowers	(4) Average loan size
Female-dominated board	0.0214***	-23.88	0.0181***	-13.37
	(0.00602)	(25.10)	(0.00589)	(22.39)
Female manager	-0.00630	2.240	-0.0270**	58.71**
	(0.0135)	(23.27)	(0.0109)	(23.98)
Female manager * female-dominated board			0.0492***	-140.4***
			(0.0129)	(27.11)
Share of female members	0.0636	-285.9*	0.0418	-214.6
	(0.0969)	(162.2)	(0.0917)	(167.8)
Total assets	4.92e-06	0.0590	2.14e-06	0.0664*
	(1.03e-05)	(0.0408)	(1.11e-05)	(0.0371)
Year	YES	YES	YES	YES
Constant	0.633***	736.9***	0.656***	669.3***
	(0.0543)	(109.7)	(0.0520)	(112.9)
Statistics				
N	1,158	1,158	1,158	1,158
Wald χ^2	162.18***	34.32***	197.42***	134.37***
R^2-Within	0.106	0.0154	0.114	0.0198
R^2-Between	0.202	0.274	0.105	0.277
Hausman Test				
χ^2	4.02	11.39	7.19	13.78
P-value	0.674	0.077	0.409	0.055

Note: Robust standard errors reported in parentheses. *** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level.

Table 5: Impact of Gender on Social Performance: Using the 33% Threshold

	(1) Share of female borrowers	(2) Average loan size	(3) Share of female borrowers	(4) Average loan size
Female-33% board	0.00195	-6.570	0.00237	7.885
	(0.0128)	(24.14)	(0.0137)	(37.96)
Female manager	-0.00636	-20.19	-0.00593	-5.290
	(0.0163)	(27.97)	(0.0183)	(34.17)
Female manager * female-33% board			-0.000775	-26.75
			(0.0208)	(40.94)
Share of female members	-0.00354	51.30	-0.00328	60.28
	(0.0880)	(182.5)	(0.0893)	(182.1)
Total assets	-2.49e-06	0.0629	-2.41e-06	0.0658
	(1.32e-05)	(0.0512)	(1.34e-05)	(0.0513)
Year	YES	YES	YES	YES
Constant	0.686***	561.7***	0.686***	542.4***
	(0.0522)	(132.3)	(0.0549)	(139.3)
Statistics				
N	1,158	1,158	1,158	1,158
F-Stat	16.62***	3.350***	14.86***	3.830***
R^2-Within	0.104	0.0177	0.104	0.0180
R^2-Between	0.0958	0.0289	0.0996	0.0284

Note: Robust standard errors reported in parentheses. *** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level.

Table 6: Transitions from Male/Female Manager to Female/Male Manager

Transitions	Male-dominated board	Female-dominated board	Global mean
M → F Manager	1 case Δ ALS = + 32 Δ SFB = — 3%	2 cases* Δ ALS = — 77 Δ SFB = + 3.5%	3 cases Δ ALS = — 39 Δ SFB = + 1.3%
F → M Manager	3 cases Δ ALS = + 22 Δ SFB = + 0.5%	1 case Δ ALS = + 120 Δ SFB = — 0.5%	4 cases Δ ALS = + 46 Δ SFB = + 0.27%

Note: Δ ALS (in EUR) is the difference between the average loan size computed over the six-month period following the transition and that computed over the previous six-month period. Δ SFB is the difference between the share of female borrowers computed over the six-month period following the transition and that computed over the previous six-month period.

* In one of the two cases, we use three-month averages because the transition happened at the very end of the sample period.

Table 7. Summary of the Results

Board dominance	Manager's gender	Share of female borrowers (SFB)	Average loan size (ALS)
Female	Female	++	--
Female	Male	+	=
Male	Female	--	+
Male	Male	Benchmark	

Note: + Significantly positive estimate (at the 5 percent level) with moderate size (SFB below 3%, ALS below EUR 50), ++ significantly positive estimate (at the 5 percent level) with high size (SFB above 3%, ALS above EUR 50), -- significantly negative estimate (at the 5 percent level) with high size, = insignificant estimate.

Appendix A: LC Characteristics

Table A1: LC General Characteristics (May 2010)

LC	Region	Location	Creation date	Total asset (in EURk)
MEC YD	Rufisque	Rural	1998	901
MEC Bargny	Rufisque	Periurban	1996	1,503
MEC REST	Rufisque	Periurban	1996	989
MEC Plateau	Rufisque	Periurban	1996	1,408
MEC ZOR	Rufisque	Periurban	1996	1,257
MEC MBAO	Pikine	Periurban	1999	975
MEC TG	Pikine	Urban	1999	1,178
MEC DIAM	Pikine	Urban	1996	1,545
MEC ZOMA	Pikine	Periurban	1996	2,011
MEC ZONY	Pikine	Urban	1996	1,714
MEC IB	Pikine	Urban	1997	2,570
MEC GR	Pikine	Urban	1996	1,128
MEC NI	Pikine	Urban	1996	1,629
MEC MAC	Pikine	Urban	2000	1,280
MEC KAW	Guédiawaye	Urban	1996	1,255
MEC ZON	Guédiawaye	Urban	1996	1,503
MEC ZOG	Guédiawaye	Urban	1996	1,444
MEC REL	Guédiawaye	Urban	1997	942
MEC PAG	Guédiawaye	Urban	1996	2,135
MEC OUAKAM	Dakar	Urban	1997	2,593
MEC NGOR	Dakar	Urban	1999	737
MEC SOM	Dakar	Urban	1998	963
MEC BT	Dakar	Urban	1998	2,500
MEC CDGY	Dakar	Urban	1999	2,281
MEC PA	Dakar	Urban	1999	1,661
MEC Y	Dakar	Urban	2006	2,055
MEC MBOUR	Thies	Periurban	2003	3,410
MEC THIES	Thies	Urban	2004	4,758
MEC TIVAOUANE	Thies	Periurban	2004	1,599
MEC Touba	Touba	Urban	2007	1,630
MEC Louga	Louga	Periurban	2006	1,454
MEC Dahra	Louga	Rural	2006	860
MEC Kebemer	Louga	Periurban	2006	945
MEC Saint-Louis	Saint-Louis	Urban	2006	1,212
MECRT Richard-Tall	Saint-Louis	Rural	2006	705
MEC NDIOUM	Saint-Louis	Rural	2006	651
Mean value				1,594

Table A2: LC Social Characteristics (May 2010)

LC	Members		Governance		Loans	
	Total	Share of female members	Share of female board members	Female top manager	Share of female borrowers	Average loan size (EUR)
MEC YD	4,626	0.47	0.32	1	0.49	776
MEC Bargny	12,644	0.52	0.16	0	0.68	433
MEC REST	10,531	0.53	0.32	1	0.53	756
MEC Plateau	9,942	0.57	0.58	0	0.63	721
MEC ZOR	10,037	0.48	0.21	1	0.67	591
MEC MBAO	7,240	0.46	0.36	0	0.70	941
MEC TG	6,519	0.49	0.32	0	0.29	568
MEC DIAM	13,973	0.55	0.71	1	0.55	679
MEC ZOMA	17,184	0.46	0.19	0	0.60	796
MEC ZONY	15,907	0.51	0.53	0	0.68	658
MEC IB	20,212	0.58	0.37	0	0.64	917
MEC GR	9,875	0.51	0.36	0	0.45	825
MEC NI	14,589	0.49	0.17	0	0.75	558
MEC MAC	7,387	0.55	0.18	1	0.58	1,055
MEC KAW	10,737	0.46	0.36	0	0.58	858
MEC ZON	11,758	0.53	0.26	1	0.58	673
MEC ZOG	11,673	0.49	0.21	1	0.64	808
MEC REL	7,121	0.53	0.37	0	0.72	719
MEC PAG	14,560	0.56	0.45	0	0.64	1,369
MEC OUAKAM	13,785	0.47	0.00	1	0.63	970
MEC NGOR	4,147	0.38	0.37[a]	0	0.55	1,072
MEC SOM	8,345	0.47	0.29	1	0.66	784
MEC BT	19,228	0.51	0.17	1	0.57	993
MEC CDGY	18,336	0.50	0.00	0	0.70	908
MEC PA	15,210	0.54	0.33	0	0.74	1,035
MEC Y	5,819	0.38	0.00	0	0.49	1,119
MEC MBOUR	24,055	0.48	0.47	0	0.60	918
MEC THIES	29,825	0.57	0.58	1	0.55	610
MEC Tivaouane	10,772	0.59	0.32	0	0.52	494
MEC Touba	10,857	0.83	0.36	0	0.46	501
MEC Louga	5,569	0.49	0.36	0	0.47	1,002
MEC Dahra	4,141	0.62	0.45	0	0.68	552
MEC Kebemer	4,000	0.51	0.27	0	0.47	576
MEC Saint-Louis	5,634	0.66	0.55	0	0.55	714
MEC Richard-Tall	3,585	0.53	0.10	0	0.58	590
MEC NDIOUM	3,371	0.55	0.45	0	0.60	520
Mean value	11,200	0.52	0.32	0.31	0.59	780

[a]Data from December 2009

55

Appendix B: Additional Descriptive Statistics

Table B1: Loan Typology

Loan type	Purpose	Share of loan portfolio	Average loan size (EUR)	Average duration (months)	Interest rate
AFSSEF	Specific loans with lower guarantee to facilitate female members access to loans	52.6%	308	12	20%[a]
Small-business	Regular loans for commercial activities	33.1%	813	13	20%
Personal	Loans for personal purpose	10.4%	824	19	20%
Medium-business	Larger loans for small enterprises	1.1%	9,486	22	20%
In Fine	Loans with bullet repayment to finance stockbreeding and agriculture	2.0%	499	8	14%[b]

[a] decreasing balance installments
[b] flat balance installments

Table B2: Correlation Matrix

	1	2	3	4	5	6
Share of female borrowers	1					
Average loan size	-0.20***	1				
Share of female managers	-0.04	0.20***	1			
Female-dominated board	0.18***	-0.04	-0.16***	1		
Share of female members	0.23***	-0.26***	-0.31***	0.28***	1	
Total assets	0.07**	0.15***	-0.04	0.24***	0.12***	1

Pearson correlation coefficients: *** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level.

Appendix C: Regressions with Gender Combinations

Table C1: Social Performance: Fixed-effect Panel Estimation

	(1) Share of female borrowers	(2) Average loan size
Female-dominated board * female manager	0.0413***	-99.06***
	(0.0119)	(17.59)
Female-dominated board * male manager	0.0168**	-16.84
	(0.00661)	(23.30)
Male-dominated board * female manager	-0.0384***	42.29**
	(0.00880)	(17.43)
Share of female members	-0.0336	108.2
	(0.0794)	(177.7)
Total assets	-1.54e-06	0.0658
	(1.52e-05)	(0.0513)
Year	Yes	Yes
Constant	0.709***	506.5***
	(0.0488)	(133.9)
Statistics		
N	1,158	1,158
F-Stat	20.57***	21.68***
R^2-Within	0.115	0.0220
R^2-Between	0.0363	0.0872

Robust standard errors reported in parentheses. *** Significant at the 1 percent level, ** significant at the 5 percent level, * significant at the 10 percent level.